University Bulletin

Undergraduate Degree Programs

Penn State Altoona

Penn State Altoona, a scenic campus of 157 acres, is just 45 miles from the University Park campus. Enrolling approximately 4,000 students, Penn State Altoona offers a unique residential undergraduate experience by combining a small-college atmosphere within the context of a major research university. Small classes taught by experienced professors in a friendly setting provide students with the opportunity to complete baccalaureate majors at Penn State Altoona. Penn State Altoona also offers the first two years of course work for more than 180 Penn State majors, which can be completed at other Penn State locations.

GENERAL GRADUATION REQUIREMENTS
All baccalaureate degree candidates must follow the graduation requirements as established by the University Faculty Senate:

1. Minimum 2.00 cumulative grade-point average.

2. Completion of minimum total credits for graduation.

3. Completion of all General Education, college, elective, and major requirements. See **http://bulletins.psu.edu/bulletins/bluebook/general_education.cfm (http://bulletins.psu.edu/bulletins/bluebook/general_education.cfm)** for more information on General Education.

4. Grade of at least C in each major course designated by the major as a C-required course.

5. Students in Bachelor of Arts degree programs must complete University-wide bachelor of arts degree requirements, including completion of level 3 of a foreign language with a D or higher. See **http://bulletins.psu.edu/bulletins/bluebook/ba_requirements.cfm (http://bulletins.psu.edu/bulletins/bluebook/ba_requirements.cfm)** for courses that meet University-wide bachelor of arts degree requirements.

6. Students in Bachelor of Science degree programs must have either 2 Carnegie Units of foreign language completed prior to admission to Penn State, or a grade of C or higher in college-level 1 or 2 of a foreign language, or a grade of D or higher in college-level 3.

PENN STATE ALTOONA ADMINISTRATION

LORI J. BECHTEL, Chancellor
PATTI MILLS, Associate Dean for Academic Affairs

COLLEGE ACADEMIC ORGANIZATION

DIVISION OF ARTS AND HUMANITIES
PROFESSOR KENNETH A. WOMACK, Head
The division offers a bachelor of arts degree program in Letters, Arts, and Sciences with self-designed curricula in one of six options: Arts; Humanities; Social and Behavioral Sciences; Science and Mathematics; Science, Technology, and Society; or Liberal Studies. The division also offers bachelor of arts degrees in Communications, English, History, Integrative Arts, and Visual Art Studies. An associate degree in Letters, Arts, and Sciences is also available.

DIVISION OF BUSINESS AND ENGINEERING
ASSOCIATE PROFESSOR WILLIAM G. ENGELBRET, Interim Head
The division focuses on the needs of undergraduate students who will begin careers in business and industry after graduation. It provides all four years of the bachelor of science in Electro-Mechanical Engineering Technology (BSEMET) and the bachelor of science in Business (BSB), and associate degrees in Business, Electrical Engineering Technology, and Mechanical Engineering Technology. The division also provides the first two years of most bachelor of science degrees offered by Smeal College of Business and the College of Engineering.

DIVISION OF EDUCATION, HUMAN DEVELOPMENT, AND SOCIAL SCIENCES
ASSOCIATE PROFESSOR TIMOTHY SLEKAR, Head
The division offers bachelor degrees in Criminal Justice (B.A. and B.S.), Elementary and Kindergarten Education (Elementary Teaching option), Human Development and Family Studies (Community Human Services option), Nursing, and Psychology (B.A. and B.S. with Science and Business options). The division also offers associate degrees in Criminal Justice, Human Development and Family Studies, and Nursing. The first one or two years of many programs in the Colleges of Education, Health and Human Development, and the Liberal Arts are supported by the division.

DIVISION OF MATHEMATICS AND NATURAL SCIENCES
PROFESSOR NICHOLAS M. MISKOVSKY, Head
The division offers bachelor degrees in Biology, Environmental Studies, Mathematics, and Science. The division also offers the courses for the first two years of degree programs offered by the Eberly College of Science and the College of Earth and Mineral Sciences, and some degree programs offered by the College of Agricultural Sciences. An associate degree in Science is also available.

DIVISION OF UNDERGRADUATE STUDIES
JOANN M. SHAFFER, Senior DUS Programs Coordinator
The Division of Undergraduate Studies (DUS) at Penn State Altoona is an academic unit of enrollment for students who wish to explore the University's academic opportunities before deciding upon a field of study. DUS enrollment is also available to students who encounter changes in interests and career goals and wish to redefine their academic goals. In addition to offering a unit of enrollment, DUS also provides the following services: testing, counseling, and advising for all entering first-year students and their families; academic advising and educational planning for students and prospective students; and a University-wide academic advising and information network available to all Penn State students, faculty, and staff.

DIVISION OF STUDENT AFFAIRS
SEAN KELLY, Director
The Division of Student Affairs at Penn State Altoona provides students with the services, activities, and developmental opportunities that will supplement and enhance their academic experience and the quality of their lives while enrolled at the college. Departments and services offered by the Division of Student Affairs include Student Life, Residence Life, Career Services, International Student Services, Judicial Affairs, Institutional Equity and Diversity, Intramural and Recreation Sports, Club Sports, Religious Affairs, Greek Life, Off-Campus Housing, New Student Orientation, Service Learning, Health Services, Counseling and Psychological Services, Health Education, and Student Aid.

INTERCOLLEGIATE ATHLETICS
FREDINA M. INGOLD, Director of Athletics
Athletics includes intramural and recreational sports and activities, along with varsity athletics. Men's varsity sports are baseball, basketball, cross country, golf, soccer, swimming, and tennis. Women's varsity sports are basketball, cross country, soccer, softball, swimming, tennis, and volleyball. Penn State Altoona is a member of the National Collegiate Athletic Association (NCAA), Division III in the Allegheny Mountain Collegiate Conference(AMCC). Regionally, Penn State Altoona is a member of the Eastern College Athletic Conference (ECAC).

Baccalaureate Degrees

Biology

Abington College (BIOAB)
Altoona College (BIOAL)
Berks College (BIOBL)

University Park, Eberly College of Science (BIOL)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR DOUGLAS CAVENER, *Head*

The curriculum in Biology is planned for preparation for professions requiring competence in biological science or for gaining an understanding of the world of living things. The professional group includes students who intend to secure advanced degrees through graduate study, students who are interested in work with various governmental agencies or industries having biological responsibilities, and students who want to prepare for careers in medicine or other health-related professions. Students whose interests are not professional select the curriculum because its broad approach can result in an educated view of the structure and function of living things. Achievement of these goals, including a special interest in a particular area of biology, can be met by selecting one of five options offered by the Department of Biology that will lead to the B.S. degree in Biology. The options and their key areas are 1) Plant Biology--morphology, systematics, and physiology of plants and fungi; 2) Ecology--behavior, and population and community biology of plants and animals; 3) General Biology--all aspects of modern biology; 4) Genetics and Developmental Biology--genetics, genetic engineering, and plant and animal development; 5) Neuroscience--development, biochemistry, physiology and aging of the central and peripheral nervous system; 6) Vertebrate Physiology--pre-medicine, pre-dentistry, pharmacology, and animal physiology.

In order to be eligible for entrance to the Biology major, a student must have: 1) attained at least a 2.00 cumulative grade point average; 2) completed BIOL 110 GN(4), CHEM 110 GN(3), MATH 140 GQ(4), and earned a grade of C or better in each of these courses; and 3) completed at least one of the following courses with a grade of C or better: BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4).

TO VIEW THE Biology Minor (BIOL) minors.cfm?letter=B&program=biolmin.htm)

For the B.S. degree in Biology, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS): 40-44 credits

PRESCRIBED COURSES (32 credits)
CHEM 110 GN(3 **[1](#mnote01)** , CHEM 111 GN(1), CHEM 112 GN(**[1](#mnote01)** , CHEM 113 GN(1), MATH 140 GQ(**[1](#mnote01)** , MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4 **[1](#mnote01)** , BIOL 220W GN(4 **[1](#mnote01)** , BIOL 230W GN(4 **[1](#mnote01)** , BIOL 240W GN(4 **[1](#mnote01)** (Sem: 1-4)

ADDITIONAL COURSES (8-12 credits)
PHYS 250 GN(4), PHYS 251 GN(4); or PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 5-6)

REQUIREMENTS FOR THE OPTION: 50-54 credits

ECOLOGY OPTION: (50-54 credits)

ADDITIONAL COURSES (30-33 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3-4 credits from STAT 200 GQ(4) or STAT 240 GQ(3) or STAT 250 GQ(3) (Sem: 3-4)
Select 3 credits from STAT 462(3) or STAT 464(3) (Sem: 7-8)

Select a minimum of 18 credits of 400-level biology courses, with at least 3 credits from each of the following groups (courses in Group IV--except BIOL 496, SC 295, SC 395, SC 495--may be used to satisfy requirements in other groups) (Sem: 5-8)

Group I: BIOL 412(3), BIOL 419(3), BIOL 435(3), BIOL 436(3), BIOL 444(3), BIOL 450W(3-5), BIOL 463(3), BIOL 482(3-4), BIOL 499A IL(3)

Group II: BIOL 414(3), BIOL 427(3), BIOL 428(3), BIOL 429(3), BIOL 448(3), BIOL 464(3), BIOL 474(3)

Group III: BIOL 406(3), BIOL 415(3), BIOL 417(4), BIOL 446(3), PPATH 425(4)

Group IV: BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 482(3-4), BIOL 496(3), BIOL 499A IL(3), PPATH 425(4), SC 2
SC 395(1-3), SC 495(1-3) (A maximum of 3 credits of BIOL 496 or 4 credits of SC 295, SC 395, SC 495 may be used to fulfill the 18-credit minimum in the 400-level biology course requirement.)

SUPPORTING COURSES AND RELATED AREAS (17-24 credits)
Select 17-24 credits from department list (Sem: 1-8)

GENERAL BIOLOGY OPTION: (50-54 credits)

ADDITIONAL COURSES (24-27 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 3-4)

Select a minimum of 18 credits of 400-level biology courses, with at least 3 credits from each of the following groups (each course may be used to satisfy a requirement in only one group) (Sem: 5-8)

Group I -- BIOL 407(3), BIOL 410(3), BIOL 414(3), BIOL 441(3), BIOL 443(3), BIOL 444(3), BIOL 446(3), BIOL 448(3), BIOL 499A IL(3), HORT 407(3), HORT 440V
PPATH 416(2-4), PPATH 425(4)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIC
BIOL 474(3)

Group III -- AN SC 442(3), B M B 400(2-3), B M B 450(2), BIOL 404(3), BIOL 405(3), BIOL 407(3), BIOL 410(3), BIOL 411(3), BIOL 416(3), BIOL 422(3), BIOL 426(
428(3), BIOL 430(3), BIOL 432(3), BIOL 439(3), BIOL 443(3), BIOL 448(3), BIOL 460(3), BIOL 499A IL(3), HORT 407(3)

Group IV -- BIOL 406(3), BIOL 412(3), BIOL 414(3), BIOL 415(3), BIOL 417(4), BIOL 419(3), BIOL 428(3), BIOL 429(3), BIOL 435(3), BIOL 436(3), BIOL 444(3) BIC
446(3), BIOL 448(3), BIOL 450W(3-5), BIOL 463(3), BIOL 464(3), BIOL 474(3), BIOL 499A IL(3),

Group V -- BIOL 404(3), BIOL 406(3), BIOL 409(3), BIOL 411(3), BIOL 413(3), BIOL 416(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 432(3), BIOL 437(4), BIC
443(3), BIOL 446(3), BIOL 460(3), BIOL 469(3), BIOL 470(3), BIOL 472(3), BIOL 479(3)

Group VI -- BIOL 400(1-3), BIOL 407(3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3
BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (23-30 credits)
Select 23-30 credits from department list (Sem: 1-8)

GENETICS AND DEVELOPMENTAL BIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (19 credits)

CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
BIOL 322(3), BIOL 430(3) (Sem: 5-6)
B M B 401(2), B M B 402(3) (Sem: 5-8)

ADDITIONAL COURSES (17-21 credits)
Select 2-5 credits from MATH 220 GQ(2-3), MATH 231(2), MICRB 201(3), MICRB 202(2) (Sem: 3-6)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or STAT 319(3) (Sem: 5-6)

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- AN SC 442(3), B M B 400(2-3), B M B 450(2), BIOL 404(3), BIOL 405(3), BIOL 407(3), BIOL 410(3), BIOL 411(3), BIOL 413(3), BIOL 416(3), BIOL 422(3 426(3), BIOL 427(3), BIOL 428(3), BIOL 432(3), BIOL 437(4), BIOL 439(3), BIOL 443(3), BIOL 448(3), BIOL 460(3), BIOL 469(3), HORT 407(3), MICRB 410(3)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIC BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 407(3), BIOL 437(4), BIOL 439(3), BIOL 448(3), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), BIOL 499A IL(3), B M B PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS(10-18 credits)
Select 10-18 credits from department list (Sem: 1-8)

NEUROSCIENCE OPTION:(50-54 credits)

PRESCRIBED COURSES (19 credits)

B M B 401(2), B M B 402(3) (Sem: 5-8)
BIOL 469(3), BIOL 470(3) (Sem: 5-8)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)

ADDITIONAL COURSES (15-16 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 3-4)

Select a minimum of 12 credits of 400-level biology courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- B M B 400(2-3), BIOL 404(3), BIOL 409(3), BIOL 411(3), BIOL 413(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 437(4), BIOL 443(3), BIOL 460(3), E 471(3), BIOL 472(3), BIOL 473(2), BIOL 479(3) (may select up to 6 credits from department list)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIC BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461 471(3), BIOL 473(2), BIOL 496(1-3), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS(15-20 credits)
Select 15-20 credits from department list (Sem: 1-8)

PLANT BIOLOGY OPTION:(50-54 credits)

PRESCRIBED COURSES (22 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
B M B 401(2), B M B 402(3), BIOL 407(3), BIOL 414(3), BIOL 441(3) (Sem: 5-8)

ADDITIONAL COURSES (12-13 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or an advanced statistics course (Sem: 3-4)

Select a minimum of 9 credits of 400-level biology courses, with at least 6 credits from Group I and 3 credits from Group II (Sem: 5-8)

Group I -- BIOL 410(3), BIOL 413(3), BIOL 427(3), BIOL 430(3), BIOL 443(3), BIOL 444(3), BIOL 446(3), BIOL 448(3), BIOL 499A IL(3), BIOTC 459(3), HORT 407(3 440W(3), PPATH 416(2-4), PPATH 425(4)

Group II -- BIOL 400(1-3), BIOL 414(3), BIOL 419(3), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 496(1-3), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS(15-20 credits)
Select 15-20 credits from department list (Sem: 1-8)

VERTEBRATE PHYSIOLOGY OPTION:(50-54 credits)

PRESCRIBED COURSES (18 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
B M B 401(2), B M B 402(3), BIOL 472(3), BIOL 473(2) (Sem: 5-8)

ADDITIONAL COURSES (15-16 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 5-8)

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- BIOL 404(3), BIOL 406(3), BIOL 409(3), BIOL 411(3), BIOL 412(3), BIOL 413(3), BIOL 416(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 432(3), BIO BIOL 443(3), BIOL 446(3), BIOL 460(3), BIOL 469(3), BIOL 470(3), BIOL 471(3), BIOL 479(3) (may select up to 6 credits from department list)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIC BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461 471(3), BIOL 473(2), BIOL 496(2), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS(16-21 credits)
Select 16-21 credits from department list (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-520

Review Date: 4/10/07

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

SC

Business

Abington College (BSBAB)
Altoona College (BSBAL)
Berks College (BSBBL)
University College (BSBCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Hazleton, Penn State Lehigh

Valley, Penn State Mont Alto, Penn State Greater Allegheny, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The Bachelor of Science in Business (B.S.B.) is an upper-division, professionally oriented business degree for individuals who are seeking general preparation in business. The degree combines the theoretical underpinnings of core business disciplines, notably management, marketing, finance, and logistics, with applied study in a practical setting, especially the small-business climates across most of the Commonwealth. Through the choice of an 18-credit option, students develop a specialty related to a key business sector. Students also develop written and oral communication skills throughout the program, acquire contemporary computer skills, and engage in active and collaborative learning. The degree allows students throughout the Commonwealth to become familiar with the unique business environments of their local communities, a design that sets the degree apart from other business degrees offered both within the University and throughout the Commonwealth.

The associate degree in business administration at Penn State articulates with the degree. Advanced-standing students from other accredited colleges or universities will be admitted only with specified grade-point averages established annually in accordance with University policy.

ACCOUNTING OPTION: Preparation for positions in business with an emphasis on the areas of financial and managerial accounting, systems and controls, auditing, and taxation.

ENTREPRENEURSHIP OPTION (offered only at the Altoona College): Preparation for a variety of entrepreneurial careers from starting a new business venture to working as an entrepreneur within a larger organization.

FINANCIAL SERVICES OPTION: Preparation for positions in community financial organizations such as banks, real estate firms, insurance brokers, investment firms, and credit companies.

HEALTH SERVICES OPTION: Development of a background in the financial and administrative aspects of health care enterprises such as hospitals, managed-care organizations, clinical practices, and physicians' offices.

INDIVIDUALIZED BUSINESS OPTION: The selection of 18 credits of study based on an individualized plan of study submitted by the student and approved by an adviser. The option allows the tailoring of a program of study to suit specific student needs.

MARKETING AND MANAGEMENT OPTION: An emphasis on the skills and knowledge necessary for the business professional to function in community and regional centers of commerce.

Entrance Requirement: Completion of MATH 022 or higher (MATH 040, 041, 110, 140).

For the B.S. degree in Business, a minimum of 120 credits is required, 15 of which must be at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 8-16 credits

REQUIREMENTS FOR THE MAJOR: 71-79 credits
(This includes 12 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 53-61 credits

PRESCRIBED COURSES (32-37 credits)
ECON 002 GS(3) (Sem: 1-2)
ACCTG 211(4), ECON 004 GS(3), MIS 204(3) (Sem: 3-4)
B A 321(1-3 **[1](#mnote01)**, B A 322(1-3 **[1](#mnote01)**, B A 420(1 **[1](#mnote01)**, FIN 301(3 **[1](#mnote01)**, MGMT 301(3 **[1](#mnote01)**, MKTG 301(3 **[1](#mnote01)**, SCM 301(3 **[1](#mnote01)** (Sem: 5-6)
B A 421(1-2 **[1](#mnote01)**, B A 422W(3 **[1](#mnote01)** (Sem: 7-8)

ADDITIONAL COURSES (21-24 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 1-4)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 3-4)
B A 323(3 **[1](#mnote01)** or I B 303 IL(3 **[1](#mnote01)** (Sem: 5-8)
Select 6-9 credits from B A 495A(3-9 **[1](#mnote01)**, B A 495B(3-9 **[1](#mnote01)**, or B A 495C(3-9 **[1](#mnote01)** (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 18 credits **[1](#mnote01)**
(Not all options are available at every campus.)

ACCOUNTING OPTION: (18 credits)

PRESCRIBED COURSES (15 credits)
ACCTG 404(3), ACCTG 432(3), ACCTG 471(3), ACCTG 472(3) (Sem: 5-6)
ACCTG 403W(3) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
ACCTG 405(3) or FINSV 411(3) (Sem: 6-8)

ENTREPRENEURSHIP OPTION: (18 credits)

PRESCRIBED COURSES (12 credits)
ENTR 300(3), ENTR 320(3) (Sem: 5-6)
ENTR 400(3), ENGL 419(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
ENTR 410(3), ENTR 420(3), ENTR 430(3), or ENTR 440(3) (Sem: 5-8)
CAS 250(3), CAS 252(3), or CAS 352(3) (Sem: 7-8)

FINANCIAL SERVICES OPTION: (18 credits)

PRESCRIBED COURSES (12 credits)
FINSV 400(3), FINSV 411(3), INS 301(3) (Sem: 5-8)
ENGL 419(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
ECON 351(3), FINSV 420(3), INS 310W(3), or R EST 301(3) (Sem: 5-8)
CAS 250(3), CAS 252(3), or CAS 352(3) (Sem: 5-8)

HEALTH SERVICES OPTION: (18 credits)

PRESCRIBED COURSES (12 credits)
H P A 101(3) (Sem: 5-6)
H P A 310(3), H P A 332(3) (Sem: 5-8)
ENGL 419(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
CAS 250(3), CAS 252(3), or CAS 352(3) (Sem: 5-8)
H P A 447(3) or H P A 455(3) (Sem: 7-8)

INDIVIDUALIZED BUSINESS OPTION:(18 credits)
Prepare an individualized plan of study consisting of 18 credits to be submitted for approval by an adviser. (Sem: 5-8)

MANAGEMENT AND MARKETING OPTION(18 credits)

ADDITIONAL COURSES (18 credits)

1. Select 15 credits from the following (to include at least 3 credits in MGMT and 3 credits in MKTG and at least 3 credits at the 400 level):
   MGMT 321(3), MGMT 326(3), MGMT 331(3), MGMT 341(3), MGMT 401(3), MGMT 424(3); MGMT 431(3) or B A 250(3); MGMT 440(3), MGMT 445(3), MGM
   451W(3), MGMT 461 IL(3); MKTG 220(3) or MKTG 410(3); MKTG 310(3), MKTG 327(3), MKTG 330(3), MKTG 342(3), MKTG 422(3), MKTG 428(3), MKTG 4
   MKTG 450W(3), MKTG 478(3) (Sem: 5-8)
2. Select 3 credits from CAS 250(3), CAS 252(3), CAS 352(3), CAS 404(3) or ENGL 419(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Penn State Schuylkill/Individualized Business and Management/Marketing Options only (1/26/07)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-099

Review Date: 2/26/08

UCA Revision #1: 8/3/06

Comments(http://www.psu.edu/bulletins/bluebook/contact)

Communications

Altoona College (COMAL)

The curriculum of this B.A. in Communications provides a general grounding in traditional media forms along with work in the area of media convergence. Students must do coursework at both the practical and theoretical level. On the theory side, coursework will be offered in the areas of media criticism and theory, visual communications, and media history at the introductory and advanced levels. On the applied side, coursework will be offered in video and audio production, news writing and photojournalism, radio and television studio production, and public relations and advertising at the introductory and advanced levels. In the Convergent Media News Service courses, which form the most distinctive component of the program, students will actually produce and deliver a college news service in print, broadcasting (TV and streaming radio), and a multimedia online format. This hands-on experience will provide students an opportunity to create materials suitable for inclusion in a portfolio. Although not required, students will be strongly encouraged to do an internship sometime during their junior or senior years. Finally, the capstone Convergent Media Seminar will bring seniors together to consider the larger, theoretical issues related to the fast-paced changes in communications today and into the future. With a degree in this program, students will be well-positioned to go right into industry, where they will be able to compete in a number of different job markets, or to graduate school for advanced training.

For the B.A. in Communications, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin*)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES OR GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 12 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS:24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR:42 credits**[1](#mnote01)**

PRESCRIBED COURSES (12 credits)
COMM 100 GS(3), COMM 150 GA(3) (Sem: 1-3)
COMM 260W(3) (Sem: 2-3)
COMM 490(3) (Sem: 7-8)

ADDITIONAL COURSES (30 credits)
Select 12 credits from the following, including 6 credits at 400-level: COMM 001(**[2](#mnote02)** , COMM 002(2-3**[2](#mnote02)** , COMM 215(3), COMM 241(3), COMM 242(3), COMM 251(3), COMM 269(3), COMM 270(3), COMM 287(3), COMM 296(1-6), COMM 337(3), COMM 345(3), COMM 346(3), COMM 347(
COMM 374(3) (Sem: 3-6)
COMM 360(3), COMM 374(3), COMM 415(3), COMM 421W(3), COMM 447(3), COMM 448(3), COMM 460W(3), COMM 461(3), COMM 462(3), COMM 467(3), CO
468(3), COMM 469(3), COMM 471(3) (Sem: 5-8)
COMM 436(3), COMM 472(3), COMM 481(3), COMM 495(1-9), COMM 496(1-18) (Sem: 7-8)

Select 12 credits from the following, including 6 credits at 400-level: COMM 180 GS(3), COMM 205 US(3), COMM 250 GA(3), COMM 261 GH(3), COMM 292(3)
COMM 296(1-6), COMM 294(1-3), COMM 320(3), COMM 331(3), COMM 370(3) (Sem: 3-6)
COMM 401(3), COMM 403(3), COMM 408(3), COMM 409(3), COMM 411(3), COMM 412(3), COMM 413W(3), COMM 454(3) (Sem: 5-8)
COMM 417(3), COMM 451(3), COMM 452(3), COMM 494(1-3), COMM 496(1-18) (Sem: 7-8)

Select 6 credits from COMM 470A(3), COMM 470B(3), COMM 470C(3)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[2] A student may apply only 6 credits total of COMM 001 and COMM 002 towards the requirements of the Communications degree.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-01-002

Review Date: 8/28/07

Comments(http://www.psu.edu/bulletins/bluebook/contact)

AL

Criminal Justice

Altoona College (CJBA)

PROFESSOR TIMOTHY SLEKAR*, in charge*

Students receiving a baccalaureate degree in criminal justice should understand each of the three main components of the criminal justice system and their interrelationships, be able to evaluate critically both current and future crime control policy proposals and criminal justice research, and understand the complexity of the crime phenomenon and its relationship to individual, social, and cultural factors. This major includes study in law enforcement, courts and corrections individually and as components of a system, plus work in theories of crime causation, and crime control policy. Students should expect reading, writing, and critical thinking skills to be rigorously applied and developed throughout the degree program. The Bachelor of Arts degree in Criminal Justice provides a broadly based liberal arts background for the study of crime, justice and the criminal justice system. The Bachelor of Science degree offers an opportunity for educational enrichment in fields not traditionally considered part of the liberal arts. Either degree is excellent preparation for a career in criminal justice, graduate, or professional study, or informed citizenship.

For the B.A. degree in Criminal Justice, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(10-13 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 20-24 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 48 credits**[1](#mnote01)**
(This includes 10-13 credits of General Education courses: 0-3 credits of GH courses; 4 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (36 credits)
CRIMJ 100(3), SOC 012 GS(3), SOC 119 GS;US(4), SOC 207(3), STAT 200 GQ(4) (Sem: 1-4)
CRIMJ 210(3), CRIMJ 220(3), CRIMJ 230(3), CRIMJ 290(1)(Sem: 3-6)
CRIMJ 441(3), CRIMJ 450W(3), CRIMJ 495(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
PHIL 103 GH(3) or CRIMJ 465(3) (Sem: 1-4)
Select 9 credits from any 400-level CRIMJ course that does not already fulfill another requirement in the major. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-010

Review Date: 4/14/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

AL

Criminal Justice

Altoona College (CJBS)

PROFESSOR TIMOTHY SLEKAR*, in charge*

Students receiving a baccalaureate degree in criminal justice should understand each of the three main components of the criminal justice system and their interrelationships, be able to evaluate critically both current and future crime control policy proposals and criminal justice research, and understand the complexity of the crime phenomenon and its relationship to individual, social, and cultural factors. This major includes study in law enforcement, courts and corrections individually and as components of a system, plus work in theories of crime causation, and crime control policy. Students should expect reading, writing, and critical thinking skills to be rigorously applied and developed throughout the degree program. The Bachelor of Arts degree in Criminal Justice provides a broadly based liberal arts background for the study of crime, justice and the criminal justice system. The Bachelor of Science degree offers an opportunity for educational enrichment in fields not traditionally considered part of the liberal arts. Either degree is excellent preparation for a career in criminal justice, graduate, or professional study, or informed citizenship.

For the B.S. degree in Criminal Justice, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(10-13 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 32-36 credits

REQUIREMENTS FOR THE MAJOR: 60 credits**[1](#mnote01)**
(This includes 10-13 credits of General Education courses: 0-3 credits of GH courses; 4 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (36 credits)
CRIMJ 100(3), SOC 012 GS(3), SOC 119 GS;US(4), SOC 207(3), STAT 200 GQ(4) (Sem: 1-4)
CRIMJ 210(3), CRIMJ 220(3), CRIMJ 230(3), CRIMJ 290(1)(Sem: 3-6)
CRIMJ 441(3), CRIMJ 450W(3), CRIMJ 495(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
PHIL 103 GH(3) or CRIMJ 465(3) (Sem: 1-4)
Select 9 credits from any 400-level CRIMJ course that does not already fulfill another requirement in the major. (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)

Select 12 credits, in consultation with the adviser, in one or two of the following skill enhancement areas: accounting, computers, composition and rhetoric, counseling, education, law and legal studies, foreign language, management, public speaking, research methods and statistics, science and engineering, biobehavioral health; or in the following topics: adolescence, deviant behavior, drugs, minorities (Sem: 3-6)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-011

Review Date: 4/14/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

AL

Electro-Mechanical Engineering Technology

Altoona College
Berks College
University College: Penn State New Kensington, Penn State York (EMET)

PROFESSOR IRENE FERRARA,*Program Coordinator, Penn State Altoona*
PROFESSOR TERRY SPEICHER,*Program Coordinator, Penn State Berks*
PROFESSOR RONALD LAND,*Program Coordinator, Penn State New Kensington*
PROFESSOR CHARLES GASTON,*Program Coordinator, Penn State York*
PROFESSOR DHUSHY SATHIANATHAN,*Head, School of Engineering Design, Technology, and Professional Programs, University Park College of Engineering*

The Electro-Mechanical Engineering Technology (B.S. EMET) degree program provides the basic undergraduate education required for a career as an electro-mechanical engineering technologist. The program emphasizes a breadth of knowledge in all fields of engineering technology related to typical, highly-automated manufacturing, production, or assembly plant processes. Basic coverage is provided in all major areas to technology involved in the operation and control of manufacturing and production processes, including instrumentation and monitoring methods, principles of machine design, automated control techniques, thermal and fluid sciences, computerized manufacturing systems, principles of electrical and electronic circuit operation, computer-aided drafting and design, economics of production, and statistical analysis and quality control.

The primary aim of the EMET program is to provide graduates with the knowledge and skills necessary to apply current methods and technology to the development, design, operation, and management of electro-mechanical systems, particularly in those industries where automated systems are prevalent. Specific educational objectives of the program are to:

Provide graduates with a broad knowledge of the electrical, electronic, and mechanical devices, and the instrumentation, machine technology, computer applications, and control equipment applicable to electro-mechanical systems.

Prepare graduates who can apply technical knowledge to the development, operation, control, troubleshooting, maintenance, and management of electromechanical systems.

Prepare graduates who can communicate effectively and work collaboratively in multi-disciplinary teams.

Prepare graduates who are productive professionals in technical careers and who continue to adapt to changes in the technical fields.

The major is organized as a four-year baccalaureate program with the corresponding Penn State admission requirements. Graduates of an associate degree in either electrical or mechanical engineering technology from Penn State may re-enroll in the EMET program. The College of Engineering ENGR students may enroll through "Change of Major" procedures. Students from an engineering technology program at another institution or community college accredited by TAC of ABET may transfer into the program with advanced standing.

For the B.S. degree in Electro-Mechanical Engineering Technology, a minimum of 129 credits is required. This program is accredited at Penn State Altoona, at Penn State Berks, at Penn State New Kensington, and at Penn State York of the University College by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 105 credits
(This includes 21 credits of General Education courses: 6 credits of GQ courses; 9 credits of GN courses; 3 credits of GWS courses; 3 credits of GH or GS courses.)

PRESCRIBED COURSES (87 credits)
CMPET 117(3[1](#mnote01), CMPET 120(1[1](#mnote01), EDSGN 100(3), EET 105(3), MATH 040 GQ[1](#mnote01), MATH 083 GQ(4[1](#mnote01),
MCH T 111(3[1](#mnote01), MCH T 112(1[1](#mnote01), MET 105(3) (Sem: 1-2)
EET 114(4[1](#mnote01), EET 118(1[1](#mnote01), EET 275(3), EG T 114(2), EMET 222[1](#mnote01), ENGL 202C GWS(3), IET 215(2), IET 216(2), MATH
210(3[1](#mnote01), MATH 211(3[1](#mnote01) (Sem: 3-4)
CMPET 211(3), EET 212W(4[1](#mnote01), EMET 230(3[1](#mnote01), EMET 325(3), EMET 326(3), EMET 330[1](#mnote01), EMET 350(3) (Sem: 5-6)
EMET 405(3), EMET 410(4), EMET 440(3), IET 333(2) (Sem: 7-8)

ADDITIONAL COURSES (18 credits)
Select 9 credits of GN from: BIOL 011 GN(3) and BIOL 012 GN(1); BIOL 141 GN(3), CHEM 110 GN(3) and CHEM 111 GN(1); CHEM 112 GN(3) or CHEM 113 GN(1
PHYS 150 GN(3) or PHYS 211 GN(4) or PHYS 250 GN(4); PHYS 151 GN(3) or PHYS 212 GN(4) or PHYS 251 GN(4) (Sem: 4-6)

Select 6 credits of electives from: CMPSC 201 GQ(3) or CMPSC 121 GQ(3); EMET 401(1), EMET 402(2), EMET 403(1), EMET 430(3), EMET 432(3), EMET 495(1-6
EMET 496(1-6), EMET 497(1-6), ENTR 300(3), ENTR 320(3), IST 402(3), IST 431(3), IST 432(3); MATH 220 GQ(2), MATH 231(2), MATH 250(3), MATH 251(4), M
301(3); MKTG 301(3); STAT 200 GQ(4) or STAT 220(3) (Sem: 7-8)

Select 3 credits of GH or GS from: S T S 200 GS(3), S T S 233 GH(3), or S T S 245 GS;IL(3) (Sem: 2-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-04-017

Review Date: 1/13/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

Comments(http://www.psu.edu/bulletins/bluebook/contact_)

EN

Elementary and Kindergarten Education

Altoona College (EEDAL): Elementary Education Teaching Option
Berks College (EEDBL)
University College: Penn State Lehigh Valley (EEDCC): Elementary Education Teaching Option
University Park, College of Education (EK ED)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JACQUELINE EDMONDSON,*in charge*

This major offers teaching options in Early Childhood Education and in Elementary Education. Students successfully completing this major will have met all of the requirements for the N-3 or K-6 College Instructional I certificate issued by the Pennsylvania Department of Education. Students must indicate their choice of teaching option at the time they make application for admission to a teacher education major. Students who are undecided at this time about which teaching option to select should contact their adviser and enroll in a field experience featuring participation in the classroom.

EARLY CHILDHOOD TEACHING OPTION: Students successfully completing this option will have met all of the requirements for the N-3 Instructional I certificate issued by the Pennsylvania Department of Education. Special courses in both human development and education are used to integrate understanding of preschool programs with relevant theories of child development.

ELEMENTARY EDUCATION TEACHING OPTION: Students successfully completing this option will have met all of the requirements for the K-6 Instructional I certificate issued by the Pennsylvania Department of Education.

For the B.S. degree in Elementary and Kindergarten Education, a minimum of 129.5 credits is required for the Early Childhood Teaching Option and a minimum of 122 credits is required for the Elementary Education Teaching Option. (See alsoTeacher Education Programs(general_information.cfm?section=SpecialAP6).)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27-30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-3 credits

REQUIREMENTS FOR THE MAJOR: 101-117 credits
(This includes 27-30 credits of General Education courses: 6 credits of GS, 6 credits of GQ, 6 credits of GH, and 9 credits of GN courses for both options. The Early Childhood Teaching option permits 3 credits of GHA.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 84.5-85.5 credits[1](#mnote01)

PRESCRIBED COURSES (57.5 credits)
C I 295(2), EDPSY 014(3), ENGL 100(3), MATH 200 GQ(3) (Sem: 1-4)
A ED 303(3), C I 495B(3), C I 495D(12), C I 495F(3), KINES 126(1.5), LL ED 400(3), LL ED 401(3), LL ED 402(3), MTHED 420(3), MUSIC 241(3), SCIED 458(3), SPL 400(3), SS ED 430W(3) (Sem: 5-8)

ADDITIONAL COURSES (15-16 credits)
EDTHP 115 US(3) or EDTHP 115A GS;US(3) (Sem: 1-3)
HIST 020 GH;US(3) or HIST 021 GH;US(3) (Sem: 1-4)
STAT 100 GQ(3), STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-4)
ECON 002 GS(3), ECON 004 GS(3) or ECON 014 GS(3) (Sem: 1-8)
GEOG 020 GS;US;IL(3), GEOG 030 GS(3), GEOG 126 GS;US;IL(3), GEOG 122 GH;US(3), GEOG 123 GS;IL(3), GEOG 120 GS;US;IL(3), GEOG 124 GS;IL(3), or GEOG 1 GS;IL(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in literature GH (Sem: 1-4)
Select 9 credits: 3 credits each (including one course with a lab) from the following GN biological science, earth science and physical science (Sem: 1-6)

REQUIREMENTS FOR THE OPTION: 16.5-30 credits

EARLY CHILDHOOD TEACHING OPTION: (27-30 credits[1](#mnote01)

PRESCRIBED COURSES (15 credits)
E C E 451(3), E C E 452(3), E C E 453(2), E C E 454(3), E C E 479(3), C I 495A(1) (Sem: 5-8)

ADDITIONAL COURSES (12-15 credits)
H P A 101(3) or NUTR 251 GHA(3) (Sem: 1-2)
HD FS 315 US(3) or SOC 030 GS(3) (Sem: 1-4)
HD FS 229 GS(3) or PSYCH 100 GS(3) and PSYCH 212 GS(3) (Sem: 1-4)
HD FS 428(3) or HD FS 429(3) (Sem: 5-8)

ELEMENTARY EDUCATION TEACHING OPTION: (16.5-19.5 credits[1](#mnote01)

PRESCRIBED COURSES (1.5 credit)
KINES 127(1.5) (Sem: 5-8)

ADDITIONAL COURSES (3-6 credits)
HD FS 229 GS(3) or EDPSY 010 GS(3) or PSYCH 100 GS(3) and PSYCH 212 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in MATH or MTHED (Sem: 1-8)
Select 6 credits from EDTHP at the 400 level, ECE at the 400 level, SPLED at the 400 level, EDLDR 405(3), EDLDR 497(1-9), LL ED 497(1-9) (Sem: 5-8)
Select 3 credits in U.S. History (Sem:1-8)

[1] A grade of C or better per course is required for teacher certification.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-06-097

Review Date: 2/12/08

UCA Revision #1: 8/3/06

ED

English

Abington College (ENGAB)
Altoona College (ENGAL)
University College (ENGCC): Penn State Brandywine, Penn State Fayette, Penn State Mont Alto, Penn State Wilkes-Barre, Penn State York
University Park, College of the Liberal Arts (ENGL)

PROFESSOR ROBIN G. SCHULZE,*Head*

Majors explore the imaginative and practical uses of English through courses in literature, writing, rhetoric, and language. They develop perspectives on human nature and cultural values through American, British, and other English literatures; they learn how to gather, analyze, synthesize, and communicate information; they gain mastery over their language. These skills help English majors find careers in such fields as publishing, business, industry, government, and teaching. English majors often go on to postgraduate study not only in English but in such areas as law, business, education, or other liberal disciplines.

Majors can emphasize writing, literature, or rhetoric, or a mix of literature, writing, and rhetoric. All provide a liberal education and all develop analytic and writing skills. Qualified students may participate in the career internship and in the English honors program.

Students interested in earning certification in secondary education should contact the College of Education, Department of Curriculum and Instruction. (See also Teacher Education Programs.)

For the B.A. degree in English, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1](#mnote01)**

PRESCRIBED COURSES (6 credits)
ENGL 200(3), ENGL 201 GH(3) (Sem: 1-6)

ADDITIONAL COURSES (9 credits)
Select 3 credits from ENGL 221(3) or ENGL 221W(3) (Sem: 1-6)
Select 3 credits from ENGL 222(3), ENGL 222W(3), ENGL 231(3), ENGL 231W(3), ENGL 232(3), ENGL 232W(3), or ENGL 235 US(3) (Sem: 1-6)
Select 3 credits from ENGL 310H(3) or ENGL 487W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 6 credits in literature, writing, or rhetoric (Sem: 1-8)
Select 3 credits at the 300 or 400 level in literature primarily before 1800 from department list (Sem: 5-8)
Select 3 credits at the 300 or 400 level in post-1800 multicultural/minority subject matter or in post-1800 sex and gender studies or in post-1800 postcolonial studies (Sem: 5-8)
Select 9 credits at the 300 or 400 level in literature, writing, or rhetoric (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-04-234

Review Date: 1/16/07

Comments(http://www.psu.edu/bulletins/bluebook/contact)

LA

Environmental Studies

Altoona College (ENVST)

PROFESSOR NICHOLAS M. MISKOVSKY, *Head*

This interdisciplinary major is designed to provide students with an integrated and critical knowledge of the natural environment and human interactions with it. Students will receive a strong foundation in the natural sciences but will extend their studies across several disciplines, emphasizing both public policy issues and the role of the natural environment in history and culture. The goal of the program is "ecological literacy," which means that students will develop a broad-based understanding and awareness of environments and environmental issues, and they will develop the problem-solving skills to address those issues. Program requirements include interdisciplinary courses in environmental studies and a broad array of courses in biology, geology, chemistry, geography, economics, political science, English, history, and philosophy. By selecting appropriate electives to supplement the "additional courses" requirement of the major, students may develop an emphasis in either a specific field (i.e., biology, English) or in a general area of study (natural science, social science, and humanities). Graduates are equipped for employment as environmental consultants in business or with governmental agencies and public interest groups. Many may go on to postgraduate study in environmental science, public policy, or the humanities, or to law school.

A student wishing to transfer into the Environmental Studies program must have completed the following course ENVST 100(3) and have received a grade of C or better in the course.

For the B.A. degree in Environmental Studies, a minimum of 125 credits is required.

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:

(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 17 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS:24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR:60 credits **[1](#mnote01)**
(This includes 21 credits of General Education courses as follows: 3 credits of GH courses; 9 credits of GN courses; 3 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (42 credits)
BIOL 110 GN(4), BIOL 220W GN(4), ENVST 100(3), ENGL 180 GH(3), GEOSC 020 GN(3) (Sem: 1-2)
CHEM 020(3), CHEM 021(1), ENVST 200(3), GEOG 115 GN(3) (Sem: 3-4)
STAT 250 GQ(3), ECON 428(3), HIST 453 or GEOG 407(3), PHIL 403(3) (Sem: 5-6)
ENVST 400W(3) (Sem: 7-8)

ADDITIONAL COURSES (18 credits)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-2)
PL SC 135 GS(3) or PL SC 425(3) (Sem: 5-6)
Select 3 credits of ENVST 395(1-18) or ENVST 496(1-18) (Sem: 7-8)
Select 9 credits (3 in each area listed below) in consultation with an academic adviser.
At least six credits must be at the 400-level.
a. Natural Sciences: BIOL 240W(4), BIOL 417(3), BIOL 427(3), BIOL 435(3), BIOL 446(3) BIOL 450W(3-5), ENVST 497(3), FOR 308(3), FOR 430/WFS 430(3), GEOS 303(3), GEOSC 340(3), GEOSC 462(3), MICRB 400(3), WFS 408(3) (Sem: 3-8).
b. Social Sciences: ANTH 040(3), ANTH 146 GS;US(3), ANTH 152(3), ANTH 456(3), ANTH/BIO 464(3), ENVST 497(3), GEOG 401(3), GEOG 430(3), PL SC 412(3), 444(3), PL SC 490(3), S T S 047(3) (Sem: 3-8)
c. Arts and Humanities: ENGL 404(3), ENGL 412(3), ENGL 415(3), ENGL 416(3), ENGL 421(3), ENGL 430(3), ENVST 497(3), HIST/S T S 151(3), HIST 428/S T S(3)
When topic appropriate and with program approval: ENGL 400(3), ENGL 401(3), ENGL 483(3), HIST 200 US(3), HIST 497(3) (Sem: 3-8)
Other courses may be substituted with program approval.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2003

Blue Sheet Item #: 31-06-001

Review Date: 3/11/03

UCA Revision #1: 8/4/06
UCA Revision #2: 7/27/07

AL

History

Altoona College (HISAL)

This major provides a broad introduction to the history of the great civilizations of the world and specific areas of historical inquiry. Centered in one of the basic, traditional disciplines, the History major offers invaluable preparation for students interested in a career in government, international relations, law, or librarianship, as well as essential training for those interested in a professional career as an academic or public historian, archivist, or secondary school teacher. Along with the perspective on the present that a study of the past engenders, the program develops skills in research, analysis, and synthesis that have proved useful in commerce and industry. The History major combines easily with minors or even multiple majors, providing flexibility in one's career choice.

For a B.A. degree in History, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION:45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS:24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR:37 credits**[1](#mnote01)**

PRESCRIBED COURSES (3 credits)
HIST 302W(3) (Sem: 5-6)

ADDITIONAL COURSES (16 credits)
Select 12 credits in two of the three focus areas: HIST 001 GH;IL(3) and HIST 002 GH;IL(3); HIST 010 GH;IL(3) and HIST 011 GH;IL(3); HIST 020 GH;US(3) and H 021GH(3) (Sem: 1-8)
HIST 494(4) or HIST 495(4) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS(18 credits)
At least 8 credits must be at the 400-level
Select 12 credits in history (Sem: 1-8)
Select 6 credits in non-Western history (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-01-010

Review Date: 2/26/07

AL

Human Development and Family Studies

Penn State Altoona (HFSAL)
Penn State Harrisburg (HFSCA)
University College (HFSCC): Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Mont Alto, Penn State Shenango, Penn State Worthington-Scranton, Penn State York
College of Health and Human Development (HD FS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR STEVEN H. ZARIT, *Head of the Department*

This major is a multidisciplinary program that examines the development of individuals and families across the life span. It enables students to prepare for professional, managerial, or scientific roles in health and human services professions, in public and nonprofit agencies, and in business and industry, as well as for advanced professional or graduate study. Students obtain a broad background in individual and family development across the life span. Courses emphasize biological, psychological, social/cultural, and economic aspects of development. Through course work and undergraduate internships or research projects, students develop skills relevant to career objectives, such as counseling, human assessment, program planning and evaluation, and research.

Two options are available within the major: (1) Life Span Human Services option and (2) Life Span Developmental Science option. The introductory paragraph to each of the options includes a brief list of career opportunities. More extensive descriptions of career opportunities in both public and private sectors are available for the program.

LIFE SPAN HUMAN SERVICES OPTION: This option focuses on the acquisition and application of scientific knowledge about development and family functioning across the life span for the purposes of enhancing personal and family development. Courses emphasize: (1) understanding the biological, psychological, and social development across the life span, and the structuring and functioning of families; (2) understanding basic theoretical and methodological issues; and (3) the development of applied skills in intervention and evaluation, prevention, and in the formulation of social policy. An approved field experience in a setting that serves children, youth, adults, or the aged is required for this option. Typical employment settings include preschools, daycare centers, hospital programs for children, youth, and families, institutional and community mental health programs for individuals and families, programs for abused or neglected children and adolescents, women's resource centers, human resources programs, employee assistance programs, nursing homes, area agencies on aging and other community settings for older adults, and public welfare and family service agencies. Typical postgraduate pursuits of students completing this option include graduate study in human development, family studies, psychology, or sociology, or advanced professional training in psychology, law, behavioral health, counseling or social work.

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION: This option focuses on the understanding of contemporary methodological approaches to the acquisition of scientific knowledge about individual development over the life span and about family development. This option provides preparation for advanced training in careers in developmental or family research, teaching at a college or university, or for professional careers that require graduate training. Courses within this option emphasize a thorough understanding of the theory and methods of developmental and family theory and research. An approved, multi-semester research practicum is an integral component of this option. Typical postgraduate pursuits of students completing this option include graduate study in human development, family studies, psychology, or sociology, or advanced professional training in psychology, law, behavioral health, social work, or in other programs related to services for individuals and families.

For the B.S. degree in Human Development and Family Studies, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-5 credits

REQUIREMENTS FOR THE MAJOR: 73-76 credits
(This includes 3-4 credits of General Education GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (18 credits)**[1](#mnote01)**
HD FS 129 GS(3), HD FS 301(3), HD FS 311(3), HD FS 312W(3), HD FS 315 U**[93](#mnote93)**, HD FS 418(3) (Sem: 3-6)

ADDITIONAL COURSES (12-13 credits)**[1](#mnote01)**
Select 6 credits from HD FS 229 GS(3), HD FS 239 GS(3), HD FS 249 GS(3) (Sem: 1-4)
STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-4)
Select 3 credits of United States Cultures (US) **[92](#mnote92)** (Sem: 4-8)

REQUIREMENTS FOR THE OPTION: 43-45 credits

LIFE SPAN HUMAN SERVICES OPTION (43-45 credits)

PRESCRIBED COURSES (9 credits)**[1](#mnote01)**
HD FS 411(3), HD FS 414(3), HD FS 455(3) (Sem: 5-8)

ADDITIONAL COURSES (22-24 credits)**[1](#mnote01)** Select 3 credits from HD FS 428(3), HD FS 429(3), HD FS 433(3) or HD FS 445(3) (Sem: 5-8)
Select 6 credits from 300- or 400-level HD FS courses (Sem: 5-8)
Select 13-15 credits from (a) or (b)
(a) Approved field practice in a human service setting: HD FS 490(2), HD FS 495A(9), HD FS 495B(3) (Sem: 5-8)
(b) Approved group project or field practice in human service setting: HD FS 401(3), HD FS 402(4), HD FS 495C(6-8) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits (minimum of 6 credits at the 400 level) in consultation with adviser from University-wide offerings that develop competency in the option (a grade of C or better is required in any HD FS course taken to satisfy this requirement) (Sem: 5-8)

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION 45 credits

PRESCRIBED COURSES (6 credits)**[1](#mnote01)**
HD FS 494(6) or HD FS 494H(6) (Sem: 5-8)

ADDITIONAL COURSES (21 credits)**[1](#mnote01)**
Select 6 credits from HD FS 428(3), HD FS 429(3), HD FS 433(3), HD FS 445(3) (Sem: 5-8)
Select 15 credits (minimum of 9 credits at the 400-level) from HD FS courses (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 18 credits (minimum of 9 credits at the 400 level) in consultation with adviser from University-wide offerings that develop competency in option (a grade of C or better is required in any HD FS course taken to satisfy this requirement) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

[92] This course is in addition to the 6 credits of United States Cultures and International Cultures.
[93] This course fulfills the University's United States Cultures requirement.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-02-111

Review Date: 10/11/05

HH

Integrative Arts

Abington College (IARAB)
Altoona College (IARAL)
University Park, College of Arts and Architecture (INART)

PROFESSOR WILLIAM J. KELLY, *Head of the Department*, *University Park*

Integrative Arts is an interdisciplinary major available to students who desire a curriculum that crosses over traditional single discipline lines. The Integrative Arts student initially establishes an academic plan with the assistance of an approved adviser. The plan must contain a core component of 36 credits and an elective component of 19 credits. The two components combined must clearly illustrate that the plan has clarity, purpose, and cohesion.

For the B.A. degree in Integrative Arts, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 19 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits

SUPPORTING COURSES AND RELATED AREAS: 36 credits**[1](#mnote01)**
(Must include at least 15 credits at the 400 or equivalent level)
Select 24 credits from an arts area (Sem: 1-8)
Select 12 credits from other arts areas (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Reviewed by the Department: Summer Session 1991

Blue Sheet Item #: 19-02-001

Review Date: 01/18/00 (General Education information updated)

Letters, Arts, and Sciences

Abington College (LASAB)
Altoona College (LASAL)
Penn State Harrisburg (LASCA)
University College (LASCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University Park, College of the Liberal Arts (LAS)
World Campus

Letters, Arts, and Sciences is a multi-disciplinary, theme-oriented, and student-designed major leading to a bachelor of arts degree. The major consists of 36 credits, divided into two sections. The core (12 credits) consists of 3 credits each in the following: research methods/projects; communication skills; theory/application; and critical analysis. The additional courses (24 credits) consist of courses directed toward the student's theme, 15 credits of which must be at the 400 level.

In order to be eligible for entrance to the major, the student must submit a proposal. In consultation with an LAS adviser, the student formulates a proposal designing a program that investigates a theme from the viewpoint of at least three different subject areas. Students may not duplicate existing majors from any academic area. An important standard for entrance to the Letters, Arts, and Sciences major is the student's ability to design a program with academic integrity worthy of a bachelor of arts degree.

For the B.A. degree in Letters, Arts, and Sciences, a minimum of 120 credits is required.

Early Admission Program for Professional Schools: If a student is accepted and enrolled as a degree candidate in a professional postgraduate degree program requiring three years or more to complete (such as medical school, dental school, law school, theological seminary, etc.) and if that student completes 94 undergraduate credits at Penn State including General Education, B.A. requirements, and the LAS 12-credit core requirements, that student may use up to 30 credits from the professional school to complete the B.A. in LAS.

It must be emphasized that only top students are accepted into professional school programs on such an early admission basis and that not every professional school has such a policy. Students must have enrolled in LAS prior to attending the professional school to request graduation in LAS.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits

(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits **[1](#mnote01)**

ADDITIONAL COURSES (24 credits)
In consultation with adviser, select 24 credits from University-wide offerings to include:
a) 12 credits at the 400 level representing at least three different subject areas;
b) a 3 credit 400-level capstone course (to be selected in consultation wtih adviser);
c) at least 9 credits (of the 24 total) from the humanities and social sciences. (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
In consultation with adviser, select 3 credits in research methods/projects from courses that involve research methodology or that focus on a research project; select 3 credits in communication skills from courses that focus on expression including those in verbal, symbolic, and written skills; select 3 credits in theory/application from courses that focus on theory, principle, central concepts, or fundamental issues; select 3 credits in critical analysis from courses that focus on evaluation, synthesis, and analysis. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-042

Review Date: 1/15/08

Reviewed by Publications: 06/23/06

LA

Mathematics

Altoona College (MTAAL)
University Park, Eberly College of Science (MTHBA)

PROFESSOR JOHN ROE *Chair, Department of Mathematics*

Two degrees are offered in mathematics: the Bachelor of Arts and the Bachelor of Science. Both programs have a common core of mathematics courses; both programs prepare students for graduate work in mathematics. In addition, the Bachelor of Arts degree is oriented toward applications of mathematics in the arts, humanities, and social sciences. The Bachelor of Science degree has a number of options. These options are oriented toward actuarial science, applied analysis, computational mathematics, graduate study, systems analysis, and teaching.

Many of the options are designed for students who want to use mathematics in industry, commerce, or government. In short, the degree requirements have the flexibility to fit many individual interests. The student, with the assistance of a faculty adviser, should select an option by the end of the sophomore year.

In order to be eligible for entrance to the Mathematics major, a student must have: 1) attained at least a 2.00 cumulative grade point average; and 2) completed MATH 140 GQ(4) and MATH 141 GQ(4) and earned a grade of C or better in each of these courses.

For the B.A. degree in Mathematics, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION or BACHELOR OF ARTS DEGREE REQUIREMENTS course selections)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-1 credit

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 56 credits
(This includes 6 credits of General Education GQ courses.)

PRESCRIBED COURSES (23-25 credits)
MATH 140 GQ(4 **[1](#mnote01)** , MATH 141 GQ(4 **[1](#mnote01)** , MATH 220 GQ(2-3 **[1](#mnote01)** , MATH 230(4 **[1](#mnote01)** , MATH 311W(3-4 **[1](#mnote01)** , MATH 312(3 **[1](#mnote01)** (Sem: 1-4)
MATH 403(3 **[1](#mnote01)** (Sem: 5-8)

ADDITIONAL COURSES (18-19 credits)
CMPSC 101 GQ(3) or CMPSC 121 GQ(3) or CMPSC 201 GQ(3) (Sem: 1-2)
MATH 250(3 **[1](#mnote01)** or MATH 251(4 **[1](#mnote01)** (Sem: 3-4)
MATH 435(3 **[1](#mnote01)** or MATH 436(3 **[1](#mnote01)** (Sem: 5-8)
Select 3 credits **[1](#mnote01)** from MATH 411(3), MATH 412(3), MATH 417(3), MATH 419(3), or MATH 421(3) (Sem: 5-8)
Select 6 credits **[1](#mnote01)** of 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Se 5-8)

SUPPORTING COURSES AND RELATED AREAS (12-15 credits)
Select 13-15 credits from department list (Sem: 3-8)

Integrated B.A. in Mathematics and Master of Applied Statistics (M.A.S.)

The Integrated Undergraduate-Graduate (IUG) degree with B.A. in Mathematics and Master of Applied Statistics (M.A.S.) is designed to be completed in five years. This integrated degree will enable a select number of highly qualified and career oriented students to obtain training in statistics focused on developing data analysis skills, and exploration of core areas of applied statistics at the graduate levels in addition to an undergraduate degree in Mathematics. The M.A.S. degree is a professional masters degree that emphasizes applications. The degree prepares students with interests in mathematics, computation, and the quantitative aspects of science for careers in industry and government as statistical analysts. Research divisions in the pharmaceutical industry, quality control, and quality engineering divisions in manufacturing companies, clinical research units, corporate planning and research units, and other data intensive positions require persons with training in mathematics, computation, database management, and statistical analysis, which this program will provide.

Application Process

The number of openings in the integrated B.A. in Mathematics and M.A.S. program is limited. Admission will be based on specific criteria and the recommendation of faculty. Applicants to the integrated program:

Must be enrolled in the Mathematics B.A. program.

Must have completed at least 60 credits of the undergraduate degree program including the two courses: STAT 414 and STAT 415 and the students must apply to the integrated program prior to completing 110 credits.

Must submit a transcript and a statement of purpose.

Must present a departmental approved plan of study in the application process in consultation with the M.A.S. program director.

Must be recommended by the chair of Mathematics Department's undergraduate program committee. Two additional recommendation letters must be sent to the M.A.S. admissions committee.

Must submit the GRE to the M.A.S. admissions committee.

Must apply to the M.A.S. program in Statistics.

For the IUG B.A. in Mathematics and M.A.S. degree, 120 credits are required for the B.A. and 30 credits for the M.A.S. The following twelve graduate level credits (number of credits in parentheses) can apply to both B.A. and M.A.S. degrees, six of these are at the 500 level: STAT 414(3), STAT 415(3), STAT 501(3 STAT 502(3).

Assuming all requirements for the B.A. in Mathematics are completed, students in the program can complete the B.A. degree and not advance to the M.A.S. degree if they desire.

Degree Requirements

IUG Math B.A. students must fulfill the Math B.A. requirement while counting these prescribed Statistics courses (15 credits)
STAT 220(3)*, STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3)

IUG M.A.S. Requirements (30 credits)
STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3), STAT 580(2) and STAT 581(1)**

Electives: (15 credits)
Select from STAT 464(3), STAT 503(3), STAT 504(3), STAT 505(3), STAT 506(3), STAT 507(3), STAT 508(3), STAT 509(3), STAT 510(3) and the departmental li additional courses for the M.A.S. program with the approval of the adviser.

For the IUG B.A. in Mathematics and M.A.S. degree, the four courses: STAT 414(3), STAT 415(3), STAT 501(3) and STAT 502(3) can apply to both the B.A. and M.A.S. degrees.

*Can be waived for students with an equivalent course, e.g. STAT 250 GQ(3) or STAT 301 GQ(3).

** For all students in the M.A.S. program, the STAT 581(1) course will have a comprehensive written project report required as part of the course, which serves as the culminating experience.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-088

Review Date: 2/26/08

UCA Revision #1: 8/18/06
UCA Revision #2: 7/30/07

SC

Mathematics

Altoona College (MTSAL)
University Park, Eberly College of Science (MTHBS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JOHN ROE,*Chair, Department of Mathematics*

Two degrees are offered in mathematics: the Bachelor of Arts and the Bachelor of Science. Both programs have a common core of mathematics courses; both programs prepare students for graduate work in mathematics. In addition, the Bachelor of Arts degree is oriented toward applications of mathematics in the arts, humanities, and social sciences. The Bachelor of Science degree has a number of options. These options are oriented toward actuarial science, applied analysis, computational mathematics, graduate study, systems analysis, and teaching.

Many of the options are designed for students who want to use mathematics in industry, commerce, or government. In short, the degree requirements have the flexibility to fit many individual interests. The student, with the assistance of a faculty adviser, should select an option by the end of the sophomore year.

In order to be eligible for entrance to the Mathematics major, a student must have: 1) attained at least a 2.00 cumulative grade point average; and 2) completed MATH 140 GQ(4) and MATH 141 GQ(4) and earned a grade of C or better in each of these courses.

For the B.S. degree in Mathematics, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6-12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-1 credit

REQUIREMENTS FOR THE MAJOR: 80-90 credits
(This includes 6-12 credits of General Education courses: 6 credits of GQ courses. In addition, the Teacher Certification option includes 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 26-28 credits

PRESCRIBED COURSES (20-21 credits)
MATH 140 GQ(4[1](#mnote01) [53](#mnote53) , MATH 141 GQ(4[1](#mnote01) [53](#mnote53) (Sem: 1-4)
MATH 220 GQ(2[1](#mnote01) [53](#mnote53) , MATH 230(4[1](#mnote01) , MATH 311W(3-4[1](#mnote01) , MATH 312(3[1](#mnote01) (Sem: 3-4)

ADDITIONAL COURSES (6-7 credits)[53](#mnote53)
CMPSC 101 GQ(3[53](#mnote53) or CMPSC 121 GQ(3[53](#mnote53) or CMPSC 201 GQ(3[53](#mnote53) (Sem: 1-2)
MATH 250(3[1](#mnote01) or MATH 251(4[1](#mnote01) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION:52-62 credits

ACTUARIAL MATHEMATICS OPTION:(52-54 credits)

PRESCRIBED COURSES (33 credits)
I E 425(3), INS 301(3), INS 410(3), INS 411(3), INS 412(3), MATH 4[1](#mnote01), MATH 415(3[1](#mnote01), MATH 416(3[1](#mnote01), MATH 451(3[1](#mnote01), MATH 484(3[1](#mnote01), STAT 460(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)[1](#mnote01)
Select 3 credits from 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS(16-18 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select 8-10 credits from department list (Sem: 1-8)

APPLIED ANALYSIS OPTION:(52-54 credits)

PRESCRIBED COURSES (9 credits)[1](#mnote01)
MATH 403(3), MATH 421(3), MATH 436(3) (Sem: 5-8)

ADDITIONAL COURSES (17 credits)[1](#mnote01)
MATH 414(3) or MATH 418(3) (Sem: 5-8)
Select 6 credits from MATH 411(3), MATH 412(3), or MATH 417(3) (Sem: 5-8)
Select one of the following sequences (8 credits): (Sem: 1-4)
a. BIOL 110 GN(4), BIOL 220W GN(4)
b. CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1)
c. PHYS 211 GN(4), PHYS 212 GN(4)

SUPPORTING COURSES AND RELATED AREAS(26-28 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select an approved sequence of 12 credits in an area of application; possible areas include engineering and the physical, earth, or biological sciences (Sem: 1-8)
Select 6-8 credits from department list (Sem: 1-8)

COMPUTATIONAL MATHEMATICS OPTION:(52-54 credits)

PRESCRIBED COURSES (21 credits)
CMPSC 122(3) (Sem: 3-4)
CMPSC 465(3), MATH 414(3[1](#mnote01), MATH 415(3[1](#mnote01), MATH 455(3[1](#mnote01), MATH 456(3[1](#mnote01), MATH 484(3[1](#mnote01) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)[1](#mnote01)
MATH 467(3) or MATH 469(3) (Sem: 5-8)
Select 3 credits from MATH 411(3), MATH 412(3), or MATH 417(3) (Sem: 5-8)
Select 6 credits from CMPSC 468(3), MATH 310(3), MATH 459(3), MATH 468(3), MATH 483(3), or MATH 485(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS(19-21 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select 11-13 credits from department list (Sem: 1-8)

GENERAL MATHEMATICS OPTION:(52-54 credits)

PRESCRIBED COURSE (3 credits)[1](#mnote01)
MATH 403(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)[1](#mnote01)
MATH 414(3) or MATH 418(3); MATH 435(3) or MATH 436(3) (Sem: 5-8)
Select 3 credits from MATH 411(3), MATH 412(3), MATH 417(3), MATH 419(3), or MATH 421(3) (Sem: 5-8)
Select 6 credits of 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS(34-36 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select an approved sequence of 12 credits in MATH or a related area or an area of application (Sem: 1-8)
Select 14-16 credits from department list (Sem: 1-8)

GRADUATE STUDY OPTION: (52-54 credits)

PRESCRIBED COURSES (18 credits)[1](#mnote01)
MATH 403(3), MATH 404(3), MATH 421(3), MATH 429(3), MATH 435(3), MATH 436(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)[1](#mnote01)
MATH 414(3) or MATH 418(3) (Sem: 5-8)
Select 9 credits of 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS(22-24 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select 14-16 credits from department list (Sem: 1-8)

SYSTEMS ANALYSIS OPTION:(52-54 credits)

PRESCRIBED COURSES (12 credits)[1](#mnote01)
MATH 414(3), MATH 415(3), MATH 436(3), MATH 484(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)[1](#mnote01)
Select 6 credits from MATH 310(3), MATH 451(3), MATH 485(3), or MATH 486(3) (Sem: 5-8)
Select 3 credits from 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS(31-33 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select an approved sequence of 12 credits in an area of application; possible areas include business, economics, industrial engineering, social sciences (Sem: 1-8)
Select 11-13 credits from department list (Sem: 1-8)

TEACHER CERTIFICATION OPTION:(62 credits)[54](#mnote54)
This option helps prepare individuals for mathematics education teaching positions in secondary schools. It includes the academic requirements for the Mathematics Education Instructional I certificate issued by the Pennsylvania Department of Education (see also Teacher Education Programs).

PRESCRIBED COURSES (53 credits)
EDPSY 014(3[53](#mnote53), EDTHP 115 US(3) (Sem: 1-2)
HD FS 239 GS(3[53](#mnote53), PSYCH 100 GS(3) (Sem: 1-2, 5-6)
C I 295(2[53](#mnote53), C I 412W(3[53](#mnote53), C I 495C(3[53](#mnote53)[56](#mnote56), C I 495E(15[53](#mnote53), MATH 427(3[1](#mnote01), MATH 435(3[1](#mnote01), MATH 436(3[1](#mnote01), MTHED 411(3[53](#mnote53), MTHED 412W(3[53](#mnote53), MTHED 427(3[53](#mnote53) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
MATH 31[1](#mnote01) or MATH 483(3[1](#mnote01); MATH 414(3[1](#mnote01) or MATH 418(3[1](#mnote01) (Sem: 3-8)
Select 3 credits from 400-level EDTHP courses[53](#mnote53) (Sem: 3-8)

Integrated B.S. in Mathematics and Master of Applied Statistics (M.A.S.)

The Integrated Undergraduate-Graduate (IUG) degree with B.S. in Mathematics and Master of Applied Statistics (M.A.S.) is designed to be completed in five years. This integrated degree will enable a select number of highly qualified and career oriented students to obtain training in statistics focused on developing data analysis skills, and exploration of core areas of applied statistics at the graduate levels in addition to an undergraduate degree in Mathematics. The M.A.S. degree is a professional masters degree that emphasizes applications. The degree prepares students with interests in mathematics, computation, and the quantitative aspects of science for careers in industry and government as statistical analysts. Research divisions in the pharmaceutical industry, quality control, and quality engineering divisions in manufacturing companies, clinical research units, corporate planning and research units, and other data intensive positions require persons with training in mathematics, computation, database management, and statistical analysis, which this program will provide.

Application Process

The number of openings in the integrated B.S. in Mathematics and M.A.S. program is limited. Admission will be based on specific criteria and the recommendation of faculty. Applicants to the integrated program:

Must be enrolled in the Mathematics B.S. program.

Must have completed at least 60 credits of the undergraduate degree program including the two courses: STAT 414 and STAT 415 and the students must apply to the integrated program prior to completing 110 credits.

Must submit a transcript and a statement of purpose.

Must present a departmental approved plan of study in the application process in consultation with the M.A.S. program director.

Must be recommended by the chair of Mathematics Department's undergraduate program committee. Two additional recommendation letters must be sent to the M.A.S. admissions committee.

Must submit the GRE to the M.A.S. admissions committee.

Must apply to the M.A.S. program in Statistics.

For the IUG B.S. in Mathematics and M.A.S. degree, 120 credits are required for the B.S. and 30 credits for the M.A.S. The following twelve graduate level credits (number of credits in parentheses) can apply to both B.S. and M.A.S. degrees, six of these are at the 500 level: STAT 414(3), STAT 415(3), STAT 501(3) STAT 502(3).

Assuming all requirements for the B.S. in Mathematics are completed, students in the program can complete the B.S. degree and not advance to the M.A.S. degree if they desire.

Degree Requirements

IUG Math B.S. students must fulfill the Math B.S. requirement while counting these prescribed Statistics courses (15 credits)
STAT 220(3)*, STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3)

IUG M.A.S. Requirements (30 credits)
STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3), STAT 580(2) and STAT 581(1)**

Electives: (15 credits)
Select from STAT 464(3), STAT 503(3), STAT 504(3), STAT 505(3), STAT 506(3), STAT 507(3), STAT 508(3), STAT 509(3), STAT 510(3) and the departmental li additional courses for the M.A.S. program with the approval of the adviser.

For the IUG B.S. in Mathematics and M.A.S. degree, the four courses: STAT 414(3), STAT 415(3), STAT 501(3) and STAT 502(3) can apply to both the B.S. and M.A.S. degrees.

*Can be waived for students with an equivalent course, e.g. STAT 250 GQ(3)or STAT 301 GQ(3).

** For all students in the M.A.S. program, the STAT 581(1) course will have a comprehensive written project report required as part of the course, which serves as the culminating experience.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[53] A grade of C or better per course is required for teacher certification.
[54] Mathematics majors who wish to teach in public schools must schedule the teacher certification requirements prescribed by the College of Education as shown on this page. In addition, they must file an application in the Certification and Education Services Office, 181 Chambers Building, prior to the end of the second semester. At that time, they will be assigned an adviser in the College of Education to help them schedule the appropriate professional course work.
[56] Offered only for Satisfactory/Unsatisfactory grading.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-089

Review Date: 2/26/08

UCA Revision #1: 8/16/06
UCA Revision #2: 7/30/07

SC

Nursing

Altoona College
Capital College
Penn State Erie,The Behrend College
University College: Penn State Fayette, Penn State Mont Alto, Penn State New Kensington, Penn State Shenango, Penn State Worthington Scranton
University Park, School of Nursing (NURN)
World Campus

PROFESSOR PAULA MILONE-NUZZO,*Dean, School of Nursing*

This major prepares registered nurse students as professional practitioners in areas of health promotion and maintenance, illness care, and rehabilitation. The major in Nursing is accredited by The National League for Nursing Accrediting Commission (NLNAC), 61 Broadway, New York, NY 10006; 212-363-5555 Commission on Collegiate Nursing Education (CCNE), One DuPont Circle, NW Suite 530, Washington, DC 20036; 202-463-6930.

Part-time or full-time study is available at any of the campus sites. The University Park site is a blended program, which includes resident instruction and online nursing courses. The World Campus site is completely online.

Senate legislation 42-97*Credit by Portfolio Assessment* enables students to receive credit for certain prescribed nursing courses based on their RN licensure.

Students must carry professional liability insurance, have an annual health examination, maintain CPR certification when enrolled in any clinical course, and meet all requirements of the clinical institutions that provide precepted clinical experience, which may include criminal background and child abuse history clearances. Students also are responsible for their own transportation to clinical settings and may need the use of a car.

Graduates of this major may qualify for admission to a graduate nursing program.

For the B.S. degree in Nursing, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(20-22 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 2-5 credits

REQUIREMENTS FOR THE MAJOR: 92-93 credits**[1](#mnote01)**
(This includes 20-22 credits of General Education courses: 3 credits of GHA courses; 7-9 credits of GN courses; 4 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (80 credits)
BIOL 129 GN(4), BIOL 141 GN(3), BIOL 142(1), HD FS 129 GS(3), MICRB 106 GN(3), MICRB 107 GN(1), NUTR 251 GHA(3), PSYCH 100 GS(3), STAT 200 GQ(4) (S
NURS 390 US(3**[38](#mnote38)** (Sem: 3-4)
NURS 205(3**[37](#mnote37)**, NURS 215 US(3**[37](#mnote37)**, NURS 225(3**[37](#mnote37)**, NURS 230(4**[37](#mnote37)**, NURS 301(4**[37](#mnote37)**, NURS 310(4**[37](#mnote37)**, NURS 320(4**[37](#mnote37)**, NURS 406(4**[37](#mnote37)**, NURS 420(4**[37](#mnote37)** (Sem: 5-6)
NURS 200W(3**[38](#mnote38)**, NURS 351(3**[38](#mnote38)** (Sem: 5-6)
NURS 417 US;IL(4**[38](#mnote38)**, NURS 418(3**[38](#mnote38)**, NURS 457(3**[38](#mnote38)**, NURS 465(3**[38](#mnote38)** (Sem: 7-8)

ADDITIONAL COURSES (6-7 credits)
CHEM 101 GN(3); or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-4)
SOC 001 GS(3) or SOC 005 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS(6 credits)
Select 6 credits from courses on school-approved list in consultation with adviser (3 credits of which must be at the 400 level)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[37] Credit by Portfolio Assessment
[38] Due to restricted enrollment, the School of Nursing assigns the semester in which students enroll in these courses and all course prerequisites must be successfully completed.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-453

Review Date: 4/10/07

UCA Revision #1: 8/9/06

HH

Nursing

University Park (NURS)

PROFESSOR PAULA MILONE-NUZZO, *Dean, School of Nursing*

The Bachelor of Science Degree in Nursing prepares students to become professional practitioners in areas of health promotion and maintenance, illness care, and rehabilitation. After earning this degree in Nursing, students are qualified to take the registered nurse examination for licensure by the State Board of Nursing. The Nursing major is accredited by The National League for Nursing Accrediting Commission (NLNAC), 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326 (404-975-5000), the Commission on Collegiate Nursing Education (CCNE), One DuPont Circle, NW Suite 530, Washington, DC 20036 (202-463-6930), and approved by the Pennsylvania State Board of Nursing.

B.S. Nursing majors will choose one of the following options:

General Nursing Option: This option admits students to the major either as freshmen or in the sophomore year through a review process as a change-of-major or transfer student. Clinical experiences occur at local clinical facilities surrounding Penn State's Univeristy Park Campus or at Penn State Hershey Medical Center, which requires students to reside at that location.

Second or Additional Degree Option: This option admits students, who have successfully completed a bachelor's degree in another discipline, to the major through a review process. All students must have met all general education and prerequisite course requirements. This option is only available at Penn State Altoona. Clinical experiences occur at facilities surrounding Penn State Altoona.

For Both Options: All transportation and expenses related to clinical are the responsibility of the student. All students must carry professional liability insurance; complete an annual health examination, criminal background and child abuse history clearance; maintain CPR certification and adhere to any additional requirements of the clinical facilities.

Undergraduate Academic Progression Policy

The Academic Progression policy delineates the academic standards for pre-licensure students (students without an RN license). Failure of two nursing courses results in dismissal from the Nursing major. Details of the academic progression policy are available in the student handbook. (http://www.hhdev.psu.edu/nurs/Handbooks/index/html).

For the B.S. degree in Nursing, a minimum of 120 credits is required. The Second or Additional Degree Option requires the completion of 60 credits of general education and prerequisite courses in the first degree program (prior to admission) and 60 credits of nursing courses completed after admission.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(20-22 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

(Second or Additional Degree Option: First-Year Seminar not required since students accepted into this program are required to have earned a bachelor's degree in another discipline)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 5-7 credits

REQUIREMENTS FOR THE MAJOR: 88-92 credits **[1](#mnote01) [2](#mnote02)**
(This includes 20-22 credits of General Education courses: 3 credits of GHA courses; 7-9 credits of GN courses; 4 credits of GQ courses; 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 31-32 credits

PRESCRIBED COURSES (25 credits)
BIOL 129 GN(4), BIOL 141 GN(3), BIOL 142(1), HD FS 129 GS(3), MICRB 106 GN(3), MICRB 107 GN(1), NUTR 251 GHA(3), PSYCH 100 GS(3), STAT 200 GQ(4) (Se 1-4)

ADDITIONAL COURSES (6-7 credits)
CHEM 101(3); or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-4)
SOC 001 GS(3) or SOC 005 GS(3) (Sem: 1-4)

REQUIREMENTS FOR THE OPTION: 57-60 credits

GENERAL NURSING OPTION: (57 credits)

PRESCRIBED COURSES (54 credits)
NURS 215 US(3 **[38](#mnote38)**, NURS 225(3 **[38](#mnote38)**, NURS 230(4 **[38](#mnote38)** (Sem: 3-4)
NURS 200W(3 **[38](#mnote38)**, NURS 205(3 **[38](#mnote38)**, NURS 301(4 **[38](#mnote38)**, NURS 302(4 **[38](#mnote38)**, NURS 310(4 **[38](#mnote38)**, NURS 320(4 **[38](#mnote38)**, NURS 351(3 **[38](#mnote38)** (Sem: 5-6)
NURS 400(3 **[38](#mnote38)**, NURS 405(4 **[38](#mnote38)**, NURS 406(4 **[38](#mnote38)**, NURS 415 US;IL(4 **[38](#mnote38)**, NURS 420(4 **[38](#mnote38)** (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits from School-approved list in consultation with adviser, 3 credits of which must be at the 400 level (Sem: 7-8)

SECOND OR ADDITIONAL DEGREE OPTION: (60 credits)

PRESCRIBED COURSES (60 credits)
NURS 205(3 **[38](#mnote38)**, NURS 215 US(3 **[38](#mnote38)**, NURS 225(3 **[38](#mnote38)**, NURS 230(4 **[38](#mnote38)**, NURS 351(3 **[38](#mnote38)** (Sem: 1)
NURS 200W(3 **[38](#mnote38)**, NURS 301(4 **[38](#mnote38)**, NURS 302(4 **[38](#mnote38)**, NURS 310(4 **[38](#mnote38)** (Sem: 2)
NURS 320(4 **[38](#mnote38)**, NURS 406(4 **[38](#mnote38)**, NURS 415 US;IL(4 **[38](#mnote38)**, NURS 420(4 **[38](#mnote38)** (Sem: 3)
NURS 400(3 **[38](#mnote38)**, NURS 405(4 **[38](#mnote38)**, NURS 495(6 **[38](#mnote38)** (Sem: 4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[2] Completed prior to admission for students taking the Second or Additional Degree Option.
[38] Due to restricted enrollment, the School of Nursing assigns the semester in which students enroll in these courses and all course prerequisites must be successfully completed.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-02-030

Review Date: 10/7/08

(R&T 2/28/06)

UCA Revision #1: 8/9/06

Address update, accrediting agency: 10/2/09

Comments(http://www.psu.edu/bulletins/bluebook/contact)

HH

Organizational Leadership

Abington College
Altoona College
Berks College
University College: Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Lehigh Valley, Penn State Mont Alto, Penn State New Kensington, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton
University Park, College of the Liberal Arts (OLEAD): offered via World Campus and Continuing Education

This program is restricted to adult learners, as defined by the University

PROFESSOR JOHN L SELZER, *Head*

The degree draws on many of the disciplines of the liberal arts to illuminate the issues that all leaders face regarding work and employment issues in the 21st Century. Students select courses in English, crime, law, and justice, economics, political science, sociology, labor and industrial relations, communication arts and sciences, and psychology. The goal is to provide a broad education that introduces methods of analysis used in the disciplines of the liberal arts and prepares students to understand the complex social, cultural, and organizational issues that they will confront in leadership positions in the modern world. This degree program requires that students develop competency in four critical areas and then apply those skills in disciplinary perspectives. All students are expected to develop proficiency in research methodology, critical analysis, communication skills, and the application of theory. Students can expect to learn and practice skills that focus on understanding how organizations function both formally and informally and how individuals function within organizations.

For the B.S. degree in Organizational Leadership, a minimum of 123 credits is required.

GENERAL EDUCATION: 45 credits
(4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

REQUIREMENTS FOR THE MAJOR: 64 credits **[1](#mnote01)**
(This includes 4 credits of General Education GQ courses.)

PRESCRIBED COURSES (25 credits)
CAS 283(3), ECON 002 GS(3), ECON 004 GS(3), ENGL 215(3), PSYCH 281 GS(3), PSYCH 485(3), SOC 207(3), STAT 200 GQ(4) (Sem: 1-5)

ADDITIONAL COURSES (39 credits)
Select 39 credits:
Choose at least 12 credits in each of the 3 following areas.
Choose at least 15 credits at the 400 level.
1. Employer and Employees

LER 136 US(3), PHIL 010 GH(3), PHIL 103 GH(3), PSYCH 100 GS(3), SOC 035(3) (Sem: 1-6)
HIST/LER 458W(3), PSYCH 484(3), SOC 456(3) (Sem: 5-8)
2. Law, Policy, and Organizations
CRIMJ 100(3), LER 100 GS(3), LER 201 GS(3), PL SC 001 GS(3) (Sem: 1-6)
CRIM 113(3), CRIMJ 482(3), LER 424(3), LER 435(3), PL SC 490(3) (Sem: 5-8)
3. Workplace Dynamics
CAS 404(3), CAS 352(3), CAS 452(3), CAS 475(3), ECON 315 GS(3), ECON 342 GS(3), ENGL 419(3), LER 434(3), LER 472 GS(3), SOC 404(3), SOC 455(3) (Sem: 4

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2005

Blue Sheet Item #: 33-03-290

Review Date: 7/11/05

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

LA

Political Science

Altoona College (PLSAL)
Capital College (PLSCA)
University Park, College of the Liberal Arts (PL SC)

PROFESSOR DONNA BAHRY*Head*

The Political Science major offers the student an opportunity to understand not only American federal, state, and local governments, but also the political systems of other nations and the philosophies that underlie them. Courses are offered in American, comparative, and international politics, and in political theory and methodology. Internship opportunities are available.

For the B.A. degree in Political Science, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1](#mnote01)**

SUPPORTING COURSES AND RELATED AREAS(36 credits)
(In meeting these requirements, students must take at least one course at any level from the four fields offered in the department: Political Theory/Methodology, American Politics/Public Administration, Comparative Politics, and International Relations)
Select 12 credits from below the 400 level (Sem: 1-6)
Select 15 credits from the 400 level and above in political science (Sem: 3-8)
Select 9 credits in political science or in related disciplines from departmental list of approved courses. Substitutions may be made with the written permission of the faculty adviser. (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 1999

Blue Sheet Item #: 28-01-056

Review Date: 11/01

LA

Date department head updated by Publications: 10/11/07

Psychology

Altoona College (PSCBA)

The Psychology major will combine the knowledge, skills, and values of psychology with a liberal arts foundation. Students should develop a knowledge base consisting of concepts, theory, empirical findings, and trends within psychology; understand and apply basic research methods in psychology; use critical thinking and the scientific approach to solve problems related to behavior and mental processes; apply psychological principles to personal and social issues; and be able to understand the gender, sexual orientation, race, ethnicity, culture, and class issues in psychological theory, research, and practice. Students should also develop information and computer competence, communication skills, and develop realistic ideas about how to implement their psychology education in occupational pursuits in a variety of settings. The major may lead to either a Bachelor of Arts or a Bachelor of Science degree. The B.A. degree incorporates a broad exposure to the many facets of the field of psychology, in addition to the B.A. requirements. The B.S. degree provides the same exposure to the field of psychology and adds options in Science and Business to prepare students for more specific career directions. Students in both degree programs may also prepare for graduate school; research experience with faculty members is encouraged for such students.

For the B.A. degree in Psychology, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:

(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14-18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS:24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR:41 credits**[1](#mnote01)**
(This includes 0-4 credits of General Education GQ courses.)

PRESCRIBED COURSES (7 credits)
PSYCH 100 GS(3) (Sem: 1-4)
PSYCH 301W(4) (Sem: 3-6)

ADDITIONAL COURSES (34 credits)
(Must include 15 credits at 400-level.)
Select 4 credits fromPSYCH 200(4) or STAT 200 GQ(4) (Sem: 3-4)

Select 18 credits--a minimum of 3 credits from each of the following six categories (may not double count PSYCH 439 for category e. and f. requirement):

1. Learning and Cognition: PSYCH 256 GS(3), PSYCH 261 GS(3), PSYCH 452(3), PSYCH 456(3), PSYCH 457(3), PSYCH 461(3) (Sem: 2-8)
2. Individual Differences, Personality, and Social Processes: PSYCH 221 GS(3), PSYCH 238 GS(3), PSYCH 243 GS(3), PSYCH 270(3), PSYCH 420(3), PSYCH 438(3), PSYCH 470(3), PSYCH 471(3) (Sem: 2-8)
3. Biological Bases of Behavior and Mental Processes: PSYCH 253 GS(3), PSYCH 260(3), PSYCH 269(3), PSYCH 464(3), PSYCH 475(3) (Sem: 2-8)
4. Developmental Changes in Behavior and Mental Processes Across the Life Span: PSYCH 212 GS(3), PSYCH 412(3), PSYCH 413(3), PSYCH 414(3), PSYCH 416(3)/HD FS 445(3) (Sem: 2-8)
5. History of Psychology, Socio-cultural Contexts, and Diversity Issues: PSYCH 230 GS(3) or RL ST 236 GS(3), PSYCH 231 GS;US(3), PSYCH 432 US(3), PSYCH 436(3) or RL ST 414(3), PSYCH 439(3), PSYCH 479 US(3) (Sem: 2-8)
6. Capstone Experience: PSYCH 439(3), PSYCH 493(3-6), PSYCH 494(3-18), PSYCH 495(6-15), PSYCH 496(3-18) (Sem: 7-8)

Select 12 credits of additional Psychology courses from any offered for a total of 30 credits of Psychology courses beyond PSYCH 100 and PSYCH 301W (Sem: 2-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-011

Review Date: 4/10/07

UCA Revision #1: 9/1/06

AL

Psychology

Altoona College (PSCBS)

The Psychology major will combine the knowledge, skills, and values of psychology with a liberal arts foundation. Students should develop a knowledge base consisting of concepts, theory, empirical findings, and trends within psychology; understand and apply basic research methods in psychology; use critical thinking and the scientific approach to solve problems related to behavior and mental processes; apply psychological principles to personal and social issues; and be able to understand the gender, sexual orientation, race, ethnicity, culture, and class issues in psychological theory, research, and practice. Students should also develop information and computer competence, communication skills, and develop realistic ideas about how to implement their psychology education in occupational pursuits in a variety of settings. The major may lead to either a Bachelor of Arts or a Bachelor of Science degree. The B.A. degree incorporates a broad exposure to the many facets of the field of psychology, in addition to the B.A. requirements. The B.S. degree provides the same exposure to the field of psychology and adds options in Science and Business to prepare students for more specific career directions. Students in both degree programs may also prepare for graduate school; research experience with faculty members is encouraged for such students.

For the B.S. degree in Psychology, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14-18 credits

REQUIREMENTS FOR THE MAJOR:65 credits **[1](#mnote01)**
(This includes 0-4 credits of General Education GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS):41 credits

PRESCRIBED COURSES (7 credits)
PSYCH 100 GS(3) (Sem: 1-4)
PSYCH 301W(4) (Sem: 3-6)

ADDITIONAL COURSES (34 credits)
(Must include 15 credits at the 400-level.)
Select 4 credits from PSYCH 200(4) or STAT 200 GQ(4) (Sem: 3-4)

Select 18 credits--a minimum of 3 credits from each of the following six categories (may not double count PSYCH 439 for category e. and f. requirement):

1. Learning and Cognition: PSYCH 256 GS(3), PSYCH 261 GS(3), PSYCH 452(3), PSYCH 456(3), PSYCH 457(3), PSYCH 461(3) (Sem: 2-8)
2. Individual Differences, Personality, and Social Processes: PSYCH 221 GS(3), PSYCH 238 GS(3), PSYCH 243 GS(3), PSYCH 270(3), PSYCH 420(3), PSYCH 438(3), PSYCH 470(3), PSYCH 471(3) (Sem: 2-8)
3. Biological Bases of Behavior and Mental Processes: PSYCH 253 GS(3), PSYCH 260(3), PSYCH 269(3), PSYCH 464(3), PSYCH 475(3) (Sem: 2-8)
4. Developmental Changes in Behavior and Mental Processes Across the Life Span: PSY 213 GS(3), PSYCH 412(3), PSYCH 413(3), PSYCH 414(3), PSYCH 416(3)/HD FS 445(3) (Sem: 2-8)
5. History of Psychology, Socio-cultural Contexts, and Diversity Issues: PSYCH 230 GS(3) or RL ST 236 GS(3), PSYCH 231 GS;US(3); PSYCH 432(3), PSYCH 436(3) or RL ST 414(3); PSYCH 439(3), PSYCH 479(3) (Sem: 2-8)
6. Capstone Experience: PSYCH 439(3), PSYCH 493(3-6), PSYCH 494(3-18), PSYCH 495(6-15), PSYCH 496(3-18) (Sem: 7-8)

Select 8-12 credits of additional Psychology courses from any offered for a total of 30 credits of Psychology courses beyond PSYCH 100 and PSYCH 301W (Sem: 2-8)

REQUIREMENTS FOR THE OPTION:24 credits

SCIENCE OPTION: (24 credits)

ADDITIONAL COURSES (15 credits)
Select 15 credits from: ANTH 021 GN(3); BB H 101 GHA(3); BIOL 133 GN(3) or BIOL 222(3); BIOL 155 GN(3), BIOL 129(4), BIOL 141 GN(3), BIOL 220W GN(4), BI 230W GN(4), BIOL 240W GN(4), BIOL 177 GN(3), BIOL 406(3), BIOL 409(3), BIOL 421(4), BIOL 427(3), BIOL 464(3), BIOL 469(3), BIOL 472(3); BIOL 479(3), CHEM GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 202(3) (Sem: 2-8)

SUPPORTING COURSES (9 credits)
Select 6 credits in natural sciences/quantification from department list (Sem: 2-8)
Select 3 credits in social and behavioral sciences from department list (Sem: 2-8)

BUSINESS OPTION: (24 credits)

ADDITIONAL COURSES (15 credits)
Select 15 credits from: ACCTG 211(4); B A 241(2), B A 242(2); SCM 301(3); ECON 002 GS(3), ECON 004 GS(3); FIN 100(3), FIN 301(3); H P A 101(3), any H P A course numbered 301 or higher; MGMT 100(3), MGMT 301(3), MGMT 321(3), MGMT 341(3); MKTG 220(3), MKTG 221(3) or MKTG 301(3), MKTG 327(3), MKTG 330(3) (Sem: 2-8)

SUPPORTING COURSES (9 credits)
Select 6 credits in natural sciences/quantification from department list (MATH 022 or MATH 110 recommended) (Sem: 2-8)
Select 3 credits in social and behavioral sciences from department list (Sem: 2-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-012

Review Date: 6/14/07

UCA Revision #1: 8/31/06

AL

Science

Abington College (SCIAB)
Altoona College (SCIAL)
Berks College (SCIBL)
Capital College (SCICA)
University College (SCICC): Penn State York
University Park, Eberly College of Science (SC BS)
Integrated Five-Year Science/Business M.B.A. Program (SCBUS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR RONALD MARKLE,*in charge*

The Science major is an integrated undergraduate-graduate (IUG) degree program that aims to provide a broad, general education in science. The bachelor of science (B.S.) curriculum is designed specifically for students who have education goals relating to scientific theory and practice and who require a high degree of flexibility to obtain their educational objectives. After completing foundation courses in calculus, chemistry, physics, and the life sciences, students will select additional science courses from designated areas. A large number of supporting credits permit students to readily include significant breadth or specialization into their undergraduate curriculum. Some examples include minors in business, computer and information science, education, kinesiology, or other fields. The degree allows students throughout the Commonwealth to become familiar with both the theory and the practice of science. It can help prepare students for various careers in pharmaceutical, biotechnical, chemical, medical, and agricultural industries. The degree can also be tailored to meet the specific requirements of professional programs such as medical, dental, or pharmacy schools. The General Science option of the B.S. Science degree allows for the most flexibility. Achievement in a more specialized set of goals can be met by selecting one of the other three B.S. options offered: the Life Sciences option, the Mathematical Sciences option, or the Physical Sciences option. Not all of these options are available at all locations, so see the Science program director at your College for further details.

In order to be eligible for entrance to the Science major, a student at any location must have: 1) attained at least a 2.00 cumulative grade-point average; 2) completed MATH 140 GQ(4) with a grade of C or better; 3) completed at least two of the following courses, BIOL 110 GN(4); CHEM 110 GN(3); PHYS 211 GN(4) or PHYS 250 GN(4), with a grade of C or better.

TWO-YEAR PREPROFESSIONAL PREPARATION: The first two years of the Science major (62 credits) can meet the preprofessional needs of those interested in admission to some schools of pharmacy, physical therapy, optometry, nursing, and physician assistant training. Successful students can then transfer after two years of undergraduate study to the professional school to which they are admitted. Note, however, that no Penn State degree can be awarded after only two years (62 credits) of study in the Science major. Also, note that the abbreviated two-year curriculum alone does not prepare students for admission to professional schools of general medicine, veterinary medicine, or dental medicine. Consult with your college's health sciences professional adviser for additional information.

ACCELERATED SCIENCE B.S./M.B.A. PROGRAM: Students admitted to this special cooperative program between the Eberly College of Science and The Smeal College of Business will be able to combine a Bachelor of Science degree in the Science major, with a Master of Business Administration degree. Highly motivated students, who enter the University with a sufficient number and proper distribution of AP credits, will have the opportunity to complete the requirements for both programs within five years. The B.S. degree in the Science major General Science option, will be conferred upon satisfactory completion of:

1. A minimum of 112 acceptable undergraduate credits, which must include:

    1. (30 credits) The University's General Education requirements in the areas of Writing and Speaking (9), Health and Physical Activity (3), Arts (6), Humanities (6), and Social and Behavioral Sciences (6). (Note: Students will be required to take ECON 002 GS(3) and ECON 004 GS(3) in order to satisfy the Social and Behavioral Sciences requirement. The University's General Education requirements in the areas of Quantification and Natural Sciences will be satisfied by course work listed under heading "c".)
    2. The University's First-Year Seminar, United States Cultures, International Cultures, and Writing Across the Curriculum requirements. (Note: These requirements may be double counted in order to satisfy other requirements in the program.)
    3. (53-57 credits) BIOL 110 GN(4), CHEM 110 GN(3), CHEM 111(1), CHEM 112 GN(3), CHEM 113 GN(1), CMPSC 203 GQ(4), MATH 140 GQ(4), MATH 141 GQ(PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2), or PHYS 250 GN(4), PHYS 251 GN(4), STAT 200 GQ(4); an additional life science cou selected from B M B 211(3), B M B 251(3), or MICRB 201(3); and 14 additional credits of course work from the Eberly College of Science, with at least nin credits at the 400 level.
    4. (0-8 credits) Demonstration of second semester proficiency in a single foreign language.
    5. (3-9 credits) SC 295(1-3), SC 395(1-3), SC 495(1-3) (Note: Students must complete three Eberly College of Science Cooperative Education experiences, including at least one experience which is a full semester in length.)
    6. (4 credits) ACCTG 211(4)
    7. (4-22 credits) Supporting courses and related areas selected from the program list.

2. The first semester of course work in The Smeal College of Business M.B.A. program (i.e., a minimum of 12 graduate credits).

For the B.S. degree in Science, a minimum of 124 credits is required, with at least 15 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection or SUPPORTING COURSES AND RELATED AREAS)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or SUPPORTING COURSES AND RELATED AREAS)

WRITING ACROSS THE CURRICULUM:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR or SUPPORTING COURSES AND RELATED AREAS)

REQUIREMENTS FOR THE MAJOR:94 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS):29-37 credits

PRESCRIBED COURSES (20 credits)
CHEM 110 GN(3[1](#mnote01), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 G[1](#mnote01), MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4[1](#mnote01) (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
Select 3 credits from B M B 211(3), B M B 251(3), or MICRB 201(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS(6-14 credits)
Select 6 credits of 400-level courses (Sem: 5-8)
Select 0-8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from program list to total 8 credits) (Sem: 1-8)

REQUIREMENTS FOR THE OPTION:57-65 credits

GENERAL SCIENCE OPTION:(57-65 credits)

ADDITIONAL COURSES (11-16 credits)
Select 3-4 credits from CMPSC 101 GQ(3), MATH 230(4), MATH 250(3), or STAT 200 GQ(4) (Sem: 3-4)
PHYS 211 GN(4[1](#mnote01), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 G[1](#mnote01), PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS(41-54 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 3 credits from earth and mineral sciences (Sem: 3-8)
Select 18 credits in life, mathematical, or physical sciences, with at least 9 credits [1](#mnote01) at the 400 leve[60](#mnote60) (Sem: 3-8)
Select 20-33 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

LIFE SCIENCE OPTION:(57-65 credits)

ADDITIONAL COURSES (21-27 credits)
Select 4 credits from BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4) (Sem: 3-4)
Select 3 credits from CMPSC 101 GQ(3), MATH 250(3), or STAT 250 GQ(3) (Sem: 3-4)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
PHYS 211 GN(4[1](#mnote01), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 G[1](#mnote01), PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS(30-44 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits [1](#mnote01) of 400-level B M B, BIOL, BIOTC, or MICRB courses (Sem: 5-8)
Select 21-35 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

MATHEMATICAL SCIENCE OPTION:(57-65 credits)

PRESCRIBED COURSES (5 credits)
CMPSC 122(3), MATH 220 GQ(2-3) (Sem: 3-6)

ADDITIONAL COURSES (21-26 credits)
CMPSC 121 GQ(3), CMPSC 201 GQ(3), or CMPSC 202 GQ(3) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
CMPSC 360(3) or MATH 311W(3-4); STAT 301 GQ(3) or STAT 318(3) (Sem: 3-8)
PHYS 211 GN(4[1](#mnote01), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 G[1](#mnote01), PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS(26-39 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits [1](#mnote01) of 400-level CMPSC, CSE, MATH, or STAT courses (Sem: 5-8)
Select 17-30 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

PHYSICAL SCIENCE OPTION:(57-65 credits)

PRESCRIBED COURSES (15 credits)
ASTRO 291 GN(3), PHYS 211 GN([1](#mnote01), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-6)

ADDITIONAL COURSES (13-16 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
Select 3-4 credits from ASTRO 292 GN(3; E MCH 211(3); M E 300(3); or PHYS 237(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS(26-37 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits [1](#mnote01) of 400-level ASTRO, CHEM, or PHYS courses (Sem: 5-8)
Select 17-28 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[60] Physical sciences include ASTRO, CHEM, PHYS; mathematical sciences include CMPSC, MATH, STAT; life sciences include BIOL, BIOTC, B M B, MICRB.

Last Revised by the Department: Summer Session 2006

In charge professor updated by Publications: 4/30/09

Blue Sheet Item #: 34-06-352

Review Date: 4/11/06

UCA Revision #1: 9/1/06
UCA Revision #2: 7/730/07

SC

Security and Risk Analysis

Penn State Altoona
Penn State Berks
Penn State Harrisburg
University Park, College of Information Sciences and Technology (SRA)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR HENRY C. FOLEY,*Program Coordinator*

The Bachelor of Science in Security and Risk Analysis (SRA) in the College of Information Sciences and Technology is intended to familiarize students with

the general frameworks and multidisciplinary theories that define the area of security and related risk analyses. Courses in the major will engage students in the challenges and problems associated with assuring information confidentiality and integrity (e.g., social, economic, technology-related, and policy issues), as well as the strengths and weaknesses of various methods for assessing and mitigating associated risk.

The major provides a grounding in the analysis and modeling efforts used in information search, visualization, and creative problem solving. This knowledge is supplemented through an examination of the legal, ethical, and regulatory issues related to security that includes analyzing privacy laws, internal control and regulatory policies, as well as basic investigative processes and principles. Such understanding is applied to venues that include transnational terrorism, cyber crimes, financial fraud, risk mitigation, and security and crisis management. It also includes overviews of the information technology that plays a critical role in identifying, preventing and responding to security-related events.

Advisory groups from within and outside the University involved in the design of the major have agreed that graduates who can understand the cognitive, social, economic, and policy issues involved in security and risk management as well as the basics of the information technology and analytics that are included in the security/risk arena will be very successful. These observations drove the design and objectives of the SRA major.

SRA majors will choose one of the following options:

INTELLIGENCE ANALYSIS AND MODELING OPTION. This option focuses on developing a more thorough knowledge of the strategic and tactical levels of intelligence collection, analysis, and decision-making. This includes examining the foundations of decision analysis, economic theory, statistics, data mining, and knowledge management, as well as the security-specific contexts in which such knowledge is applied.

INFORMATION AND CYBER SECURITY OPTION. This option includes a set of courses that provides an understanding of the theories, skills, and technologies associated with network security, cyber threat defense, information warfare, and critical infrastructure protection across multiple venues.

SOCIAL FACTORS AND RISK. This option includes the legal, regulatory, ethical, and other theories associated with security and risk. Such an examination is focused on understanding the social factors and causes that are linked to transnational terrorism, investigations and litigation involved in business, and other security-related environments.

Entrance Requirements: To be eligible for entrance to the Security and Risk Analysis (SRA) major, students must:

1. be taking, or have taken, a program appropriate for entry to the major as shown in the *Bulletin*, including approximately 60 credits of course work.
2. have completed the following entrance-to-major requirements with grades of C or better in each: IST 110(3); SRA 111(3); and SRA 211(3). These courses must be completed by the end of the semester during which the entrance-to-major procedure is carried out.
3. have achieved a minimum cumulative grade point average of 2.00 prior to and through the end of the semester during which the entrance-to-major procedure is carried out.

For the B.S. degree in Security and Risk Analysis, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(22 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of the *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3 credits

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 22 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses, 3 credits of GH, and 4 credits of GN courses)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 73 credits

PRESCRIBED COURSES (43 credits)
CMPSC 101 GQ(3[1](#mnote01), SRA 111 GS(3[1](#mnote01) (Sem: 1-2)
IST 110 GS(3[1](#mnote01) (Sem: 1-3)
ACCTG 211(4) (Sem: 1-4)
MICRB 106 GN(3) and MICRB 107 GN(1) (Sem: 1-6)
SRA 211(3[1](#mnote01), SRA 221(3[1](#mnote01), SRA 231(3[1](#mnote01) (Sem: 2-4)
STAT 200 GQ(4) (Sem: 3-6)
IST 495(1[1](#mnote01) (Sem: 3-8)
IST 432(3[1](#mnote01), SRA 311(3[1](#mnote01), STAT 460(3) (Sem: 5-6)
IST 440W(3[1](#mnote01) (Sem: 7-8)

ADDITIONAL COURSES (12 credits)
AG BM 101 GS(3) or ECON 002 GS(3) (Sem: 1-4)
PL SC 001 GS(3), PL SC 014 GS;IL(3), or GEOG 040 GS;IL(3) (Sem: 1-4)
PSYCH 100 GS(3) or SOC 005 GS(3) (Sem: 1-6)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Attainment of third-level proficiency in a single foreign language (12 credits). Proficiency must be demonstrated by either examination or course work. See the admission section of the general information in this *Bulletin* for the placement policy for Penn State foreign language courses. (Sem: 1-4)
Select 6 credits of international courses from RL ST 001 GH(3), HIST 010 GH(3), or HIST 011 GH(3) (Sem: 5-8) or other courses approved by adviser.

REQUIREMENTS FOR THE OPTION: 21 credits

INTELLIGENCE ANALYSIS AND MODELING OPTION: (21 credits)

PRESCRIBED COURSES (12 credits)[1](#mnote01)
CRIM 100 GS(3) or CRIMJ 100 GS(3) (Sem: 1-6)
ECON 302 GS(3) (Sem: 3-6)
ECON 402(3) (Sem: 5-8)
SRA 468(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from College-approved list (Sem: 5-8)

INFORMATION AND CYBER SECURITY OPTION: (21 credits)

PRESCRIBED COURSES (12 credits)[1](#mnote01)
IST 220(3) (Sem: 1-6)
IST 451(3), IST 454(3), IST 456(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from College-approved list (Sem: 5-8)

SOCIAL FACTORS AND RISK OPTION: (21 credits)

PRESCRIBED COURSES (12 credits)[1](#mnote01)
INS 301(3) (Sem: 3-6)
IST 452(3), SRA 471(3), SRA 472(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)

Select 9 credits from College-approved list (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-050

Review Date: 4/14/09

UCA Revision #1: 8/14/06
UCA Revision #2: 7/30/07

Comments(http://www.psu.edu/bulletins/bluebook/contact)

IS

Visual Art Studies

Altoona College (VAST)

The Bachelor of Arts degree in Visual Art Studies offers students the opportunity to explore studio work in Art within the context of a broader liberal arts education. Students can learn fundamental techniques and concepts common to the Visual Arts. Emphasis is also put on creative problem solving through advanced investigations of artistic themes and issues. Course work includes requirements (classes) related to the portfolio preparation necessary for employment in creative fields or for education at the graduate level.

Entry into the Visual Art Studies major requires a third semester standing (27.1 credits), the completion of 6 credits in ART with a C or bette**r(#mnote01)**, an entrance interview, and a 2.00 or higher cumulative grade-point average. The entrance interview will be based on a review of the student's work in the 6 credits of ART, and any other work the student wishes to include.

For the B.A. degree in Visual Art Studies, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION 45 credits
(6 of these credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 7-13 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS:24 credits
(0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR 45 credits**[1](#mnote01)**
(This includes 6 credits of General Education courses: 6 credits of GA courses.

PRESCRIBED COURSES (42 credits)**(#mnote01)**
ART H 111 GA;IL(3), ART H 112 GA;IL(3) (Sem: 1-2)
ART 165(3), ART 166(3), ART 168(3), ART 265(3), ART 266(3), ART 269(3) (Sem: 1-4)
ART 468(3) (Sem: 4-8)
ART 365(3), ART 366(3), ART 465(3), ART 466W(3), ART 469(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)**(#mnote01)**
Select 3 credits of 400-level ART H courses (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-03-101

Review Date: 1/31/08

AA

Associate Degrees

Business Administration

Abington College (2BAAB)
Altoona College (2BAAL)
Berks College (2BABL)
Capital College (2BACA)
University College (2BACC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Lehigh Valley, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University College (2BACC): Via World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The associate degree program in Business Administration provides a foundation in business that, through two options, prepares graduates for either entrance to the Bachelor of Science in Business (BSB) programs in business or for direct entry into the work place. The primary objective of this major is to provide a business-oriented program with sufficient communicative and mathematical skills, socially relevant course work, and specific business specialties to develop a well-rounded and knowledgeable graduate.

The General Business Option provides an introductory foundation to core aspects of the business environment while also preparing students for future transfer into the Bachelor of Science in Business (BSB).

The Professional Studies Option provides a technically-oriented program that prepares students for direct entry into the work force. Because some of the course work in this option is not accepted in baccalaureate business programs, students are encouraged to work closely with faculty and staff advisers.

Students who plan to continue into BSB should meet with their advisers regarding entrance to major and other related requirements.

For the Associate in Science degree in Business Administration, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits

(9 credits of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 48-50 credits
(This includes 3 credits of GQ General Education courses and 6 credits of GWS General Education courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (13 credits)
CAS 100 GWS(3) (Sem: 2-4)
ACCTG 211(4), ENGL 202D GWS(3[1](#mnote01), MIS 204(3) (Sem: 2-4)

ADDITIONAL COURSES (17-18 credits)
ENGL 015 GWS(3[1](#mnote01) or ENGL 030 GWS(3[1](#mnote01) (Sem: 1-2)
MATH 021 GQ(3), MATH 022 GQ(3), or MATH 110 GQ(4) (Sem: 1[74](#mnote74)
B A 243(4[1](#mnote01) or B A 241(2[1](#mnote01) and B A 242(2[1](#mnote01) (Sem: 1-4)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 2-4)

REQUIREMENTS FOR THE OPTION: 18-19 credits
(Both options may not be available at every campus.)

GENERAL BUSINESS OPTION: (18-19 credits)

ADDITIONAL COURSES (18-19 credits)
a) Select 3 credits from MGMT 301(3[1](#mnote01) or MGMT 301W(3[1](#mnote01) (Sem: 3-4)
b) Select 3 credits from MKTG 301(3[1](#mnote01) or MKTG 301W(3[1](#mnote01) (Sem: 3-4)
c) Select 12-13 credits from B A 250(3); CAS 250(3) or CAS 252(3); LER 100 GS(3) or LER 136 US(3); ECON 002 GS(3) or ECON 004 GS(3); MATH 022 GQ(3), MA
110 GQ(4), MKTG 220(3) (Sem: 1-4)

PROFESSIONAL STUDIES OPTION: (18 credits)[75](#mnote01)

ADDITIONAL COURSES (18 credits)
Select 18 credits from ACCTG 151(3), ACCTG 152(3), ACCTG 153(3), ACCTG 160(3), ACCTG 186(3), B A 100 GS(3), B A 250(3); ECON 002 GS(3) or ECON 004
GS(3);CMPSC 140(3), FIN 100(3), FIN 108(3), H P A 101(3), IST 110 GS(3), IST 210(3), IST 220(3), IST 250(3), LER 100 GS(3), LER 136 US(3); MGMT 100(3) or MG
100W(3); MGMT 150(3), MIS 103(3), MIS 106(1-6), MIS 120(3); MIS 130(3), MIS 190(3), MKTG 220(3); MKTG 221(3) or MKTG 221W(3); R EST 100(3) (Sem: 1-4

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[74] Students should work closely with academic advisers to ensure the completion of any and all course work required for entrance to BSB.
[75] This Option is designed for students planning to enter the work force directly upon graduation. Some courses included in this option will not transfer into baccalaureate business programs. Students are encouraged to work closely with their advisers.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-534

Review Date: 4/10/07

UCA Revision #1: 8/9/06
UCA Revision #2: 7/26/07

UC

Criminal Justice

Altoona College (2 CJ)

PROFESSOR TIMOTHY SLEKAR, *in charge*

Students receiving an associate degree in criminal justice should understand each of the three main components of the criminal justice system and their interrelationships. This program includes study in law enforcement, courts, and corrections individually and as components of a system, plus work in theories of crime causation, and crime control policy. Students should expect reading, writing, and critical thinking skills to be rigorously applied and developed throughout the degree program. The Associate in Science degree in Criminal Justice prepares students for entry-level positions in criminal justice or for study at the baccalaureate level.

For the Associate in Science in Criminal Justice, a minimum of 64 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(13 of these credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 27 credits

REQUIREMENTS FOR THE MAJOR: 29 credits[1](#mnote01)
(This includes 13 credits of General Education courses: 3 credits of GH courses; 4 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (29 credits)
CRIMJ 100(3), PHIL 103 GH(3), SOC 012 GS(3), SOC 207(3), SOC 119 GS;US(4) (Sem: 1-4)
CRIMJ 210(3), CRIMJ 220(3), CRIMJ 230(3), STAT 200 GQ(4) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-009

Review Date: 4/14/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

AL

Electrical Engineering Technology

Altoona College
Berks College
Penn State Erie, The Behrend College
University College: Penn State Fayette, Penn State Hazleton, Penn State Wilkes-Barre, Penn State York (2 EET)

PROFESSOR SOHAIL ANWAR, *Program Coordinator, Penn State Altoona*
PROFESSOR DALE LITWHILER, *Program Coordinator, Penn State Berks*
PROFESSOR ROBERT WEISSBACH, *Program Coordinator, Penn State Erie, The Behrend College*
PROFESSOR ANDRZEJ GAPINSKI, *Program Coordinator, Penn State Fayette*
PROFESSOR KENNETH DUDECK, *Program Coordinator, Penn State Hazleton*

PROFESSOR ALBERT LOZANO,*Program Coordinator, Penn State Wilkes-Barre*
PROFESSOR MICHAEL MARCUS,*Program Coordinator, Penn State York*
PROFESSOR DHUSHY SATHIANATHAN,*Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

The Electrical Engineering Technology (2 EET) major helps prepare graduates for technical positions in the expanding fields of electronics, computers and microprocessors, instrumentation, and electrical equipment. The primary objective is to provide a broad foundation of theoretical and practical knowledge in the areas of electrical and electronic circuits, digital circuits, computers, electrical machinery, and programmable logic controls. The program also articulates with Pennsylvania Department of Education-approved Tech Prep programs. Secondary students who have graduated from a program covered by a signed Penn State Tech Prep Articulation Agreement may be eligible for special admission procedures and /or advanced placement. The major prepares graduates who, during the first few years of professional practice, will:

Demonstrate broad knowledge of electrical and electronics engineering technology practices to support design, application, installation, manufacturing, operation, and maintenance of electrical, electronic, computer, and instrumentation systems,

Apply basic mathematical and scientific principles for technical problem solving in areas that may include circuit analysis of both analog and digital electronics, microprocessors, programmable logic controls, and electrical machines,

Use computers and software in a technical environment,

Demonstrate competence in written and oral communication,

Work effectively as an individual and as a member of a multidisciplinary team,

Show awareness of social concerns and professional responsibilities in the workplace, and

Matriculate into a baccalaureate degree and/or continue their professional training and adapt to changes in the workplace, through additional formal or informal education.

Graduates of the Electrical Engineering Technology major may qualify for admission to the baccalaureate degree majors in Electrical Engineering Technology or Computer Engineering Technology offered at Penn State Harrisburg, Capital College; the baccalaureate degree major in Electrical Engineering Technology at Penn State Erie, The Behrend College; or the baccalaureate degree major in Electro-Mechanical Engineering Technology offered at Penn State Altoona, Penn State Berks, Penn State New Kensington or Penn State York.

For the Associate in Engineering Technology degree in Electrical Engineering Technology, a minimum of 66 credits is required. This program is accredited by the Technology Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org.>

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See General Education description in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 57 credits
(This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (38 credits)
EET 105(3), CMPET 117(**[1](#mnote01)**, CMPET 120(1); ENGL 015 GWS(3), MATH 022 GQ(3), MATH 026 GQ(3), MCH T 111(3), MCH T 112(1), MET 105(3) (S
1-2)
CAS 100 GWS(3), CMPET 211(3), EE T 114**[1](#mnote01)**, EE T 118(1**[1](#mnote01)**, EET 212W(4) (Sem: 3-4)

ADDITIONAL COURSES (19 credits)
EDSGN 100 (3) or EG T 119 (2) and EET 002S (1) (Sem: 1-2)
PHYS 150 GN(3) or PHYS 250 GN (4) (Sem:3-4)

Select 13 additional credits from one of the following tracks **a** or **b**:

a. Students following the baccalaureate track must complete the following courses (10-11 credits):
EET 214 (3); MATH 083 GQ(4) or MATH 140 GQ(4); CHEM 110 GN (3) and CHEM 111 GN (1) or PHYS 151 GN(3) or PHYS 251 GN (4) (Sem: 3-4)
Select at least 3 additional credits from the following technical courses:
BET 201(5), BI SC 003 GN(3), CHEM 101 GN(3), CHEM 110 (3), CHEM 111 (1), CMPSC 101 GQ(3), CMPSC 201C GQ(3), EET 215 (1), EET 275 (3), EET 297 (1-9), E
230 (3), IST 210 (4), IST 220(3), IST 221(3), MATH 141 GQ(4), TELECOM 140 (2) (Sem: 3-4)

b. Students following the general track must select at least 3 credits science from the following:
CHEM 110 GN(3) and CHEM 111 GN(1), PHYS 151 GN(3), PHYS 251 GN (4) (Sem: 3-4)
Select at least 10 additional credits from the following technical courses: BET 201 (5), BI SC 003 GN(3), CHEM 101 GN(3), CHEM 110 (3), CHEM 111 (1), CMPSC
101 GQ(3), CMPSC 201C GQ(3), EET 214 (3), EET 215 (1), EET 275 (3), EET 297 (1-9), EMET 230 (3), IST 210 (4), IST 220(3), MATH 083 GQ(4) or MATH 140 GC
MATH 141 GQ(4), PHYS 151 GN(3) or PHYS 251 GN (4), TELECOM 140 (2) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-03-017

Review Date: 11/27/07

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

Comments(http://www.psu.edu/bulletins/bluebook/contact)

EN

Human Development and Family Studies

Altoona College (2FSAL)
University College (2FSCC): Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Mont Alto, Penn State Schuylkill, Penn State Shenango, Penn State Worthington Scranton, Penn State York
University Park, College of Health and Human Development (2EHFS)
World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

For more information, contact: Mary Jo Spicer, S-120 Henderson Building

This major integrates practical and academic experiences to provide the student with entry-level professional competence in the human service field. The objective of the major is to offer a general education background, a knowledge base in life span and family development, and a core of professional skills that may be applied in program planning and service delivery activities. The major is offered part-time, in the evening, and through independent learning.

ADULT DEVELOPMENT AND AGING SERVICES OPTION: This option is designed to prepare students for a wide variety of service roles in mental health facilities, nursing homes and other institutions for the aged, area agencies on aging, public welfare and family service agencies, women's resource centers, human relations programs, employee assistance programs and customer services and consumer relations programs in business and industry. An improved field experience in any of a wide variety of settings that serve adults, the aged, and their families, is required for this option.

CHILDREN, YOUTH, AND FAMILY SERVICES OPTION: This option is designed to prepare students for service roles in preschools; day care centers;

hospitals; institutional and community programs for emotionally disturbed, abused, or neglected children and adolescents; as well as a variety of public welfare and family service agencies. An approved field experience in a children, youth, or family services setting is required for this option.

EARLY CHILDHOOD CARE AND EDUCATION OPTION: This option is designed to increase professional capabilities in child care training in regard to issues of quality, affordability, and accessibility of programming. The primary foci are on language, literacy, and science reasoning. In the course work, there is a blending of theory and practice that requires experience in a group setting with young children. Courses concentrate on infants and toddlers as well as older preschoolers. Each course has a strong parent/family communications component and stresses observation techniques appropriate for assessing and evaluating the development of young children.

For the Associate in Science degree in Human Development and Family Studies, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 0-3 credits

REQUIREMENTS FOR THE MAJOR: 51-55 credits
(This includes 15 credits of General Education courses: 6 credits of GWS courses; 3 credits of GS courses; 3 credits of GN courses; and 3 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (21 credits)
CAS 100 GWS(3), ENGL 015 GWS(3), HD FS 129 GS(3[1](#mnote01)), HD FS 301(3[1](#mnote01)), PSYCH 100 GS(3) (Sem: 1-2)
HD FS 395(6) (Sem: 3-4)

ADDITIONAL COURSES (9-10 credits)
EDPSY 101 GQ(3[1](#mnote01)), STAT 100 GQ(3[1](#mnote01)), or STAT 200 GQ(4[1](#mnote01)) (Sem: 1-2)
HD FS 315 US(3[1](#mnote01)) or SOC 030 GS(3) (Sem: 3-4)
BIOL 141 GN(3), BIOL 155 GN(3), or BI SC 004 GN(3) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 21-24 credits

ADULT DEVELOPMENT AND AGING SERVICES OPTION: (21 credits)

PRESCRIBED COURSES (6 credits)
HD FS 249 GS(3[1](#mnote01)), HD FS 311(3[1](#mnote01)) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in consultation with the adviser from University-wide offerings that enhance competence in the option (Sem: 1-4)

CHILDREN, YOUTH, AND FAMILY SERVICES OPTION: (24 credits)

PRESCRIBED COURSES (9 credits)
HD FS 229 GS(3[1](#mnote01)), HD FS 239 GS(3[1](#mnote01)), HD FS 311(3[1](#mnote01)) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in consultation with the adviser from University-wide offerings that enhance competence in the option (Sem: 1-4)

EARLY CHILDHOOD CARE AND EDUCATION OPTION: (24 credits)

PRESCRIBED COURSES (24 credits)
HD FS 229 GS(3[1](#mnote01)), HD FS 230(3[1](#mnote01)), HD FS 231(3[1](#mnote01)), HD FS 311(3[1](#mnote01)) (Sem: 1-2)
HD FS 232(3[1](#mnote01)), HD FS 233(3[1](#mnote01)), HD FS 234(3[1](#mnote01)), HD FS 330(3[1](#mnote01)) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2005

Blue Sheet Item #: 33-03-026

Review Date: 12/19/07

UCA Revision #1: 8/8/06

HH

Letters, Arts, and Sciences

Abington College (2LAAB)
Altoona College (2LAAL)
Penn State Erie, The Behrend College (2LABC)
Berks College (2LABL)
Capital College (2LACA)
University College (2LACC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Hazleton, Penn State Mont Alto, Penn State Greater Allegheny, Penn State Lehigh Valley, Penn State New Kensington, Penn State Schuylkill (2LACA), Penn State Shenango Valley, Penn State Wilkes-Barre, Penn State Worthington-Scranton, Penn State York
University Park, College of the Liberal Arts (2 LAS)
World Campus

ASSOCIATE DEAN JOHN L. SELZER, *in charge, Penn State University Park*

The objectives of the Letters, Arts, and Sciences major are to broaden the student's understanding, interests, and skills; to help the student become a more responsible, productive member of the family and community; and to offer a degree program with sufficient electives to permit some specialization according to the student's interests or career plans. Letters, Arts, and Sciences is a complete two-year degree major. However, graduates who later seek admission to baccalaureate degree majors may apply baccalaureate credits toward the new degree.

In addition to a wide variety of baccalaureate majors offered at University Park campus, graduates of the Letters, Arts, and Sciences major may qualify for admission to the baccalaureate degree majors in Behavioral Sciences, Elementary Education, Humanities, or Public Policy offered at Penn State Harrisburg. Or they may qualify for any of a large number of baccalaureate degree majors offered by Penn State Erie, The Behrend College, in business, the liberal arts, and sciences.

For the Associate in Arts degree in Letters, Arts, and Sciences, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(6 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 15 credits

REQUIREMENTS FOR THE MAJOR: 30 credits#[1](#mnote01)
(This includes 6 credits of General Education GWS courses.)

PRESCRIBED COURSES (6 credits)
ENGL 015 GWS(3) (Sem: 1-2)

CAS 100 GWS(3) (Sem: 3-4)

ADDITIONAL COURSE (3 credits)
ENGL 202A GWS(3), ENGL 202B GWS(3), ENGL 202C GWS(3), or ENGL 202D GWS(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS(21 credits)
Select 3 credits in any course designated as arts* (Sem: 1-4)
Select 3 credits in any course designated as humanities* (Sem: 1-4)
Select 3 credits in any course designated as social and behavioral sciences* (Sem: 1-4)
Select 3 credits in any course designated as physical, biological, or earth sciences* (Sem: 1-4)
Select 9 credits in any one of the following areas*: arts, humanities, social and behavioral sciences, natural sciences and quantification, and foreign language skills. (If foreign language courses are chosen, it is recommended that these courses be in one foreign language sequence.) (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

The required credits of General Education and Requirements for the Major must be baccalaureate-level courses. For students intending to seek admission to a baccalaureate program upon graduation, it is recommended that most, if not all, of the courses be at the baccalaureate level. For those students who will seek a bachelor of arts degree upon graduation from Letters, Arts, and Sciences, it is strongly recommended that a foreign language be taken since admission to a bachelor of arts program in the College of the Liberal Arts requires one college-level course, or the equivalent, in a foreign language.

***** Courses that will satisfy the arts, humanities, social and behavioral sciences, natural sciences, and quantification requirements are defined on the Letters, Arts, and Sciences checksheet, which may be obtained from the College of the Liberal Arts associate dean for undergraduate studies at the University Park campus or from any Letters, Arts, and Sciences representative at other locations.

Last Revised by the Department: Summer Session 1988

Blue Sheet Item #: 16-10-044

Review Date: 10/8/02

Reviewed by Publications: 06/23/06

LA

Mechanical Engineering Technology

Altoona College
Berks College
Penn State Erie, The Behrend College
University College: Penn State DuBois, Penn State Hazleton, Penn State New Kensington, Penn State York (2 MET)

PROFESSOR BRUCE MULLER, *Program Coordinator, Penn State Altoona*
PROFESSOR BARBARA MIZDALL, *Program Coordinator, Penn State Berks*
PROFESSOR DAVID JOHNSON, *Program Coordinator, Penn State Erie, The Behrend College*
PROFESSOR SOMNATH CHATTOPADHYAY, *Program Coordinator, Penn State DuBois*
PROFESSOR WIESLAW GREBSKI, *System-wide Program Coordinator, Penn State Hazleton*
PROFESSOR JOAN KOWALSKI, *Program Coordinator, Penn State New Kensington*
PROFESSOR DANIEL STYDUHAR, *Program Coordinator, Penn State Shenango*
PROFESSOR MARSHALL COYLE, *Program Coordinator, Penn State York*
PROFESSOR DHUSHY SATHIANATHAN, *Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

This major helps graduates prepare for technical positions in manufacturing, machine and tool design, computer drafting and design, computer integrated manufacturing, materials selection and processes, technical sales, and other related industries in mechanical applications. The primary objective of the program is to provide a broad foundation in mechanical systems and applications; computer systems in drafting (CAD), manufacturing (CAM), and automation and robotics (CIM); production and product design; mechanics, dynamics, and strength of materials. This program also articulates with Pennsylvania Department of Education-approved Tech Prep programs. Secondary students who have graduated from a program covered by a signed Penn State Tech Prep Articulation Agreement may be eligible for special admission procedures and/or advanced placement. Graduates of the Associate Degree Mechanical Engineering Technology program will:

Have a broad knowledge in the areas of applied design, manufacturing, testing, evaluation, and technical sales, 2D and 3D modeling.

Have the ability to enter a Baccalaureate Mechanical Engineering Technology or related Engineering Technology program.

Be prepared to communicate effectively and work collaboratively in multi-disciplinary teams.

Be able to learn and adapt to changes in a professional work environment.

Demonstrate a high standard of professional ethics and be cognizant of social concerns as they relate to the practice of Engineering Technology.

Graduates of this major may qualify for admission to the baccalaureate degree majors in Mechanical Engineering Technology and Structural Design and Construction Engineering Technology programs at Penn State Harrisburg; the Mechanical Engineering Technology and the Plastics Engineering Technology programs at Penn State Erie, The Behrend College; or the baccalaureate degree major in Electro-Mechanical Engineering Technology offered at Penn State Altoona, Penn State Berks, Penn State New Kensington, or Penn State York.

For the Associate in Engineering Technology degree in Mechanical Engineering Technology, a minimum of 64 credits is required. This program is accredited by the Technology Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 55-57 credits
(This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (31 credits)
ENGL 015 GWS(3), CAS 100 GWS(3), CMPET 117(3), CMPET 120(1), MCH T 11[1](#mnote01) (Sem: 1-2)
EG T 114(2), IET 215(2), IET 216(2), MCH T 213(3), MET 2[1](#mnote01), MET 210W(3), PHYS 151 GN(3) (Sem: 3-4)

ADDITIONAL COURSES (24-26 credits)
EDSGN 100(3) or EG T 120(3) (Sem: 1-2)
MATH 026 GQ(3) or MATH 081 GQ(3) (Sem: 1-2)
EET 100(3) or EET 105(3) (Sem: 1-2)
IET 101(3[1](#mnote01) or MET 105 (3[1](#mnote01) (Sem: 1-2)
MATH 022(3) or MATH 082 GQ(3) (Sem: 1-2)
MCH T 112(1) or MCH T 214(1) (Sem: 1-2)

Select 8-10 credits from one of the following tracks a, b, or c:

a) General Track
AE T 297(1-9), CHEM 101 GN(3), CHEM 110 GN(3), CHEM 111 GN(1), CMPSC 101 GQ(3), EET 100(3), EET 114(4), EET 118(1), EG T 297(1-9), IET 105(2), IET 1(
IET 297(1-9), MET 281(4), SUR 111(3), or select 3 credits in consultation with an advisor from 200-level MET courses (Sem: 3-4)
IST 110 GS(3), IST 210(4), IST 220(3), IST 250(3), MATH 140 GQ(4), STAT 200 GQ(4), MATH 083 GQ(4), PHYS 150 GN(3), EG T 201(2) (Sem: 3-4)

b) CAD/IST Track
EG T 201(2) (Sem: 3-4)
IST 210(4) or IST 220(3) or IST 250 (3) (Sem: 3-4)
Select 3 credits in consultation with an advisor from 200-level MET courses (Sem: 3-4)

c)Baccalaureate Degree Track
MATH 140 GQ(4), STAT 200 GQ(4), CHEM 110 GN(3), EET 114(4), EG T 201(2) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-03-019

Review Date: 11/27/07

UCA Revision #1: 8/3/06
UCA Revision #2: 7/30/07

Comments(http://www.psu.edu/bulletins/bluebook/contact_)

EN

Nursing

Penn State Altoona (2NURS)
Penn State Erie, The Behrend College (2NURS)
University College: Penn State Fayette, Penn State Mont Alto, Penn State Worthington Scranton (2NURS)

PROFESSOR PAULA MILONE-NUZZO,*Dean, School of Nursing*

Graduates of this major are prepared to provide care in a variety of health care settings to individuals with commonly occurring acute or chronic health problems. After earning the associate degree, students are eligible to take the registered nurse examination for licensure by the State Board of Nursing. The Nursing program is accredited by The National League for Nursing Accrediting Commission (NLNAC), 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326 (404-975-5000), and approved by the Pennsylvania State Board of Nursing.

Students must carry student nurse professional liability insurance, maintain CPR certification, have yearly criminal background and child abuse clearances, and adhere to any additional requirements of the individual clinical agencies. All transportation and related expenses to off-campus clinical sites are the responsibility of the student and may require the use of a car.

Undergraduate Academic Progression Policy

The Academic Progression policy delineates the academic standards for pre-licensure students (students without an RN license), who are admitted to the undergraduate nursing program. The policy states that all prerequisite courses may be repeated only one time and failure of two nursing courses results in dismissal from the nursing major. Details of the academic progression policy are available in the student handbook.**http://www.hhdev.psu.edu/nurs/Handbooks/index.html (http://www.hhdev.psu.edu/nurs/Handbooks/index.html_)**).

Graduates of this major may qualify for admission to the RN to BS program in Nursing.

For the Associate in Science degree in Nursing, a minimum of 68 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 62 credits**[1](#mnote01)**
(This includes 15 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses)

PRESCRIBED COURSES (53 credits)
BIOL 129 GN(4), BIOL 141 GN(3), BIOL 142(1), ENGL 015 GWS(3), NURS 111(4), NURS 112(4), NURS 113(4), NURS 114(4), PSYCH 100 GS(3) (Sem: 1-2)
MICRB 106 GN(3), MICRB 107 GN(1), NURS 211(5), NURS 212(4), NURS 213(5), NURS 214W(5) (Sem: 3-4)

ADDITIONAL COURSES (9 credits)
HD FS 129 GS(3) or PSYCH 212 GS(3); SOC 001 GS(3) or SOC 005 GS(3) (Sem: 1-2)
Select 3 credits of GQ courses (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-454

Review Date: 4/10/07

(R&T 2/28/06)

UCA Revision #1: 8/9/06

Accrediting agency address updated: 10/2/09

HH

Science

Altoona College (2SCAL)
University College (2SCCC): Penn State Beaver, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State New Kensington, Penn State Shenango

The Science major is designed primarily to provide for the basic educational needs of students who want to pursue professional programs in various scientific or medical fields. The program provides a fundamental group of science courses of value to those who seek positions in government or industry where such knowledge is necessary or desirable. The program offers sufficient flexibility to meet diverse academic and career goals.

Graduates of the of the program may qualify for admission to the baccalaureate degrees in science. Students planning on continuing in baccalaureate degrees are encouraged to work closely with their advisers.

For the Associate in Science degree in Science, a minimum of 67 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 61 credits
(This includes 15 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 3 credits of GWS courses; 3 credits of GH courses; 3 credits of GQ, GWS, GH, or GN courses.

PRESCRIBED COURSES (14 credits)
BIOL 110 GN(4[1](#mnote01), CAS 100 GWS(3[1](#mnote01)(#mnote01), CHEM 110 GN(3[1](#mnote01), CHEM 111 GN(1[1](#mnote01) ENGL 015 GWS(3[1](#mnote01)(#mnote01) (Sem: 1-4)

ADDITIONAL COURSES (22-27 credits)
(Note: PHYS 250 and PHYS 251 and MATH 140 are recommended for students planning to continue in baccalaureate programs of science.)
Select 4-6 credits from MATH 022 GQ(3), MATH 026 GQ(3), or MATH 040 GQ(5), or MATH 140 GQ(4) (Sem: 1-2)
Select 3-4 credits from STAT 200 GQ(4), STAT 220(3), STAT 250 GQ(3) (Sem: 1-4)
Select 3 credits from PHIL 002 GH(3), PHIL 103 GH(3), PHIL 103W GH(3), PHIL 110 GH(3), PHIL 118 GH(3), PHIL 221 GH(3) (Sem: 1-4)
Select 3 credits form CMPSC 100(3), MIS 103(3), CMPSC 101 GQ(3) (Sem: 1-4)
Select 6-8 credits from PHYS 150 GN(3) and PHYS 151 GN(3) or PHYS 250 GN(4) and PHYS 251 GN(4) (Sem: 2-4)
Select 3 credits from CHEM 112 GN(3), CHEM 202(3) (Sem: 2-4)

SUPPORTING COURSES AND RELATED AREAS(20-25 credits)
Select 20-25 credits from approved departmental list of BIOLOGICAL/MATH/PHYSICAL SCIENCES (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-03-074

Review Date: 11/22/02

UCA Revision #1: 8/14/06

UC/AL/CL

Minors

Biology Minor

Altoona College (BIOAL)
University Park, Eberly College of Science (BIOL)

This minor is designed for students in non-Life Science majors, who desire to obtain an in-depth and well-rounded knowledge of Biology -- the science of life and living organisms. This minor is not intended for "Life Science" oriented majors, including Biological Anthropology, Premedicine, and Science, Life Science option. After taking an introductory survey course which exposes students to the basics of Biology, including the chemistry of life, cell structure, genetics, mechanisms of evolution and evolutionary history of biological diversity, plant and animal form and function, and ecology, students select additional courses based on their biological emphasis to account for a total of 18-20 credits. In conjunction with the student's major, the minor prepares students for entry to graduate school or professional school programs, as well as for technical or research careers with governmental agencies or industry. Majors complemented by this minor would include but not be limited to other life and physical sciences, engineering, and business.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18-20 credits

PRESCRIBED COURSES (4 credits)
BIOL 110 GN(4) (Sem. 5-6)

ADDITIONAL COURSES (7-8 credits)
Select 7-8 credits from BIOL 129 GN(4), BIOL 141 GN(3), BIOL 142(1), BIOL 222(3), BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4), BIOL 322(3) (Sem:

SUPPORTING COURSES AND RELATED AREAS(6-9 credits)
Select 6-9 credits from 400-level Biology courses (BIOL 400, BIOL 496, and SC 495 credits may not be used to fulfill this requirement.) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-521

Review Date: 4/10/07

Chemistry Minor

Altoona College
Penn State Erie, The Behrend College (CHMBD)

PROFESSOR ROGER F. KNACKE,*Director*

The minor in Chemistry (CHMBD) complements degrees in other areas of physical science and introduces students to fundamental principles of chemistry through general chemistry, organic chemistry, analytical chemistry, and selected 400-level courses of their choice.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18-20 credits

PRESCRIBED COURSES: (12 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
CHEM 221(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS:(6-8 credits)
Select at least 6-8 credits of 400-level CHEM, excluding CHEM 494(1-12), CHEM 495(1-18), and CHEM 496(1-18) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

UCA Revision #1: 8/3/06

BD

Communications Minor

Altoona College (COMAL)

The Communications minor provides students an academic program of media studies that introduces them to approaches used to understand the mass media. These include aesthetic, cultural, humanistic, social-behavioral, and legal approaches. Students in the minor will have an opportunity to examine the theory and principles of communications systems and processes as well as learn in the advanced courses the research methods used for their systematic analysis. The minor emphasizes the liberal arts core of the Communications program and will equip students with well-developed language and analytical skills.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

PRESCRIBED COURSES (6 credits)
COMM 100 GS(3), COMM 150 GA(3) (Sem: 1-2)

ADDITIONAL COURSES (12 credits)
(At least 6 credits must be at the 400 level.)
COMM 180 GS(3), COMM 205 US(3), COMM 250 GA(3), COMM 261 GH(3), COMM 320(3), COMM 370(3) (Sem: 3-4)
COMM 401(3), COMM 403(3), COMM 408(3), COMM 409(3), COMM 411(3), COMM 413W(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-022

Review Date: 1/14/03

AL

Criminal Justice Minor

Altoona College (CJ)

PROFESSOR TIMOTHY SLEKAR,*in charge*

The Criminal Justice minor provides an overview of the criminal justice system and a thorough grounding in criminological theory. Students receive an in-depth look at the three main system components: policing, courts, and corrections, as well as the opportunity to delve into two or more specialized topics relating to criminal justice. The minor is designed not only for students who have a professional interest in criminal justice, but also for those who want to be informed members of the voting citizenry. A functional understanding of crime and the criminal justice system is useful in many careers, including law, social work, education, and journalism.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

PRESCRIBED COURSES: (12 credits)
CRIMJ 100(3) (Sem:1-4)
CRIMJ 210(3), CRIMJ 220(3), CRIMJ 230(3) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS:(6 credits)
Select 6 credits of 400-level CRIMJ courses, excluding CRIMJ 495(1-18) (Sem: 7-8)

Last Revised by the Department: Fall Semester 2001

UCA Revision #2: 7/27/07

AL

Dance Studies Minor

Altoona College (DNCAL)

The Dance Studies Minor is designed for students interested in furthering their study and exploration of the many areas of dance--the various techniques: Ballet, Modern, Jazz, the Creative Process and Performance, and Movement Theories. It is also designed to enhance various career opportunities for those majoring in areas such as Integrative Arts, Education, Business, Psychology, and others. Optional directions include areas such as dance therapy and dance medicine with graduate study, or performance, teaching, production, studio or company management, and choreography. Twenty-one credits are required for completion of the minor with a minimum of 7 credits at the 400 level.

A grade of C or better is required in all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:21 credits

PRESCRIBED COURSES (11 credits)
DANCE 270 GHA(3), DANCE 301(2) (Sem: 2-6)
DANCE 482(3), DANCE 484 US;IL(3) (Sem: 4-8)

ADDITIONAL COURSES (10 credits)
DANCE 432(1.5), DANCE 442(1.5), or DANCE 462(1.5) (Sem: 4-8)
Select 6 credits from Dance Technique courses:
DANCE 231(1.5), DANCE 232(1.5), DANCE 241(1.5), DANCE 242(1.5), DANCE 261 GA(1.5), DANCE 262(1.5) (Sem: 1-4)
DANCE 331(1.5), DANCE 332(1.5), DANCE 341(1.5), DANCE 342(1.5), DANCE 361(1.5), DANCE 362(1.5) (Sem: 3-6)
DANCE 431(1.5), DANCE 441(1.5), DANCE 461(1.5) (Sem: 4-8)
(All Dance Studies minor students are required to demonstrate proficiency at beginning level technique courses before placement in the intermediate or advanced courses.)
Select 3 credits from Creative Process/Performance courses:
DANCE 280(1), DANCE 296(1-18) (Sem: 1-6)
DANCE 381(2) (Sem: 3-6)
DANCE 485(1-2) (Sem: 3-8)
DANCE 382(1), DANCE 496(1-18), DANCE 497(1-9) (Sem: 4-8)

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-023

Review Date: 04/09/02

AL

English Minor

Abington College (ENGAB)
Altoona College (ENGAL)
University College (ENGCC): Penn State Brandywine, Penn State Fayette, Penn State Greater Allegheny, Penn State Mont Alto, Penn State New Kensington, Penn State Wilkes-Barre, Penn State York
University Park, College of the Liberal Arts (ENGL)

PROFESSOR MARIE SECOR,*Interim Head*

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

SUPPORTING COURSES AND RELATED AREAS:(18 credits)
Students may not count courses used to satisfy General Education Writing/Speaking Skills
Select 6 credits from ENGL 200-289 (Sem: 3-8)
Select 6 credits from ENGL 400-493 (Sem: 3-8)
Select 6 additional credits in English (Sem: 3-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 6/28/05

Entrepreneurship Minor

Altoona College (ENTRP)

PROFESSOR WILLIAM ENGELBRET, *in charge*

Entrepreneurship plays a crucial role in the way new ideas, opportunities, inventions, and technologies are created and introduced into the global marketplace. Students in this minor first develop an understanding of financial forces that affect business ventures. The minor then provides them with a core of courses that enhance their major field of study and that provide a background sufficient for them to take advantage of many entrepreneurial opportunities.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

A grade of C or better is required for all courses in the minor.

REQUIREMENTS FOR THE MINOR:19 credits

PRESCRIBED COURSES (13 credits)
ACCTG 211(4), ECON 002 GS(3) (Sem: 1-4)
ENTR 300(3), ENTR 320(3) (Sem: 5-7)

SUPPORTING COURSES AND RELATED AREAS(6 credits)
Select 3 credits at the 400-level from entrepreneurship (Sem: 7-8)
Select 3 credits of ENGL 419(3) or any 400-level Business or Economics course (Sem: 7-8)

Last Revised by the Department: Fall Semester 2000

Blue Sheet Item #: 28-06-008A

Review Date: 5/9/02

AL

Environmental Studies Minor

Altoona College (ENVST)

PROFESSOR NICHOLAS M. MISKOVSKY, *Head*

The interdisciplinary minor in Environmental Studies gives students a broad-based introduction to the natural environment and human interactions with it. Students gain awareness and understanding of environmental issues from the perspectives of several disciplines in relevant natural sciences (ecology, biology, geology, and/or environmental chemistry, for instance), the social sciences (environmental economics and/or public policy), and the arts and humanities (environmental history, ethics, and/or literature). Core courses in environmental studies, emphasizing applied and experiential learning, serve to integrate and synthesize knowledge from the natural sciences, social sciences, and arts and humanities. The goal of the program is "ecological literacy." Students completing the minor gain sufficient awareness and understanding of environmental issues to put environmental problems in a variety of contexts and to apply pertinent skills and knowledge (from studies in both their major and the minor) in addressing those problems. The minor helps prepare students for employment in the private sector or with government agencies and environmental advocacy groups, or for postgraduate study in environmental science, public policy, the humanities, or law.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

PRESCRIBED COURSES: (3 credits)
ENVST 100(3) (Sem: 1-2)

ADDITIONAL COURSES: (6 credits)
Select 3 credits from ENVST 200(3) or ENVST 400W(3) (Sem: 3-8)
Select 3 credits from BIOL 110 GN(4), BIOL 220W GN(4), ENGL 180 GH(3), GEOSC 020 GN(3), CHEM 020(3), CHEM 021(1), GEOG 115 GN(3), STAT 250 GQ(3), E
429(3), HIST 453(3), GEOG 407(3), PHIL 403(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS:(9 credits)
Select 9 credits (3 in each area listed below) in consultation with an academic adviser. At least six credits must be at the 400-level.
a. Natural Sciences: BIOL 240W(4), BIOL 417(3), BIOL 427(3), BIOL 435(3), BIOL 446(3) BIOL 450W(3-5), ENVST 497(3), FOR 308(3), FOR 430/WFS 430(3), GEOS
303(3), GEOSC 340(3), GEOSC 462(3), MICRB 400(3), WFS 408(3) (Sem: 3-8).
b. Social Sciences: ANTH 040(3), ANTH 146 GS;US(3), ANTH 152(3), ANTH 456(3), ANTH/BIO 464(3), ENVST 497(3), GEOG 401(3), GEOG 430(3), PL SC 444(3),
490(3), S T S 047(3) (Sem: 3-8)
c. Arts and Humanities: ENGL 404(3), ENGL 412(3), ENGL 415(3), ENGL 416(3), ENGL 421(3), ENGL 430(3), ENVST 497(3), HIST/S T S 151(3), HIST 428/S T S(3
When topic appropriate and with program approval: ENGL 400(3), ENGL 401(3), ENGL 483(3), HIST 200 US(3), HIST 497(3) (Sem: 3-8)
Other courses may be substituted with program approval.

Last Revised by the Department: Fall Semester 2001

Review Date: 4/9/02

UCA Revision #1: 8/4/06
UCA Revision #2: 7/27/07

AL

Health Policy and Administration Minor

Altoona College (HPAAL)
University Park, College of Health and Human Development (H P A)

PROFESSOR DENNIS G. SHEA, *Head of the Department*

The minor in Health Policy and Administration (H PA) is designed to allow students to learn more about the health care system, health policy, and health administration. The minor is most appropriate for students interested in clinical and health-related fields (e.g., nursing, nutrition, biobehavioral health, or

medicine), professional fields (e.g. business administration or law), or the social sciences (e.g., economics, sociology, political science, psychology), giving these students an understanding of the health care industry and the impact of business and government on that industry. Students must take 6 credits of prescribed courses including H P A 101(3), which introduces the organization of the health care system, and H P A 057 GHA(3), which considers the role of the health care consumer in the health care system. Students then focus their study on either health policy or health administration, choosing among courses at the 300 and 400 level. Students select 3-6 credits from H P A 301(3), H P A 310(3), and H P A 332(3) and 6-9 credits from 400-level H P A courses

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

PRESCRIBED COURSES (6 credits)
H P A 057 GHA(3) and H P A 101(3) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS(12 credits)
Select 3-6 credits from H P A 301W(3), H P A 310(3), H P A 332(3) (Sem: 3-6)
Select 6-9 credits from 400-level H P A courses (Sem: 5-8)

Note: Some courses have additional prerequisites that must be met.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-092A

Review Date: 01/21/05

HH

History Minor

Abington College (HSTAB)
Altoona College (HSTAL)
University Park, College of the Liberal Arts (HIST)

PROFESSOR A. G. ROEBER,*Interim Head*

The minor in history is designed to complement a wide range of social studies and humanities majors by affording students the opportunity to examine change and development in human societies over time. Students are free to select courses in the topics (military history, social history, cultural history, etc.), geographical areas (the United States, Latin America, Europe, Asia, and Africa), and time periods that most suit their needs and interests. The requirements for entering the minor are fifth semester standing (eligible courses taken previously will count toward the minor) and having already declared a major.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

SUPPORTING COURSES AND RELATED AREAS:(18 credits)
Select 12 credits of HIST courses (Sem: 1-8)
Select 6 credits of 400-level HIST courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Department head updated by Publications: 10/08/08

Human Development and Family Studies Minor

Altoona College (HFSAL)
College of Health and Human Development (HD FS)

PROFESSOR STEVEN H. ZARIT,*Head of the Department*

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

PRESCRIBED COURSES (3 credits)
HD FS 129 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS(15 credits)
Select 9 credits of HD FS courses (Sem: 1-6)
Select 6 credits of 400-level HD FS courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Mathematics Applications Minor

Altoona College (MAPAL)

PROFESSOR NICHOLAS MISKOVSKY, *in charge*

The minor in mathematics and its applications is designed to provide students with an interest in applied mathematics, and an opportunity to use mathematical tools and ways of thinking in their own major or area of concentration. The minor requires students to complete 26-28 credits in Mathematics with 6 credits from the 400-level MATH courses and 6 credits from the 400-level Mathematics Applications courses. The latter are selected in consultation with the coordinator of the minor and are from areas that directly incorporate or support the use of mathematics. Typical selections include computer science, engineering, physics, and statistics.

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:26-28 credits

PRESCRIBED COURSES (8 credits)
MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-4)

ADDITIONAL COURSES (6-8 credits)
Select 6-8 credits from MATH 220 GQ(2-3), MATH 230(4), MATH 231(2), MATH 232(2), MATH 250(3), MATH 251(4), MATH 310(3), MATH 311W(3-4), or MAT 312(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS(12 credits)
Select 6 credits of 400-level MATH courses (Sem: 5-8)

Select 6 credits from 400-level Mathematics Applications* courses (Sem: 5-8)

*Mathematics Applications Courses: Through consultation with the coordinator of the minor, courses from areas that directly incorporate or support the use of mathematics will be selected. Typical areas include computer science, engineering, physics, and statistics. See divisional list of acceptable courses.

Last Revised by the Department: Spring Semester 2005

Blue Sheet Item #: 33-02-000

Review Date: 11/23/04

UCA Revision #1: 8/9/06

AA

Mathematics Minor

Altoona College (MTHAL)
University Park, Eberly College of Science (MATH)

PROFESSOR JOHN ROE*Chair*, *Department of Mathematics*

The minor is designed to provide students with an interest in mathematics an opportunity to study a broad range of mathematical topics. The requirements allow students a great deal of flexibility in choosing courses of interest.

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:26-28 credits

PRESCRIBED COURSES (8 credits)
MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-4)

ADDITIONAL COURSES (6-8 credits)
Select 6-8 credits from MATH 220 GQ(2-3), MATH 230(4), MATH 231(2), MATH 232(2), MATH 250(3), MATH 251(4), MATH 310(3), MATH 311W(3-4), or MAT 312(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS(12 credits)
Select 12 credits of 400-level MATH courses (Sem: 5-8)

Lasted Revised by the Department: Fall Semester 2001

Review Date: 5/10/04

UCA Revision #1: 8/9/06

Dept head updated by Publications: 3/26/09

Natural Science Minor

Altoona College (NTSAL)
Berks College (NTSBL):
University Park, Eberly College of Science (NATSC)

PROFESSOR ROBERT B. MITCHELL*in charge*

This interdepartmental minor in Natural Science is designed for nonscience students who wish to gain a better appreciation for science and the scientific method. The courses required in the minor include 3 to 4 credits of general education science designed for nonscience students, 3 to 4 credits of mathematical science, 8 to 9 credits of life or physical science, including some laboratory work, and 6 credits of 400-level science courses. Certain combinations of courses are disallowed (as listed in the curriculum description), and higher-level courses are generally accepted as substitutes for lower-level courses if both are offered by the same department. Any substitutes for laboratory courses must also be laboratory courses. Advising for students in this minor will be available through the Eberly College of Science Academic Advising Center and approval of curriculum exceptions will be through the faculty committee and professor in charge of the program.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:20-23 credits

PRESCRIBED COURSE (1 credit)
SC 400(1) (Sem: 5-8)

ADDITIONAL COURSES (14-17 credits)**[62](#mnote62)**
Select 3-4 credits from ASTRO 001 GN(3), ASTRO 010 GN(2) and ASTRO 011 GN(1), B M B 001 GN(3), BI SC 001 GN(3), BI SC 002 GN(3), BI SC 003 GN(3), BI SC GN(4), CHEM 001 GN(3), CHEM 003 GN(3), MICRB 106 GN(3) and MICRB 107 GN(1), PHYS 001 GN(3) (Sem: 1-4)
Select 3-4 credits from CMPSC 101 GQ(3), CMPSC 121 GQ(3), CMPSC 201 GQ(3) or CMPSC 202 GQ(3), CMPSC 203 GQ(4), MATH 110 GQ(4), MATH 140 GQ(4), STAT 200 GQ(4), STAT 250 GQ(3) (Sem: 3-6)
Select 8-9 credits from BIOL 011 GN(3) and BIOL 012 GN(1), BIOL 110 GN(4), CHEM 110 GN(3) and CHEM 111 GN(1), CHEM 112 GN(3) and CHEM 113 GN(1), MICRB 201(3) and MICRB 202(2), PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS(5 credits)
Select 0-2 credits of 496 (independent studies) courses from the Eberly College of Science course offerings (Sem: 5-8)
Select 3-5 credits of 400-level courses (other than independent studies) from the Eberly College of Science course offerings (Sem: 5-8)

[62] A student may not use credit for BI SC 001 GN(3) or BI SC 002 GN(3) along with credit for BIOL 011 GN(3) and BIOL 012 GN(1), or BIOL 110 GN(4); CHEM 001 GN(3) or CHEM 003 GN(3) along with credit for CHEM 110 GN(3) and CHEM 111 GN(1) or CHEM 112 GN(3) and CHEM 113 GN(1); PHYS 001 GN(3) along w credit for PHYS 250 GN(4) or PHYS 251 GN(4); MICRB 106 GN(3) and MICRB 107 GN(1) along with credit for MICRB 201(3) and MICRB 202(2).

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-04-042

Review Date: 9/13/02

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

Political Science Minor

Altoona College (PLSAL)
Capital College (PLSCA)
University College (PLSCC): Penn State Fayette

University Park, College of the Liberal Arts (PL SC)

PROFESSOR DONNA BAHRY*Head*

The Political Science minor consists of 18 credits with at least one course in each of the following Political Science areas: American, theory/methodology, comparative, and international relations. Six (6) of these 18 credits must be at the 400 level.

When electing this minor, the student should have junior (5th semester) standing. Special attention should be given to the fact that courses used to satisfy general education, degree requirements, electives, and major requirements may also be used to satisfy minor requirements.

Please pick up an application in the Political Science Department's Undergraduate Office in 111 Burrowes Building.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

ADDITIONAL COURSES (18 credits)
Select 18 credits in Political Science (at least 6 credits at the 400 level) (Sem: 3-8)
Include at least one course in each of the following areas: American, Comparative, International Relations, and Theory

Last Revised by the Department: Fall Semester 1999

Blue Sheet Item #: 28-01-056

Review Date: 11/10/03

LA

Date department head updated by Publications: 10/11/07

Psychology Minor

Penn State Abington (PSYAB)
Penn State Altoona (PSYAL)
Penn State Harrisburg (PSYCA)
University College (PSYCC): Penn State Beaver, Penn State Fayette, Penn State Greater Allegheny, Penn State New Kensington, Penn State Schuylkill
University Park, College of the Liberal Arts (PSY)

PROFESSOR KEITH CRNIC,*Head*

The Psychology Minor is designed to provide undergraduate students with a broad overview of topics and domains within psychology, knowledge and skills related to research methods in psychology, and deeper knowledge of research, theory, and application in one or two specific content domains. Students completing this minor will find a flexible selection of coursework in psychology. The content domains from which students may select courses include biological, clinical, cognitive, developmental, industrial-organizational, and social psychology. Students may choose courses that emphasize theory or application of psychological principles. A number of these courses examine the application of psychological research to societal issues.

The required research methods course, PSYCH 301W, carries a statistics prerequisite that can be met by either PSYCH 200 or STAT 200. STAT 200 does not count toward the minimum 18 credits required for the minor. Students minoring in Psychology at University Park are encouraged to consult the Psychology Advising Center early in the process of planning their minor.

The Psychology Minor may be appropriate for students pursuing graduate training or professional careers in fields such as health, business, education, and human services, as well as in psychology.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

PRESCRIBED COURSES (7 credits)
PSYCH 100 GS(3), PSYCH 301W(4) (Sem: 1-4)

ADDITIONAL COURSES (11 credits)
Select 11 credits (at least 6 credits at the 400 level) in PSYCH (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 12/20/02

UCA Revision #1: 8/14/06

Sociology Minor

Penn State Abington (SOCAB)
Penn State Altoona (SOCAL)
Penn State Harrisburg (SOCCA)
University College (SOCCC): Penn State Fayette, Penn State Schuylkill
University Park, College of the Liberal Arts (SOC)

PROFESSOR JOHN McCARTHY*Head*

The sociology minor allows students to explore the wide range of topics, social groups, and social interactions studied by sociologists. From social inequalities and social problems to the familiar institutions of family, school, religion, and government, the diversity of courses available allows sociology minors to explore courses relevant to their interests. The courses also provide multiple viewpoints, studying the intimate interactions of families and small groups and the complex interactions of global economies and political alliances. Requiring a minimum of 18 credits in sociology, including Introductory Sociology (SOC 001) and two courses at the 400 level, students have flexibility in choosing a set of courses for their sociology minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

PRESCRIBED COURSES (3 credits)
SOC 001 GS(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS(15 credits)
Select 15 credits in sociology; at least 6 of those credits must be at the 400 level (Sem: 1-8)

Last Revised by the Department: Fall Semester 2001

Editorial 3/23/07

Department head updated: 11/30/07

Spanish Minor

Altoona College (SPNAL)
Berks College (SPNBL)
University Park, College of the Liberal Arts (SPAN)

PROFESSOR CHIP GERFEN,*Head*

A grade of C or better is required for all courses in the minor. Courses that do not require knowledge of Spanish may not be counted toward the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

PRESCRIBED COURSES: (6 credits)
SPAN 100(3)*, SPAN 110(3)* (Sem: 2-8)

ADDITIONAL COURSES (3 credits)
SPAN 215(3) or SPAN 253W(3) (Sem: 2-8)

NOTE: SPAN 100 and SPAN 110 may be taken concurrently, but both must be taken before either SPAN 215 or SPAN 253W.

SUPPORTING COURSES AND RELATED AREAS(9 credits)
Select 3 credits of Spanish courses (Sem: 2-8)
Select 6 credits of 400-level Spanish courses (Sem: 5-8)

* Heritage speakers (students with Spanish language in family background) should take SPAN 100A and SPAN 301 instead of SPAN 100 and SPAN 110 respectively.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-467

Review Date: 4/10/07

LA

Women's Studies Minor

Abington College (WMNAB)
Altoona College (WMNAL)
Penn State Erie, The Behrend College (WMNBC)
University College (WMNCC): Penn State Brandywine, Penn State DuBois, Penn State Mont Alto
University Park, College of the Liberal Arts (WMNST)

PROFESSOR LORRAINE DOWLER,*Director*

This interdisciplinary minor is designed to develop a broad understanding of the study of women and women's perspectives in all areas of academic scholarship. The primary focus is on feminist analyses of women's lives, women's social, cultural, and scientific contributions, and the structure of sex/gender systems. The interdisciplinary and inclusive nature of the field is reflected in a curriculum that includes courses cross-listed with a wide variety of departments, courses that deal with aspects of women's lives throughout history, and courses that recognize the diversities of culture, race, religion, ethnicity, age, disability, and sexual orientation. The Women's Studies minor emphasizes the development of critical and analytical skills, creative approaches to problem solving, and the ability to articulate productive alternatives.

Women's Studies minors have a definite career advantage, and can be successful in a wide variety of career paths. Some of these include legal advocacy, counseling, journalism, public relations, management, nonprofit administration, teaching, medicine, politics, or art. In addition, many alumnae/i are currently studying in professional, law, or graduate schools.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR:18 credits

PRESCRIBED COURSES (3 credits)
WMNST 301(3) (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
WMNST 001 GS;US;IL(3) or WMNST 003 GS;US;IL (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS(12 credits)
Select 12 credits in Women's Studies or from the program-approved list; at least 6 credits must be at the 400-level
--3 credits from each of the following categories: (Sem: 1-8)

a. arts or humanities
b. natural or social sciences
c. focusing on non-Western women or on women of color in the United States

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-02-008A

Review Date: 6/29/05