



University Bulletin

Undergraduate Degree Programs

Primary Navigation

Penn State York

Penn State York, a 51-acre campus with six major buildings, six tennis courts, athletic fields, and woodlands, is a commuter campus in the York suburban metropolitan area. Flags fly on the campus representing the homelands of students, faculty, and staff, including Spain, Turkey, Russia, Japan, Thailand, Zimbabwe, Italy, Canada, and Vietnam, to celebrate the mix of cultures.

The campus serves a diverse population of students, both traditional and adult, who are from Pennsylvania, the United States, and other countries. Students can participate in sports teams for varsity, intramural, and club sports. Extracurricular clubs and organizations are available to serve the interests of students. The campus also has strong ties with the surrounding communities and sponsors many programs for residents of the area.

Penn State York offers baccalaureate and associate degree programs, as well as the first two years of more than 160 Penn State baccalaureate programs. Students can begin their education at York and move on to the University Park campus or other appropriate Penn State campus in order to complete their degree. Penn State York also offers a master's degree program in conjunction with Penn State Harrisburg. Check the links along the side for available academic programs.

RECOMMENDED ACADEMIC PLANS

Recommended Academic Plans provide, in table form, the courses students might schedule semester by semester as they pursue a specific undergraduate degree. Each college or campus maintains Recommended Academic Plans for its own majors/degree programs. Links to these plans are on the Division of Undergraduate Studies website at: <http://www.dus.psu.edu/sempplans.htm>. Questions concerning the Recommended Academic Plans should be directed to the college or campus involved or the Division of Undergraduate Studies.

Baccalaureate Degrees

Biology

Abington College (BIOAB)

Altoona College (BIOAL)

Berks College (BIOBL)

Capital College (BIOCA)

University Park, Eberly College of Science (BIOL)

University College, Penn State Beaver, Penn State Brandywine, Penn State Schuylkill, Penn State Worthington Scranton, Penn State York (BIOCC)

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

Carla Hass, Person-In-Charge

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)

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], CHEM 111 GN(1), CHEM 112 GN(3)[1], CHEM 113 GN(1), MATH 140 GQ(4)[1], MATH 141 GQ(4) (Sem: 1-2)

BIOL 110 GN(4)[1], BIOL 220W GN(4)[1], BIOL 230W GN(4)[1], BIOL 240W GN(4)[1] (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), PPEM 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), PPEM 425(4), SC 295(1-3), 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 (27-30 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 440W(3), PPEM 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), BIOL 460(3), 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(3), BIOL 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) BIOL 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), BIOL 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(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), PPEM 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (20-27 credits)

Select 20-27 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 -- 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), BIOL 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), BIOL 460(3), 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 442(3), PPEM 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), BIOL 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), BIOL 460(3), 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(3), BIOL 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), HORT 440W(3), PPEM 416(2-4), PPEM 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), BIOL 437(4), 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), BIOL 460(3), 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(3), BIOL 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)

Integrated B.S. in Biology/M.Ed. in Curriculum and Instruction

This Integrated Undergraduate/Graduate (IUG) degree program combines the Bachelor of Science in Biology with the Master of Education in Curriculum and Instruction, Science Education emphasis. The program is designed to be completed in five years. The program enables highly qualified and motivated students to delve deeply into a scientific content area and to pursue graduate level preparation in the theory and practice of teaching. Most students in this option intend to seek Pennsylvania teacher certification, and a semester of student teaching comprises part of their final year of studies. The IUG may also be suitable for a student who does not need to become certified, because they intend to teach in a private secondary school or a non-formal educational setting; in such cases, the second graduate semester will be a program of studies determined through consultation with the graduate advisor and customized for the student's specific needs.

For specific instructions on applying to the program, please consult the "Application Process" section of the IUG description for the Biology B.S. degree in the *Undergraduate Bulletin*. Application materials to be submitted include an undergraduate transcript, statement of purpose, draft plan of study, two letters of recommendation, and concurrent submission of an application for master's study to the graduate program in Curriculum and Instruction, Science Education emphasis area. Additional details about the graduate application procedure can be found above in the section, "Admissions Requirements."

IUG students fulfill all degree requirements for a B.S. in the Eberly College of Science. If a student chooses to leave the program without completing M.Ed. requirements, he or she may still receive the relevant B.S. degree, after all B.S. requirements are completed.

For the M.Ed. degree, students must earn at least 30 credits at the 400/500 level, at least 18 of them at the 500 level. One graduate semester is usually devoted to full time student teaching. Additional graduate coursework is completed in a second semester. Courses required for the M.Ed. degree include a course in learning theory (e.g., SCIED 552(3)), a course in research methods (e.g., SCIED 558(3)), a course in curriculum (e.g., SCIED 550), and a course in research ethics (C I 590(1)).

Students pursuing teacher certification (the usual option) additionally complete a 500-level EDTHP course (3), C I 595(6), and C I 496(6). SCIED 558(3), C I 496(6), and C I 595(6) comprise the student-teaching semester course load. Students who are not pursuing teacher certification substitute 15 credits of other 400 or 500-level coursework for the student-teaching semester; those courses are selected in consultation with their advisors, in order to address the students' specific career aspirations.

124 credits are required for the B.S. degree and 30 credits for the M.Ed. degree. The

following courses may be double-counted toward both the B.S. and the M.Ed. degrees, up to a limit of 12 credits: EDTHP 500-level courses (3), SCIED 411(3) & SCIED 412(3), and SCIED 500-level courses. Note that at least 50% of credits proposed for double-counting must be at the 500 level.

There are a number of other requirements for Pennsylvania teacher certification, including state-required tests and clearances, as well as coursework that can be completed at either the undergraduate or graduate level. Some courses, not enumerated above, that are usually required to satisfy teacher certification requirements include C I 280(3), SPLED 400(3), and C I 495C(3). Please note that changes in Pennsylvania certification requirements are common; students should check the Certification FAQ page at the Penn State Science Education website for updates and clarification about the specific requirements that affect them, based on their admission date to the IUG program option. Note also that students in the IUG program option are not required to complete all Penn State teacher certification requirements in order to receive their B.S. and M.Ed. degrees, as long as they have completed the requirements for those degrees, as described in the undergraduate and graduate *Bulletins*. For example, a student who has completed all degree requirements but has not yet received a score for the Pennsylvania-required Biology PRAXIS exam may be awarded both of his or her earned degrees.

[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 2016

Blue Sheet Item #: 45-01-132

Review Date: 8/23/16

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 Greater Allegheny, Penn State Hazleton, Penn State Lehigh Valley, Penn State Mont Alto, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York University College (BSBIC) via the World Campus

The Bachelor of Science in Business (B.S.B.) is a professionally oriented business degree program that combines the theoretical underpinnings of core business disciplines, notably management, marketing, finance, and supply chain management, with applied study in a practical setting. Through the choice of an 18-credit option, students specialize in a key business sector. Students also develop written and oral communication skills throughout the program, acquire contemporary technology skills, and engage in active and collaborative learning. The degree allows students to become familiar with the unique business environments of their local communities, a design that sets the degree apart from other business degrees offered within the University and throughout the Commonwealth.

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

ACCOUNTING OPTION: This option prepares students to pursue careers in business with an emphasis on the areas of financial and managerial accounting, systems and controls, auditing, and taxation.

ENTREPRENEURSHIP OPTION: This option prepares students to pursue entrepreneurial careers with emphasis on idea generation, opportunity analysis, new product creation, and business plan development.

FINANCIAL SERVICES OPTION: This option prepares students to pursue careers in financial organizations with emphasis on wealth management, tax planning, risk management, and financial analysis.

HEALTH SERVICES OPTION: This option prepares students to pursue careers in the health services sector with emphasis on the financial and administrative aspects of health care enterprises.

INDIVIDUALIZED BUSINESS OPTION: This option provides the opportunity for students to pursue an approved business-focused interdisciplinary program of study.

MANAGEMENT AND MARKETING OPTION: This option prepares students to pursue careers in business organizations with 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 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: 10 credits

REQUIREMENTS FOR THE MAJOR: 77 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): 59 credits

PRESCRIBED COURSES (41 credits)
ECON 102 GS(3) (Sem: 1-4)
ACCTG 211(4), ECON 104 GS(3), MIS 204(3) (Sem: 3-4)
BA 321(3)[11], BA 322(3)[11], BA 420(1)[11], FIN 301(3)[11], MGMT 301(3)[11], MKTG 301(3)[11], SCM 301(3)[11] (Sem: 5-6)

IB 303 IL(3)[1] (Sem: 5-8)
BA 421(3)[1], BA 422(3)[1] (Sem: 7-8)

ADDITIONAL COURSES (15-18 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)
BA 243(4) or BA 241(2) and BA 242(2) (Sem: 3-4)
Select 3 or 6 credits from BA 495A(3 or 6)[1], BA 495B(3 or 6)[1] (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (0-3 credits)

Select 0-3 credits from 400-level business courses from: ACCTG, BA, ECON, ENTR, FIN, FINSV, HPA, IB, MGMT, MIS, MKTG, RM, or SCM [1] (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 18 credits [1]

ACCOUNTING OPTION: (18 credits)

PRESCRIBED COURSES (9 credits)

ACCTG 404(3), ACCTG 471(3), ACCTG 472(3) (Sem: 5-6)

ADDITIONAL COURSES (6 credits)

ACCTG 403(3) or 403W(3) (Sem: 7-8)
ACCTG 405(3) or FINSV 411(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)

Select 3 credits of 400-level courses from: ACCTG, BA, ECON, ENTR, FIN, FINSV, HPA, IB, MGMT, MIS, MKTG, RM, or SCM (Sem: 7-8)

ENTREPRENEURSHIP OPTION: (18 credits)

PRESCRIBED COURSES (9 credits)

ENTR 300(3), ENTR 320(3) (Sem: 5-6)
ENTR 400(3) (Sem: 7-8)

ADDITIONAL COURSES (0-3 credits)

Select 0-3 credits in CAS 352(3) or ENGL 419(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (6-9 credits)

Select 6 to 9 credits of 400-level ENTR courses in consultation with your advisor (Sem: 5-8)

FINANCIAL SERVICES OPTION: (18 credits)

PRESCRIBED COURSES (3 credits)

FIN 420(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)

Select 3 credits from ACCTG 405 or FINSV 411 (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)

Select 12 credits in 300 or 400-level (with at least 3 credits at the 400-level) from ACCTG, FIN, FINSV or RM (Sem: 5-8)

HEALTH SERVICES OPTION: (18 credits)

(Minimum 6 credits at the 400-level)

PRESCRIBED COURSES (6 credits)

HPA 101(3) (Sem: 5-6)
HPA 332(3) (Sem: 5-8)

ADDITIONAL COURSES (0-3 credits)

Select 0-3 credits from BBH 302(3), CAS 352(3), CAS 404(3), ENGL 416(3), ENGL 419(3), LER 424(3), LER 472(3), PSYCH 281 GS(3), PSYCH 484(3), or PSYCH 485(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9-12 credits)

Select 3-9 credits from 300 or 400-level HPA courses (Sem: 5-8)

Select 0-6 credits of 300-400-level courses from ACCTG, BA, ECON, ENTR, FIN, FINSV, HPA, IB, MGMT, MKTG, MIS, RM or SCM (Sem: 6-8)

INDIVIDUALIZED BUSINESS OPTION: (18 credits)

Select 18 credits of study (with at least 3 credits at the 400-level) as submitted by the student and approved by the campus BSB Program Coordinator (Sem: 5-8)

MANAGEMENT AND MARKETING OPTION: (18 credits)**ADDITIONAL COURSES** (0-6 credits)

Select 0-6 credits from the following: BA 250(3), ENGL 419(3), MKTG 220(3) or one of the following, CAS 250(3), CAS 252(3), CAS 352(3), CAS 404(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12-18 credits)

A minimum of 3 credits of supporting courses must be selected at the 400-level.

Select 3 credits from 300 or 400-level MGMT courses (Sem: 5-8)

Select 3 credits from 300 or 400-level MKTG courses (Sem: 5-8)

Select 6-12 additional credits in 300 or 400-level courses from MGMT or MKTG courses (Sem: 6-8)

[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 2013

Blue Sheet Item #: 42-04-065

Review Date: 01/14/2014

UCA Revision #1: 8/3/06

Comments

Communication Arts and Sciences

Berks College (CASBL)

University College (CASCC): Penn State Brandywine, Penn State York

University Park, College of the Liberal Arts (CAS)

Contacts: Berks College, Catherine Catanach, cdc18@psu.edu; Penn State Brandywine,

Wayne McMullen, wjm11@psu.edu; Penn State York, Deborah Eicher-Catt,

dle4@psu.edu; College of the Liberal Arts, Dr. Rachel A. Smith, ras57@psu.edu

This major provides increased understanding and practice in the ways humans use symbols to influence people and the world around them. The ability to communicate effectively with others in personal, social, work and multicultural situations is essential in modern society. A student of Communication Arts and Sciences will learn to think critically, analyze and solve problems, understand and manage conflict, argue persuasively, influence people, form and keep relationships, give effective presentations, and participate in the civic and political life of a community. The flexibility of the program

offers preparation for a variety of careers such as administration, law, business, health, and human services fields. A CAS degree also lends itself well to a concurrent degree program in which students prepare themselves in several fields of study.

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

Per Senate Policy 83-80.5, the college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. For more information, check the Recommended Academic Plan for your intended program.

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: 25 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: 30 credits^[1]

PRESCRIBED COURSES (9 credits)

CAS 201 GH(3), CAS 202 GS(3), CAS 204(3) (Sem: 3-6)

ADDITIONAL COURSES (6 credits)

Select 3 credits of skills courses from CAS 203 GS(3), CAS 205(3), CAS 211(3), CAS 213(3), CAS 214(3), CAS 215(3), CAS 216(2), CAS 250(3), CAS 252(3), CAS 271 US;IL(3), CAS 280(3), or CAS 283(3) (Sem: 3-8)

Select 3 credits of 300-level courses from CAS 302(2), CAS 311(3), CAS 321(3), CAS 352(3), CAS 373(3), CAS 375(3), CAS 383(3), CAS 398(1-9), CAS 399 IL(1-12) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)

Select 15 credits of other CAS courses; at least 12 credits must be at the 400 level. A maximum of 6 credits from CAS 494, 495, 496, and 499(IL) may satisfy this requirement. CAS 126(3) and CAS 195(1) may not be counted as part of the major (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: Spring Semester 2010

Blue Sheet Item #: 38-06-118

Review Date: 04/13/2010

LA

Electro-Mechanical Engineering Technology

Altoona College

Berks College

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

PROFESSOR SVEN BILÉN, Head, School of Engineering Design, Technology, and Professional Programs, College of Engineering, University Park

PROFESSOR IVAN E. ESPARRAGOZA, Director of Engineering Technology and Commonwealth Engineering, Penn State Brandywine

PROFESSOR JENNILYN VALLEJERA, Program Coordinator, Penn State Altoona

PROFESSOR TERRY SPEICHER, Program Coordinator, Penn State Berks

PROFESSOR JOSEPH CUIFFI, Program Coordinator, Penn State New Kensington

PROFESSOR HARLEY HARTMAN, Program Coordinator, Penn State York

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.

Program Educational Objectives:

Specific educational objectives of the program expect that graduates of the program, within five years of graduation will be:

1. Capable of and actively involved in the specification, procurement, or integration of electromechanical systems
2. Capable of and actively involved in the operation, testing, or maintenance of electromechanical systems
3. Capable of and actively participating in project team activities
4. Capable of and actively involved in the preparation and delivery of technical documentation and communication

Program Outcomes (Student Outcomes):

At graduation, EMET students should have:

- a) An ability to select and apply the knowledge, techniques, skills, and modern tools of

- their disciplines to broadly-defined engineering technology activities,
- b) An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies,
 - c) An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes,
 - d) An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives,
 - e) An ability to function effectively as a member or leader on a technical team,
 - f) An ability to identify, analyze, and solve broadly-defined engineering technology problems,
 - g) An ability to communicate effectively regarding broadly-defined engineering technology activities,
 - h) An understanding of the need for and an ability to engage in self-directed continuing professional development,
 - i) An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity,
 - j) A knowledge of the impact of engineering technology solutions in a societal and global context, and
 - k) A commitment to quality, timeliness, and continuous improvement.

In addition, EMET graduates must demonstrate the knowledge and technical competency to:

- a) Use computer-aided drafting or design tools to prepare graphical representations of electromechanical systems.
- b) Use circuit analysis, analog and digital electronics, basic instrumentation, and computers to aid in the characterization, analysis, and troubleshooting of electromechanical systems.
- c) Use statics, dynamics (or applied mechanics), strength of materials, engineering materials, engineering standards and manufacturing processes to aid in the characterization, analysis, and troubleshooting of electromechanical systems.
- d) Use appropriate computer programming languages for operating electromechanical systems.
- e) Use electrical/electronic devices such as amplifiers, motors, relays, power systems, and computer and instrumentation systems for applied design, operation, or troubleshooting electromechanical systems.
- f) Use advanced topics in engineering mechanics, engineering materials, and fluid mechanics for applied design, operation, or troubleshooting of electromechanical systems.
- g) Use basic knowledge of control systems for the applied design, operation, or troubleshooting of electromechanical systems.
- h) Use differential and integral calculus, as a minimum, to characterize the static and dynamic performance of electromechanical systems.
- i) Use appropriate management techniques in the investigation, analysis, and design of electromechanical systems.

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 ETAC of ABET may transfer into the program with advanced standing.

For the B.S. degree in Electro-Mechanical Engineering Technology, a minimum of 130 credits is required. This program is accredited at Penn State Altoona, Penn State Berks,

Penn State New Kensington, and Penn State York of the University College by the Engineering Technology Accreditation Commission of ABET, www.abet.org.

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

GENERAL EDUCATION: 45 credits

(24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR) (See description of General Education in front of Bulletin.)

FIRST-YEAR EXPERIENCE:

(Satisfied by the FYE program at the campus at which the student is enrolled in the EMET program)

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: 109-114 credits

(This includes 24 credits of General Education courses; 6 credits of GQ courses; 9 credits of GN courses; 6 credits of GWS courses; 3 credits of GH or GS courses.)

PRESCRIBED COURSES (73 credits)

MCHT 111(3)[1] (Sem: 1-2)

CMPET 117(3)[1], CMPET 120(1)[1], CMPET 211(3), EDSGN 100(3), EET 105(3), EET 114(4)[1], EET 118(1)[1], EET 212(4)[1], EET 275(3), EGT 114(2), EMET 100(1), EMET 215(3), EMET 222(3)[1], EMET 225(2), EMET 230(3)[1], EMET 325(3), EMET 326(3), EMET 330(3)[1], EMET 350(3) EMET 403(1) (Sem: 5-6)
EMET 405(3), EMET 410(4), EMET 440(3), ENGL 202C GWS(3), IET 101(3), IET 333(2) (Sem: 7-8)

ADDITIONAL COURSES (27-31 credits)

Select 5-6 credits from MATH 40 GQ(5)[1]; or [MATH 22 GQ(3)[1] and MATH 26 GQ(3)[1]; or [MATH 81 GQ(3)[1] and MATH 82 GQ(3)[1] * (Sem: 1-2)

Select 3 credits of GH or GS from: ENGR 320Y GS;US;IL;WAC(3), STS 200 GS(3), STS 233 GH(3), or STS 245 GS;IL(3) (Sem: 2-8)

Select 10-11 credits from:

CAS 100A GWS(3); CAS 100B GWS(3) (Sem: 3-4)

MATH 83 GQ(4)[1]** or MATH 140 GQ(4)[1] (Sem: 3-4)

MATH 210 GQ(3) or MATH 141 GQ(4) (Sem: 3-4)

Select 3 credits from MATH 211 GQ(3)[1] or MATH 250(3)*** (Sem: 4-5)

Select 6-8 credits of GN courses from two of the following groups:

CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 4-6)

PHYS 150 GN(3) or PHYS 211 GN(4) or PHYS 250 GN(4) (Sem: 4-6)

PHYS 151 GN(3) or PHYS 212 GN(4) or PHYS 251 GN(4) (Sem: 4-6)

SUPPORTING COURSES AND RELATED AREAS (9-10 credits)

Select 3-4 credits of science courses, in consultation with an adviser, from the approved department list (Sem: 4-6)

Select 6 credits of General Technical Elective courses, in consultation with an adviser, from the approved department list (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.

*students taking MATH 81 GQ(3) and MATH 82 GQ(3) must take MATH 83 GQ(4)

**students taking MATH 83(4) must take MATH 210(3) and MATH 211(3)

***Note that MATH 250 does not carry a C-requirement

Last Revised by the Department: Fall Semester 2017

Blue Sheet Item #: 46-01-040

Review Date: 8/22/2017

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

Comments

EN

English

Abington College (ENGAB)

Altoona College (ENGAL)

University College (ENGCC): Penn State Brandywine, Penn State Greater Allegheny, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York

University Park, College of the Liberal Arts (ENGL)

PROFESSOR Mark Morrisson, *Department 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.

Per Senate Policy 83-80.5, the college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. For more information, check the Recommended Academic Plan for your intended program.

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]**ADDITIONAL COURSES** (18 credits)

Select 3 credits from ENGL 200(3) or ENGL 201 GH(3) (Sem: 1-6)

Select 3 credits of a 300/400-level course in each of the following areas:

Medieval through Sixteenth Century (Sem: 1-8)

Sixteenth Century through Eighteenth Century (Sem: 1-8)

The Nineteenth Century (Sem: 1-8)

Twentieth Century to the Present (Sem: 1-8)

Select 3 credits from ENGL 494H(3) or ENGL 487W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)

In consultation with adviser, select 18 credits in literature, writing, or rhetoric (Sem: 1-8)

(At least 9 credits must be at the 300/400 level)

At least 3 of the 300/400 level credits must fulfill a departmental diversity requirement for a course related to race, gender, sexuality, disability, ethnicity, and/or postcolonial issues).

Integrated B.A./M.A. Program in English

The BA in English requires a minimum of 123 credits, with 36 of those credits required for the English major-3 credits of English 200, 3 credits of English 201, 3 credits of English 221, 18 credits of English 300 level or above, 3 credits of pre-1800 300 level or above, 3 credits of post-1800 race, ethnic, or minority literatures 300 level or above, 3 credits of English 487W, senior seminar.

The B.A./M.A. consists of these 36 English credits of the B.A., plus an additional 24 English credits of M.A. work distributed as follows: 12 credits of English 512, 513, or 515. English 512, 513, and 515 can be repeated for credit. In addition, students will take 6 credits of a graduate-level literature and 6 credits of M.A. Master's paper, 596, to support work on a major project that will be the centerpiece of each student's culminating Master's paper. In the Master's paper, students receiving an M.A. in English with a creative writing concentration will append their Master's paper with a bibliographic essay referencing primary and/or secondary sources generated by their research for the paper. The essay can discuss the range of research modalities, including contextual background in the work itself as well as contemporary and historic literature that has influenced the style and form of the Master's paper. Sources consulted for contextual background can include library and database materials, historical research, oral history,

interviews, and other bibliographic tools. 12 credits, 6 at the 400 level (412/413/415) and 6 at the 500 level (512/513/515), will be double counted between the B.A. and the M.A. The IUG B.A./M.A. consists of a total of 60 English credits.

A minimum of 141 credits are required to complete the IUG B.A./M.A. in English.

Time of Admission to the Program

Students shall be admitted to the English IUG program no earlier than the beginning of the third semester of undergraduate study at Penn State (regardless of transfer or AP credits accumulated prior to enrollment) and no later than the end of the second week of the semester preceding the semester of expected conferral of the undergraduate degree, as specified in the proposed IUG plan of study.

Application to the English IUG would typically occur in the junior year after a student has completed 60 credits, enrolled in the English major, and completed two English courses in creative writing.

Admission Requirements

Admission to the integrated B.A./M.A. program will be based on the submission of a portfolio of creative work and a plan of study to the department's Director of Graduate Studies and the Director of the B.A./M.A. program. Applications typically will be filed during the 5th or 6th semesters of study, and applicants must have achieved a minimum of 60 credits and a 3.3 overall GPA and 3.6 GPA in English to begin the program. The English Director of Graduate Studies will ensure that the applicant meets the minimum credit and GPA requirements for the program. The Director of the B.A./M.A. program will evaluate the quality of the student's creative work and the applicant's plan for fulfilling the requirements of the M.A. in English. The Director of the B.A./M.A. program, in consultation with the Creative Writing faculty, will have final approval for what constitutes an acceptable level of creative work and an acceptable plan for the completion of the M.A.

The application procedure requires submission of the following:

- A. Support Letters from Faculty and Administrators (addressed to the department's Director of Graduate Studies and the Director of the B.A./M.A. program)
- B. A Personal Statement
- C. Portfolio of Creative Work
- D. A Plan of Study
- E. A transcript and degree audit printed from e-Lion
- F. A current resume or curriculum vita
- G. A copy of the completed on-line Graduate School Application (GRE scores are not required).

Plan of Study and Advising

Prior to the application process, students should communicate their intent to enroll in the IUG to the English B.A. adviser and the Director of the B.A./M.A. program. The Director of the B.A./M.A. will help each student identify an appropriate series of English courses to properly prepare each student for the 500-level M.A. workshops and 500-level literature courses.

Students will be expected to maintain a minimum overall GPA of 3.3 for all undergraduate coursework and a GPA of 3.6 in English (ENGL) courses throughout the IUG program of study. Failure to do so will result in the student being advised that he/she must regain a GPA of 3.3 within one semester. If the GPA is not 3.3 or higher in general undergraduate coursework and 3.6 or higher in English coursework after that term, the student will be

dropped from the IUG.

Each student enrolled in the B.A./M.A. will meet at the beginning of each term with the Director of the B.A./M.A. to discuss his or her progress through the M.A. degree and to make sure that he or she is following the plan established upon his or her admission to the B.A./M.A. program.

If the student decides not to continue on in the IUG, the student may, contingent on fulfilling all other requirements for the BA in English, graduate with a B.A. in English.

Sequence of Courses

The IUG B.A./M.A. consists of a total of 60 English credits. A minimum of 141 credits are required to complete the IUG B.A./M.A. in English.

[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 2016

Blue Sheet Item #: 45-01-106

Review Date: 8/23/2016

Comments

LA

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)

World Campus

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

PROFESSOR DOUGLAS M. TETI, *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.

Per Senate Policy 83.80.5, the college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. HD FS requires students to complete 24 credits for the major through courses taken at University Park. Courses taken at other Penn State campuses may not be counted toward this 24 credit minimum. For more information, check the Recommended Academic Plan for this major.

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]

HDFS 129 GS(3), HDFS 301(3), HDFS 311(3), HDFS 312(3), HDFS 315 US(3)[93], HDFS 418(3) (Sem: 3-6)

ADDITIONAL COURSES (12-13 credits)[1]

Select 6 credits from HDFS 229 GS(3), HDFS 239 GS(3), HDFS 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] (Sem: 4-8)

REQUIREMENTS FOR THE OPTION: 43-45 credits

LIFE SPAN HUMAN SERVICES OPTION: (43-45 credits)

PRESCRIBED COURSES (9 credits)[1]

HDFS 411(3), HDFS 414(3), HDFS 455(3) (Sem: 5-8)

ADDITIONAL COURSES (22-24 credits)[1]

Select 3 credits from HDFS 428(3), HDFS 429(3), HDFS 433(3) or HDFS 445(3) (Sem: 5-8)

Select 6 credits from 300- or 400-level HDFS courses (Sem: 5-8)

Select 13-15 credits from (a) or (b)

(a) Approved field practice in a human service setting: HDFS 490(2), HDFS 495A(9), HDFS 495B(3) (Sem: 5-8)

(b) Approved group project or field practice in human service setting: HDFS 401(3), HDFS 402(4), HDFS 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 HDFS course taken to satisfy this requirement) (Sem: 5-8)

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION: 45 credits

PRESCRIBED COURSES (6 credits)[1]

HDFS 494(6) or HDFS 494H(6) (Sem: 5-8)

ADDITIONAL COURSES (21 credits)[1]

Select 6 credits from HDFS 428(3), HDFS 429(3), HDFS 433(3), HDFS 445(3) (Sem: 5-8)

Select 15 credits (minimum of 9 credits at the 400-level) from HDFS 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

Information Sciences and Technology

Abington College (ISSAB)

Berks College (ISSBL)

Capital College (ISSCA)

University College: Penn State Beaver, Penn State Brandywine, Penn State Greater Allegheny, Penn State Hazleton, Penn State New Kensington, Penn State Lehigh Valley, Penn State Mont Alto, Penn State Schuylkill, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York (ISSCC)

World Campus (ISSWC_BS)

University Park, College of Information Sciences and Technology (ISTBS)

Mary Beth Rosson, Associate Dean for Graduate and Undergraduate Studies, College of IST

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

This major is structured to provide students with the theoretical frameworks and skill sets necessary to compete and be productive in the information technology-intensive global context that defines the new "Information Age." Specifically, the degree will be focused on a program that will build an understanding of core information technologies and related areas of study; will prepare students for the practical application of various information sciences and related technologies; and engage students in sharpening their abilities to think critically and to work in teams. All this will be done with considerable interdisciplinary integration in order to expose students to the cognitive, social, institutional, and global environments of IST. Team projects in most courses, a required internship, and a senior capstone experience provide additional, focused venues for involving students in the cutting-edge issues and technologies of the field.

INFORMATION CONTEXT: PEOPLE, ORGANIZATIONS, AND SOCIETY OPTION: This option focuses on how information technology affects social change and the delivery of information to the consumer. This includes the human-machine interface; organization and retrieval of information; digital libraries; information and telecommunications services; information and media industry structures; software services and intermediaries; telecommunications and information law and policy; sociological aspects of technology change; multimedia; and art, design, and aesthetics.

INFORMATION SYSTEMS: DESIGN & DEVELOPMENT OPTION: This option is focused on expanding the skills needed to develop advanced information technology systems using state-of-the-art tools and techniques. The emphasis is on providing the student with both knowledge in the design, implementation, testing and evolution of complex software systems as well as a set of project-oriented, team-programming experiences.

INFORMATION TECHNOLOGY: INTEGRATION & APPLICATION OPTION: This option is designed to prepare students to use information technology to realize a variety of system-based goals (e.g., reliability, accessibility, efficiency, etc.). It is focused on developing a theoretical foundation and the skill set needed for integrating information technology into different systems for the purpose of enhancing system performance. The

emphasis is on providing the student with both the theoretical frameworks needed to use information technology as a system attribute as well as a set of application-oriented experiences and skills.

Entrance Requirements: To be eligible for entrance to the Information Sciences and Technology (ISTBS) major, students must:

1. have completed the following entrance-to-major requirements with a grade of C or better in each: IST 110(3); IST 140(3) (or equivalent CMPSC 101 GQ(3) or CMPSC 121 GQ(3)), IST 210(3), and IST 220(3).
2. 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.

The Integrated Undergraduate Graduate (IUG) program is available for strong undergraduate students who wish to pursue a bachelor's and master's degree in a shorter period of time than would be necessary if the degrees were pursued separately. Information Sciences and Technology undergraduates may apply for admission to the ISTBS/ISTMS IUG program as early as the end of their sophomore year but no later than the end of their junior year after completing a minimum of 60 credits, if they meet the following admission requirements:

1. Must be enrolled in the ISTBS undergraduate degree program.
2. Must have completed 60 credits of an ISTBS undergraduate degree program.
3. Must apply to the IUG program by the end of their junior year.
4. Must apply to and be accepted without reservation into the Graduate School and M.S. program in IST. Students must complete the **Graduate School application**.
5. Must have an overall GPA of 3.5 (on a 4.0 scale) in undergraduate coursework and a minimum GPA of 3.5 in all coursework completed for the major.
6. Must present an approved plan of study. The plan should cover the entire time period of the integrated program, and it should be reviewed periodically with an adviser.
7. Must present two letters of recommendation from faculty members. (Note: For Schreyer Honors College students, these can be the same two letters required by the Schreyer Honors College.)
8. Must meet with both the Director of Undergraduate Academic Affairs and the Graduate Program Coordinator to declare interest and receive information about the IUG program.

For Schreyer Honors College students, students admitted to the IUG program may double-count a maximum of 12 credits toward their graduate and undergraduate degrees in Information Sciences and Technology. Thesis or scholarly paper credits may not double-count.

For the B.S. degree in Information Sciences and Technology, a minimum of 125 credits is required.

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

GENERAL EDUCATION: 45 credits
(12 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: 8 credits

REQUIREMENTS FOR THE MAJOR: 84 credits

(This includes 12 credits of General Education courses: 6 credits of GQ courses; 3 credits of GS courses; and 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 60 credits

PRESCRIBED COURSES (26 credits)

IST 110 GS(3)[1], IST 210(3)[1], IST 220(3)[1], IST 230(3)[1] (Sem: 1-4)

STAT 200 GQ(4) (Sem: 3-6)

IST 495(1)[1] (Sem: 3-8)

IST 301(3)[1], IST 331(3)[1] (Sem: 5-8)

IST 440(3)[1] (Sem: 7-8)

ADDITIONAL COURSES (13 credits)

CMPSC 101 GQ(3)[1], CMPSC 121 GQ(3)[1], or IST 140(3)[1] (Sem: 1-4)

ECON 14 GS(3), ECON 102 GS(3), or ECON 104 GS(3) (Sem: 1-4)

ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 1-4)

MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (21 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 in foreign culture from College-approved list (Sem: 5-8)

Select 3 credits[1] at the 400 level in emerging issues and technologies from College-approved list (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 24 credits

INFORMATION CONTEXT: PEOPLE, ORGANIZATIONS, AND SOCIETY OPTION: 24 credits

PRESCRIBED COURSES (6 credits)[1]

IST 431(3) and IST 432(3) (Sem: 5-8)

ADDITIONAL COURSES (6 credits)[1]

IST 240(3) or IST 242(3) (Sem: 1-4)

IST 302(3) or IST 413(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)

Select 12 credits from College-approved list (at least 3 credits at the 400-level and no more than 6 credits below the 200-level.) (Sem: 5-8)

INFORMATION SYSTEMS: DESIGN & DEVELOPMENT OPTION: 24 credits

PRESCRIBED COURSES (6 credits)[1]

IST 242(3) (Sem: 1-4)

IST 311(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)[1]

Select 3 credits from IST 261(3) or IST 361(3) (Sem: 5-8)

Select 6 credits from IST 411(3), IST 412(3), or IST 413(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)

Select 9 credits from College-approved list (at least 3 credits must be at the 400-level.)
(Sem: 5-8)

INFORMATION TECHNOLOGY: INTEGRATION & APPLICATION OPTION: 24 credits**PRESCRIBED COURSES** (9 credits)[1]

IST 302(3), IST 420(3), IST 421(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)[1]

IST 240(3) or IST 242(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)

Select 12 credits from College-approved list (at least 3 credits at the 400-level and no more than 6 credits below the 200-level.) (Sem: 5-8)

Integrated B.S. in Information Sciences and Technology / M.S. in Information Sciences and Technology

The College of Information Sciences and Technology offers an integrated B.S./M.S. (IUG) program designed to allow academically superior students in the Information Sciences and Technology major to obtain both the bachelor's in Information Sciences and Technology and M.S. degree in Information Sciences and Technology in a shorter period of time than would be necessary if the degrees were pursued separately. The first two to three years of undergraduate coursework follow the same undergraduate curriculum that other students follow in the Information Sciences & Technology major. Interested students may apply for admission to the IUG program as early as the end of their sophomore year but no later than the end of their junior year after completing a minimum of 60 credits. If admitted to the IUG, the final years of study include two graduate courses, Foundations of Theories and Methods of Information Sciences and Technology Research (IST 504) in the fall and Foundations of Research Design in Information Sciences and Technology (IST 505) in the spring, plus six credits of research methods courses, twelve credits of graduate specialty courses, and six credits of graduate thesis (IST 600) or scholarly paper (IST 594).

(Note: For Schreyer Honors College students, those who complete the graduate thesis for the Master's requirement may use the graduate thesis, itself, to fulfill the undergraduate honors thesis requirement, as well. Honors students who opt for the Master's scholarly paper must also complete an undergraduate honors thesis.)

The integrated B.S. in Information Sciences and Technology /M.S. in Information Sciences and Technology (IUG) degree meets the needs of the most academically talented students in the Information Sciences and Technology undergraduate major. A proportion of these successful students wish to pursue graduate studies sometime after graduation. Offering the IUG benefits these students by offering an accelerated path to a graduate degree. Additionally, the IUG program can provide these students with a more cohesive program of study with opportunities to engage in more comprehensive research leading to both the Bachelor's and Master's degree.

For the B.S. in Information Sciences & Technology/M.S. in Information Sciences & Technology IUG program, a minimum of 125 credits are required for the bachelor's degree and 30 credits for the M.S. degree. Students admitted to the IUG program may double-count a maximum of 12 credits to their graduate and undergraduate degrees. The required 6 credits of IST 504 and IST 505 will apply to both the graduate program and the undergraduate program. Students may choose an additional 6 credits to double-count for both the undergraduate and graduate degrees from the following: IST 411, IST 412, IST 413, IST 420, IST 421, IST 431, IST 432. Graduate thesis or scholarly paper credits may not double-count.

The objectives of the Integrated Undergraduate Graduate Program include:

1. To offer highly qualified students the opportunity to earn two degrees in less time than it would take to do two sequential degrees. In particular, IUG students may count up to 12 credits towards both their B.S. and M.S. degree requirements.
2. To permit coherent planning of studies through the graduate degree, with advising informed by not only the requirements of the baccalaureate program, but also the longer-range goals of the graduate degree.
3. To introduce undergraduate students to the rigors of both graduate study and graduate faculty.
4. To make the resources of the Graduate School available to IUG students.
5. To allow students with IUG status to benefit from their association with graduate students whose level of work and whose intensity of interest and commitment parallel their own.

Admission Requirements

To initiate the application process, students must submit an *Integrated Undergraduate-Graduate (IUG) Degree in Information Sciences and Technology Form*, a transcript, and two letters of recommendation (both from faculty members) to the IST Graduate Programs Office. The Director of Undergraduate Academic Affairs, in consultation with the Graduate Programs Coordinator, will help undergraduate candidates determine a proposed sequence of courses that will prepare them for acceptance into the Integrated Undergraduate-Graduate (IUG) degree program. Acceptance into the IST IUG program will be determined by the Graduate Recruitment Committee.

Information Sciences and Technology undergraduate majors may apply for admission no earlier than February 15th of their sophomore year and no later than the February 15th of their junior year after completing a minimum of 60 credits, if they meet the following admission requirements:

1. Must be enrolled in the ISTBS undergraduate degree program.
2. Must have completed 60 credits of an ISTBS undergraduate degree program.
3. Must apply to the IUG program by the end of their junior year.
4. Must apply to and be accepted without reservation into the Graduate School and M.S. program in IST. Students must complete the **Graduate School application**.
5. Must have an overall GPA of 3.5 (on a 4.0 scale) in undergraduate coursework and a minimum GPA of 3.5 in all coursework completed for the major.
6. Must present an approved plan of study. The plan should cover the entire time period of the integrated program, and it should be reviewed periodically with an adviser.
7. Must present two letters of recommendation from faculty members. (Note: For Schreyer Honors College students, these can be the same two letters required by the Schreyer Honors College.)
8. Must meet with both the Director of Undergraduate Academic Affairs and the Graduate Program Coordinator to declare interest and receive information about the IUG program.

For Schreyer Honors College students, students must also follow guidelines and procedures for applying for IUG in the Schreyer Honors College:

<http://www.shc.psu.edu/students/iug/program/>

In addition, applicants must apply to and be admitted to the Graduate School of the Pennsylvania State University at the time of their application to the IUG degree program. These admission standards are high, as it is thought the program will only be appropriate for students with high levels of academic skills. The program area does have discretion in admitting Information Sciences and Technology majors into the integrated program, and extenuating circumstances can always be considered in terms of possible admission. Individuals who are unable to be admitted into the integrated program of study can apply

for regular admission to the graduate program when they complete their undergraduate program of study.

Sample Sequence of Graduate Coursework in Addition to Undergraduate Courses

Year	Fall	Spring	MS Credits
Year 1 (Senior Undergraduate Year)	IST 504: Foundations 3 Methods course (3)**	IST 505: Research Design (3) Methods course (3)**	30*
Year 2 (Super Senior Undergraduate Year)	IST 600 or IST 594 Thesis Research (3) Grad Speciality Course (3)** Grad Speciality Course (3)**	Methods course (3)** IST 600 or IST 594 Thesis Research (3) Grad Speciality Course (3)** Grad Speciality Course (3)**	

* Students admitted to the IUG program may double-count a maximum of 12 credits toward their graduate and undergraduate degrees in Information Sciences and Technology. In their senior year, IUG students will take 6 credits of specified graduate work, courses IST 504 and IST 505, and 6 credits of methods courses. These 6 credits of IST 504 and IST 505 will apply to both the graduate program and the undergraduate IST/B.S. support of option requirement. In their super senior year, students may choose an additional 6 credits to double-count for both the undergraduate and graduate degrees. These courses must be at the 400-level or above. Students may choose any 400-level undergraduate option course (IST 411, IST 412, IST 413, IST 420, IST 421, IST 431, IST 432) that they are using to fulfill an undergraduate option requirement and apply the credits to both the undergraduate option requirement and the graduate specialty course requirement. Credits associated with the thesis or culminating scholarly paper, i.e., IST 600 and IST 594, may not be double-counted. However, for Schreyer Honors College students, the Master's thesis deliverable, itself, may double-count for the undergraduate thesis deliverable requirement.

** Choose graduate level methods course after consultation in advance with the student's faculty adviser.

*** Choose any 400 or 500 level course that contributes to the student's chosen area of specialty with a maximum of six credits at the 400 level.

The total resulting credits will be a minimum of 155 credits, with 125 credits completed for the undergraduate IST degree. Twelve graduate credits will be completed in the senior year, and the remaining 18 graduate credits will be completed in the super senior year.

If for any reason a student admitted to the B.S./M.S. program is unable to complete the requirement for the Master of Science degree program in Information Sciences and Technology, the student will be permitted to receive the Bachelor's degree assuming all degree requirements have been satisfactorily completed.

Student performance will be monitored on an on-going basis by the student's adviser and Graduate Programs. Students admitted to the integrated program must maintain a minimum cumulative GPA of a 3.3 overall and a minimum 3.0 GPA in all courses used toward the M.S. degree in order to maintain good academic standing and meet graduation requirements. (See information on Grade-Point Average in the Graduate Bulletin: <http://bulletins.psu.edu/graduate/degree/requirements/masters#>) For Schreyer Honors College students in the IUG program, students must maintain a minimum cumulative GPA of 3.4 overall and a minimum 3.0 GPA in all courses used toward the M.S. degree in order to maintain good academic standing and meet graduation requirements. Successful completion of a Schreyer Scholar's Master's thesis will be accepted as completion of the honors thesis requirement.

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

[2] Students in the Information Systems: Design and Development Option are expected to take IST 242 prior to taking the prescribed and additional courses for that option.

Last Revised by the Department: Fall Semester 2017

Blue Sheet Item #: 46-01-087

Review Date: 8/22/2017

IS

Psychology

Altoona College (PSCBA)

University College (PYACC) - Penn State Beaver, Penn State Brandywine, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Lehigh Valley, Penn State Mont Alto, Penn State New Kensington, Penn State Schuylkill, Penn State Worthington Scranton; Penn State York

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]

(This includes 0-4 credits of General Education GQ courses.)

PRESCRIBED COURSES (7 credits)

PSYCH 100 GS(3) (Sem: 1-4)

PSYCH 301(4) (Sem: 3-6)

ADDITIONAL COURSES (34 credits)

(Must include 15 credits at 400-level.)

Select 4 credits from PSYCH 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)

Select 18 credits--a minimum of 3 credits from each of the following six categories

1. Learning and Cognition: PSYCH 256 GS(3), PSYCH 261 GS(3), PSYCH 268(3), PSYCH 426(3), PSYCH 427(3), PSYCH 452(3), PSYCH 456(3), PSYCH 457(3), PSYCH 458(3), PSYCH 459(3), PSYCH 461(3) (Sem: 2-8)
2. Social and Personality Psychology: PSYCH 221 GS(3), PSYCH 231 GS;US(3), PSYCH 232 GS;US;IL(3), PSYCH 238 GS(3), PSYCH 419(3), PSYCH 420(3), PSYCH 421(3), PSYCH 423(3), PSYCH 424(3), PSYCH 432 US(3), PSYCH 438(3), PSYCH 479 US(3) (Sem: 2-8)
3. Biological Bases of Behavior: PSYCH 253 GS(3), PSYCH 260(3), PSYCH 269(3), PSYCH 441(3), PSYCH 460(3), PSYCH 462(3), PSYCH 463(3), PSYCH 464(3), PSYCH 475(3), PSYCH 478(3) (Sem: 2-8)
4. Developmental Psychology: PSYCH 212 GS(3), PSYCH 410(3), PSYCH 412(3), PSYCH 413(3), PSYCH 414(3), PSYCH 415(3), PSYCH 416(3)/HDFS 445(3), PSYCH 474(3) (Sem: 2-8)
5. Applied and Clinical Psychology: PSYCH 243 GS(3), PSYCH 244 GS(3), PSYCH 270(3), PSYCH 281 GS(3), PSYCH 370 US(3), PSYCH 404(3), PSYCH 408(3), PSYCH 443(3), PSYCH 444(3), PSYCH 445(3), PSYCH 470(3), PSYCH 471(3), PSYCH 473(3), PSYCH 476(3), PSYCH 477(3), PSYCH 481(3), PSYCH 482(3), PSYCH 484(3), PSYCH 485(3) (Sem: 2-8)
6. Capstone Experience: PSYCH 439(3), PSYCH 490(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 301 (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: Spring Semester 2012

Blue Sheet Item #: 40-05-071

Review Date: 02/21/2012

UCA Revision #1: 9/1/06

AL

Psychology

Altoona College (PSCBS)

University College (PYSCC) - Penn State Beaver, Penn State Brandywine, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Lehigh Valley, Penn State Mont Alto, Penn State New Kensington, Penn State Schuylkill, Penn State Worthington Scranton, Penn State York

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]**

(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 301(4) (Sem: 3-6)

ADDITIONAL COURSES (34 credits)

(Must include 15 credits at the 400-level.)

Select 4 credits from PSYCH 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)

Select 18 credits--a minimum of 3 credits from each of the following six categories:

1. Learning and Cognition: PSYCH 256 GS(3), PSYCH 261 GS(3), PSYCH 268(3), PSYCH 426(3), PSYCH 427(3), PSYCH 452(3), PSYCH 456(3), PSYCH 457(3), PSYCH 458(3), PSYCH 459(3), PSYCH 461(3) (Sem: 2-8)
2. Social and Personality Psychology: PSYCH 221 GS(3), PSYCH 231 GS;US(3), PSYCH 232 GS;US;IL(3), PSYCH 238 GS(3), PSYCH 419(3), PSYCH 420(3), PSYCH 421(3), PSYCH 423(3), PSYCH 424(3), PSYCH 432 US(3), PSYCH 438(3), PSYCH 479 US(3) (Sem: 2-8)
3. Biological Bases of Behavior: PSYCH 253 GS(3), PSYCH 260(3), PSYCH 269(3), PSYCH 441(3), PSYCH 460(3), PSYCH 462(3), PSYCH 463(3), PSYCH 464(3), PSYCH 475(3), PSYCH 478(3) (Sem: 2-8)
4. Developmental Psychology: PSYCH 212 GS(3), PSYCH 410(3), PSYCH 412(3), PSYCH 413(3), PSYCH 414(3), PSYCH 415(3), PSYCH 416(3)/HDFS 445(3), PSYCH 474(3) (Sem: 2-8)
5. Applied and Clinical Psychology: PSYCH 243 GS(3), PSYCH 244 GS(3), PSYCH 270(3), PSYCH 281 GS(3), PSYCH 370 US(3), PSYCH 404(3), PSYCH 408(3), PSYCH 443(3), PSYCH 444(3), PSYCH 445(3), PSYCH 470(3), PSYCH 471(3), PSYCH 473(3), PSYCH 476(3), PSYCH 477(3), PSYCH 481(3), PSYCH 482(3), PSYCH 484(3), PSYCH 485(3) (Sem: 2-8)
6. Capstone Experience: PSYCH 439(3), PSYCH 490(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 301 (Sem: 2-8)

REQUIREMENTS FOR THE OPTION: 24 credits

SCIENCE OPTION: (24 credits)

ADDITIONAL COURSES (15 credits)

Select 15 credits from: ANTH 21 GN(3); ANTH 22 GN(3); BBH 101 GHA(3) any BIOL course; any CHEM course; any MICRB course; any PHYS course (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: Any ACCTG course; BA 100 GS(3); BA 241(2), BA 242(2) or BA 243(4); Any ECON course; any FIN course; any HPA courses; any IB course; any MGMT course; any MKTG course; any SCM except 200 (Sem: 2-8)

SUPPORTING COURSES (9 credits)

Select 6 credits in natural sciences/quantification from department list (MATH 22 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: Spring Semester 2012

Blue Sheet Item #: 40-05-072

Review Date: 02/21/2012

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 Worthington-Scranton, 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 interdisciplinary degree 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 B.S. options offered: the Biological Sciences and Health Professions option, the Legal Studies, Government Service, Public Policy option, the Life Sciences option, the Mathematical Sciences option, or the Physical Sciences option. Not all of these options are available at all locations, and there are minor distinctions of the core curriculum at some 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.

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

TWO-YEAR PREPROFESSIONAL PREPARATION: The first two years of the Science major (62 credits) can meet the pre professional 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. (24 credits) The University's General Education requirements in the areas of Writing and Speaking (9), Health and Physical Activity (3), Arts (6), Humanities (6). The University's General Education requirements in the areas of Quantification, Natural Sciences, and Social and Behavioral Sciences will be satisfied by course work listed under headings "c" and "f".)
 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. (52-57 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(4); 3-4 credits from STAT 200 GQ(4), or STAT 250 GQ(3) or STAT 301(3) or STAT 401(3); 8-12 credits from 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); 3 additional life science credits 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 nine 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. (10 credits) ECON 102 GS(3), ECON 104 GS(3), ACCTG 211(4)
 7. (4-23 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).

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)**PRESCRIBED COURSES (20 credits)**

CHEM 110 GN(3)[1], CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4)[1], MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4)[1] (Sem: 1-4)

REQUIREMENTS FOR THE OPTIONS: 74 credits**GENERAL SCIENCE OPTION: (74 credits)****ADDITIONAL COURSES (15-20 credits)**

Select 4 credits from BIOL 129 GN(4), BIOL 220W(4), BIOL 230W(4), BIOL 240W(4) or BIOL 141 GN(3) and BIOL 142(1) (Sem: 3-4)

Select 3-4 credits from STAT 200 GQ(4), or STAT 250 GQ(3) or STAT 301(3) or STAT 401(3) (Sem: 3-4)

Select 8-12 credits from PHYS 211 GN(4)[1], PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)[1], PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (54-59 credits)

(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)

Select 21-26 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

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] at the 400 level[60] (Sem: 3-8)

Select 3 credits in Global, Social and Personal Awareness from department approved course list in consultation with adviser (Sem: 3-8)

Select 3 credits in Teamwork and Interpersonal Communication from department approved course list in consultation with adviser (Sem: 3-8)

Select 6 credits of 400-level courses (Sem: 5-8)

BIOLOGICAL SCIENCES AND HEALTH PROFESSIONS OPTION: (74 credits)**PRESCRIBED COURSES (3 credits)**

H P A 101(3) (Sem: 3-6)

ADDITIONAL COURSES (24-31 credits)

Select 4 credits from BIOL 129 GN(4), BIOL 220W(4), BIOL 230W(4), BIOL 240W(4) or BIOL 141 GN(3) and BIOL 142(1) (Sem: 3-4)

Select 3-4 credits from STAT 200 GQ(4), or STAT 250 GQ(3) or STAT 301(3) or STAT 401(3) (Sem: 3-4)

Select 6-8 credits from CHEM 210(3), CHEM 212(3), CHEM 213(2) or CHEM 202(3), CHEM

203(3) (Sem: 3-6)

Select 3 credits from B M B 211(3), B M B 251(3), MICRB 201(3), BIOL 222(3), or BIOL

322(3) (Sem: 3-6)

Select 8-12 credits from PHYS 211 GN(4)[1], PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)[1], PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (40-47 credits)

(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)

Select 15 credits from program list for Healthcare/ Medicine/Ethical Competencies; 6 credits must be at the 400-level (Sem: 3-8) Select from department approved course list in consultation with adviser.

Select 10-17 credits from program list (Students may apply 6 credits of ROTC. (Sem: 1-8)

Select 3 credits in Global, Social and Personal Awareness from department approved course list in consultation with adviser (Sem: 3-8)

Select 3 credits in Teamwork and Interpersonal Communication from department approved course list in consultation with adviser (Sem: 3-8)

Select 9 credits[1] of 400-level B M B, BIOL, BIOTC, or MICRB courses (Sem: 5-8)

LEGAL STUDIES, GOVERNMENT SERVICE, PUBLIC POLICY OPTION (74 credits)

ADDITIONAL COURSES (15-20 credits)

Select 4 credits from BIOL 129 GN(4), BIOL 220W(4), BIOL 230W(4), BIOL 240W(4) or BIOL 141 GN(3) and BIOL 142(1) (Sem: 3-4)

Select 3-4 credits from STAT 200 GQ(4), or STAT 250 GQ(3) or STAT 301(3) or STAT 401(3) (Sem: 3-4)

Select 8-12 credits from PHYS 211 GN(4)[1], PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)[1], PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (54-59 credits)

Select 12-17 credits from program list (Students may apply 6 credits of ROTC. (Sem: 1-8)

Select 18 credits in life, mathematical, or physical sciences, with at least 9 credits[1] at the 400 level[60] (Sem: 3-8)

Select 18 credits from program list for Legal Studies, Government Service, Public Policy; 6 credits must be at the 400-level (Sem: 3-8) Select from department approved course list in consultation with adviser.

Select 3 credits in Global, Social and Personal Awareness from department approved course list in consultation with adviser (Sem: 3-8)

Select 3 credits in Teamwork and Interpersonal Communication from department approved course list in consultation with adviser (Sem: 3-8)

LIFE SCIENCE OPTION: (74 credits)

ADDITIONAL COURSES (24-30 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)

Select 3 credits from B M B 211(3), B M B 251(3), or MICRB 201(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], PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)[1], PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (44-50 credits)

(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)

Select 23-29 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

Select 3 credits in Global Social and Personal Awareness

Select 3 credits in Teamwork and Interpersonal Communication

Select 6 credits of 400-level courses (Sem: 5-8)
Select 9 credits[1] of 400-level B M B, BIOL, BIOTC, or MICRB courses (Sem: 5-8)

MATHEMATICAL SCIENCE OPTION: (74 credits)

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

ADDITIONAL COURSES (24-29 credits)
Select 3 credits from B M B 211(3), B M B 251(3), or MICRB 201(3) (Sem: 3-4)
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], PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250
GN(4)[1], PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (39-45 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)

Select 18-24 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)
Select 9 credits[1] of 400-level CMPSC, CSE, MATH, or STAT courses (Sem: 5-8)
Select 6 credits of 400-level courses (Sem: 5-8)
Select 3 credits in Global, Social & Personal Awareness
Select 3 credits in Teamwork & Interpersonal Communication

PHYSICAL SCIENCE OPTION: (74 credits)

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

ADDITIONAL COURSES (16-18 credits)
Select 3 credits from B M B 211(3), B M B 251(3), or MICRB 201(3) (Sem: 3-4)
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 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 (41-43 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)

Select 20-22 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

Select 6 credits of 400-level courses (Sem: 5-8)
Select 9 credits[1] of 400-level ASTRO, CHEM, or PHYS courses (Sem: 5-8)
Select 3 credits in Global, Social & Personal Awareness
Select 3 credits in Teamwork & Interpersonal Communication

[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: Fall Semester 2016

Blue Sheet Item #: 45-01-001

Review Date: 08/23/2016

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

SC

Associate Degrees

Business Administration

Abington College (2BAAB)

Altoona College (2BAAL)

Berks College (2BABL)

Capital College (2BACA)

University College (2BACC): 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 an introductory foundation to core aspects of the business environment that prepares graduates for future baccalaureate study 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.

Students should work closely with academic advisers to schedule course work required to transition to baccalaureate business programs.

ENTRANCE REQUIREMENTS: Students must have a minimum 2.0 GPA to change to this Associate degree after admission to the University.

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.)

PRESCRIBED COURSES (13 credits)

CAS 100 GWS(3) (Sem: 2-4)

ACCTG 211(4), ENGL 202D GWS(3)[\[1\]](#), MIS 204(3) (Sem: 2-4)

ADDITIONAL COURSES (23-24 credits)

ENGL 15 GWS(3)[\[1\]](#) or ENGL 30 GWS(3)[\[1\]](#) (Sem: 1-2)

MATH 21 GQ(3), MATH 22 GQ(3), or MATH 110 GQ(4) (Sem: 1-2)

BA 243(4) or BA 241(2) and BA 242(2) (Sem: 1-4)
ECON 102 GS(3) or ECON 104 GS(3) (Sem: 1-4)
MGMT 301(3)[1] or MGMT 301W(3)[1] (Sem: 3-4)
MKTG 301(3)[1] or MKTG 301W(3)[1] (Sem: 3-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (12-13)

Select 12-13 credits from: BA 100(3); BA 250(3); BA 364(3); CAS 250(3) or CAS 252(3); CAS 352(3); MATH 22 GQ(3); MATH 110 GQ(4); ACCTG 300 to 399(3); ECON 100 to ECON 399(3); ENTR 100 to 399(3); FIN 100 to 399(3); HPA 100 to 399(3); IB 303 IL(3); LER 100 to 399(3); MGMT 100 to 399(3); MKTG 100 to 399(3); MIS 100 to 399(3); RM 100 to 399(3); or SCM 200 to 399(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.

Last Revised by the Department: Spring Semester 2017

Blue Sheet Item #: 45-04-001

Review Date: 1/10/17

UCA Revision #1: 8/9/06

UCA Revision #2: 7/26/07

UC

Electrical Engineering Technology

Penn State Erie, The Behrend College

University College: Penn State Fayette, Penn State York (2 EET)

PROFESSOR DAVID LOKER, *Program Coordinator, Penn State Erie, The Behrend College*

PROFESSOR ANDRZEJ GAPINSKI, *Program Coordinator, Penn State Fayette*

PROFESSOR MICHAEL MARCUS, *Program Coordinator, Penn State York*

PROFESSOR IVAN E. ESPARRAGOZA, *Director of Engineering Technology and Commonwealth Engineering, Penn State Brandywine*

PROFESSOR SVEN BILÉN, *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.

Program Educational Objectives

To produce graduates who, during the first few years of professional practice, will:

1. Demonstrate broad knowledge of electrical/electronics engineering technology practices to support design, application, installation, manufacturing, operation, and maintenance as required by their employer,
2. Apply basic mathematical and scientific principles for technical problem solving in areas which may include circuit analysis of both analog and digital electronics, microprocessors, programmable logic control, and electrical machines,
3. Utilize computers and software in a technical environment,

4. Demonstrate competence in written and oral communication,
5. Work effectively as an individual and as a member of a multidisciplinary team,
6. Show awareness of social concerns and ethical/professional responsibilities in the workplace, and
7. Matriculate into a baccalaureate degree and/or continue their professional training and adapt to changes in the workplace, through additional formal or informal education.

Program Outcomes (Student Outcomes)

Students should possess

- a) an ability to apply the knowledge, techniques, skills and modern tools of the disciplines to electrical engineering technology activities,
- b) an ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge,
- c) an ability to conduct standard tests and measurements, and to conduct, analyze and interpret experiments,
- d) an ability to function effectively as a member of a technical team,
- e) an ability to identify, analyze and solve narrowly defined engineering technology problems,
- f) an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature,
- g) an understanding of the need for and an ability to engage in self-directed continued professional development, including engineering standards,
- h) an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity,
- i) a commitment to quality, timeliness and continuous improvement.

In addition, 2EET graduates must demonstrate knowledge and hands-on competence appropriate to the objectives of the program in:

A. the application of circuit analysis and design, computer programming, associated software, analog and digital electronics, and microcomputers, and engineering standards to the building, testing, operation, and maintenance of electrical/electronic(s) systems; and

B. the application of natural sciences and mathematics at or above the level of algebra and trigonometry to the building, testing, operation, and maintenance of electrical/electronic systems.

Graduates of the Electrical Engineering Technology major may qualify for admission to the baccalaureate degree majors in Electrical Engineering Technology offered at Penn State Harrisburg, Capital College; the baccalaureate degree major in Electrical and Computer 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. Two baccalaureate tracks are available to streamline the transition to these degree programs. Students interested in pursuing the baccalaureate degree major of Electrical Engineering Technology at Penn State Harrisburg should follow track c. A general track is also provided for students who decide not to continue their engineering technology education at the baccalaureate level.

ENTRANCE REQUIREMENTS: Students must have a minimum 2.0 GPA to change to this Associate degree after admission to the University.

For the Associate in Engineering Technology degree in Electrical Engineering Technology, a minimum of 66 credits is required. This program is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org.

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

GENERAL EDUCATION: 21 credits

(12-15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See General Education description in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 57-62 credits

(This includes 12-15 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses, 0-3 credits of GH or GS)

PRESCRIBED COURSES (23 credits)

CMPET 117(3)[1], CMPET 120(1)[1] (Sem: 1-2)
CAS 100 GWS(3), CMPET 211(3), EE_T 114(4)[1], EE_T 118(1)[1], EET 212(4), EET 214(3), EET 215(1) (Sem: 3-4)

ADDITIONAL COURSES (34-39 credits)

ENGL 015 GWS(3); ENGL 030 GWS(3) (Sem: 1-2)
MATH 022 GQ(3)[2] and MATH 026 GQ(3)[2]; or MATH 040 GQ(5)[2]; or MATH 081 GQ(3)[2] and MATH 082 GQ(3)[2] (Sem: 1-2)
PHYS 150 GN(3); PHYS 211 GN(4); PHYS 250 GN(4) (Sem:3-4)

Select at least 22-26 credits from one of the following three tracks: a. General Track, b. Baccalaureate Electrical and Computer Engineering Technology (ECET) Track or c. Baccalaureate Electro-Mechanical Engineering Technology (EMET) Track.

a. General Track:

(This includes 3 credits of General Education courses: 3 credits of GH or GS)
EDSGN 100(3); EET 105(3), IET 101(3), MCHT 111(3) (Sem: 1-2)
EET 275(3); EMET 230(3) (Sem: 3-4)
PHYS 151 GN(3); PHYS 212 GN(4); PHYS 251 GN(4); CHEM 110 GN(3), CHEM 111 GN(1) (Sem: 3-4)
STS 200 GS(3); STS 233/PHIL 233 GH(3); STS 245 GS;IL(3) (Sem: 3-4)
Select 3-4 credits in consultation with your adviser from the approved program list. (Sem: 3-4)

b. Baccalaureate Electrical and Computer Engineering Technology (ECET) Track:

CMPET 005(1), EET 002(1), EET 101(3), EET 109(1) (Sem: 1-2)
CHEM 110 GN(3), CHEM 111 GN(1), EET 275(3), EGT 119(2) (Sem: 3-4)
MATH 083 GQ(4) or MATH 140 GQ(4) (Sem: 3-4)
Select 3 credits of General Education natural science GN or MATH 210 GQ(3) (Sem: 3-4)

c. Baccalaureate Electro-Mechanical Engineering Technology (EMET) Track [3]:

((This includes 3 credits of General Education courses: 3 credits of GH or GS)
EDSGN 100(3); EET 105(3), IET 101(3), MCHT 111(3) (Sem: 1-2)
EET 275(3); EMET 230(3) (Sem: 3-4)
MATH 083 GQ(4) or MATH 140 GQ(4) (Sem: 3-4)
PHYS 151 GN(3); PHYS 212 GN(4); PHYS 251 GN(4); CHEM 110 GN(3), CHEM 111 GN(1) (Sem: 3-4)
STS 200 GS(3); STS 233/PHIL 233 GH(3); STS 245 GS;IL(3) (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.

[2] A student planning to re-enroll into the baccalaureate degree major of Electro-Mechanical Engineering Technology (EMET), after graduation from the 2 EET program, must receive a grade of C or better in order to meet requirements of the EMET degree.

[3] A student planning to re-enroll into the baccalaureate degree major of Electrical Engineering Technology at Penn State Harrisburg, after graduation from the 2 EET program, should follow Track c. They should select MATH 140 GQ(4) instead of MATH 083 GQ(4).

Last Revised by the Department: Spring Semester 2017

Blue Sheet Item #: 45-04-048B

Review Date: 1/10/2017

UCA Revision #1: 8/3/06

UCA Revision #2: 7/27/07

Comments

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): offered 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.

For more information, contact 119 Health and Human Development Building, University Park campus.

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.

ENTRANCE REQUIREMENTS: Students must have a minimum 2.0 GPA to change to this Associate degree after admission to the University.

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), HDFS 129 GS(3)[1], HDFS 301(3)[1], PSYCH 100 GS(3)
(Sem: 1-2)
HDFS 395(6) (Sem: 3-4)

ADDITIONAL COURSES (9-10 credits)
EDPSY 101 GQ(3)[1], STAT 100 GQ(3)[1], or STAT 200 GQ(4)[1] (Sem: 1-2)
HDFS 315 US(3)[1] or SOC 030 GS(3) (Sem: 3-4)
BIOL 141 GN(3), BIOL 155 GN(3), or BISC 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)
HDFS 249 GS(3)[1], HDFS 311(3)[1] (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)
HDFS 229 GS(3)[1], HDFS 239 GS(3)[1], HDFS 311(3)[1] (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)

HDFS 229 GS(3)[1], HDFS 230(3)[1], HDFS 231(3)[1], HDFS 311(3)[1] (Sem: 1-2)

HDFS 232(3)[1], HDFS 233(3)[1], HDFS 234(3)[1], HDFS 330(3)[1] (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 2017

Blue Sheet Item #: 45-04-013B

Review Date: 1/10/17

UCA Revision #1: 8/8/06

HH

Information Sciences and Technology

Berks College (2ISBL)

Continuing Education, University Park (2 IST)

University College: Penn State DuBois, Penn State Great Allegheny, Penn State Hazleton, Penn State Lehigh Valley, Penn State Mont Alto, Penn State New Kensington, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York (2ISCC)

World Campus

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

PROFESSOR MARY BETH ROSSON, Associate Dean for Graduate and Undergraduate Studies

This associate degree major is structured to prepare graduates for immediate and continuing employment opportunities in the broad disciplines of information science and technology. This includes positions such as application programmers, associate systems designers, network managers, Web designers and administrators, or information systems support specialists. Specifically, the major is designed to ensure a thorough knowledge of information systems and includes extensive practice using contemporary technologies in the creation, organization, storage, analysis, evaluation, communication, and transmission of information. The major fosters communications, interpersonal, and group interaction skills through appropriate collaborative and active learning projects and experiences. Technical material covers the structure of database systems, Web and multi-media systems, and considerations in the design of information systems. Team projects in most courses, a required internship, and a second-year capstone experience provide additional, focused venues for involving students in the cutting-edge issues and technologies in the field.

The Associate of Science in IST degree will be offered at multiple campuses within the Penn State system of colleges and campuses. Note that not all options will be available at all locations.

Baccalaureate Option: This option provides maximum articulation with the baccalaureate degree. Students who complete this option will meet all lower division requirements for the baccalaureate degree. This is not the case with the remaining options, although the degree of articulation is quite high for all associate degree options.

Generalized Business Option: This option enables students to specialize in the general business areas of accounting, marketing, and management.

Individualized Option: This option enables students to work closely with an adviser to develop a plan of study that meets the dual objectives of allowing a flexible academic program and providing breadth of technical specialization. An example would be a program where a student would take some of the courses listed in the Web Administration option and the remainder in the Software option.

Software Option: This option prepares graduates for entry-level programming support positions in industry. Students take courses in Web programming, database programming, and other contemporary programming environments.

Networking Option: This option prepares graduates for positions as entry-level computer network administrators. Students take courses in personal computer hardware, networking essentials, and network administration.

Telecommunications Option: This option prepares graduates for entry-level positions in the telecommunications industry. Students take courses in voice and data communications, protocols, networks, and wireless systems.

ENTRANCE REQUIREMENTS: Students must have a minimum 2.0 GPA to change to this Associate degree after admission to the University.

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

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

GENERAL EDUCATION: 21 credits
(9-12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See the description of General Education in this bulletin.)

ELECTIVES: 4-7 credits

REQUIREMENTS FOR THE MAJOR: 44-46 credits
(This includes 9-12 credits of General Education courses, i.e., ALL options: 3 credits of GQ courses; 6 credits of GWS courses. The Baccalaureate Option also includes 3 credits of GS courses to equal a total of 12 credits that double count; the General Business Option also includes 0-3 credits of GS courses to equal 9-12 credits that double count.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 29 credits

PRESCRIBED COURSES (25 credits)

CMPSC 101 GQ(3)[1] (Sem: 1-2)

CAS 100B GWS(3), IST 110 GS(3)[1], IST 111S(1)[1], IST 210(3)[1], IST 220(3)[1], IST 250(3)[1], ENGL 015 GWS(3) (Sem: 1-2)

IST 260(3)[1] (Sem: 3-4)

ADDITIONAL COURSES (4 credits)

ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 3-4)

IST 295A(1)[1] or IST 295B(1)[1] (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 15-17 credits

BACCALAUREATE OPTION: (17 credits)

PRESCRIBED COURSES (13 credits)

IST 230(3)[1] and IST 240(3)[1] (Sem: 3-4)

ECON 102 GS(3) (Sem: 3-4)

STAT 200 GQ(4) (Sem: 3-4)

ADDITIONAL COURSES (4 credits)

MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)

GENERALIZED BUSINESS OPTION: (15-16 credits)

ADDITIONAL COURSES (15-16 credits)

Select 15 credits in consultation with the adviser from the following list: (Sem:1-4)

ACCTG 151(3), ACCTG 152(3), ACCTG 153(3), ACCTG 160(3), ACCTG 170(3), ACCTG 211(4), BA 250(3), MKTG 220(3), MKTG 221(3), MKTG 310(3), MKTG 327(3), MGMT 100(3), MGMT 150(3), MGMT 321(3), MGMT 341(3)

ECON 102 GS(3), ECON 104 GS(3), or ECON 014 GS(3)

MATH 017 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), or MATH 026 GQ(3)

INDIVIDUALIZED OPTION: (15 credits)

SUPPORTING COURSES AND RELATED AREAS (15 credits)

Select 15 credits in consultation with an adviser that follow a coherent theme in information sciences and technology with a grade of C or better required for all IST[1] courses. (Sem: 1-4)

SOFTWARE OPTION: (15 credits)

PRESCRIBED COURSES (12 credits)

CMPSC 302(3) (Sem: 2-4)

IST 211(3)[1], IST 247(3)[1], and IST 256(3)[1] (Sem: 3-4)

ADDITIONAL COURSES (3 credits)

MATH 017 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), or MATH 026 GQ(3) (Sem: 1-2)

NETWORKING OPTION: (15 credits)

PRESCRIBED COURSES (12 credits)

IST 225(3)[1], IST 226(3)[1], IST 227(3)[1], and IST 228(3)[1] (Sem: 3-4)

ADDITIONAL COURSES (3 credits)

MATH 017 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), or MATH 026 GQ(3) (Sem: 1-2)

TELECOMMUNICATIONS OPTION: (15 credits)

PRESCRIBED COURSES (12 credits)

IST 221(3)[1], IST 222(3)[1], IST 223(3)[1], and IST 224(3)[1] (Sem: 3-4)

ADDITIONAL COURSES (3 credits)

MATH 017 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), or MATH 026 GQ(3) (Sem: 1-2)

[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 2017

Blue Sheet Item #: 45-04-069A

Review Date: 1/10/2017

Mechanical Engineering Technology

Penn State Erie, The Behrend College

University College: Penn State DuBois, Penn State York (2 MET)

PROFESSOR SVEN BILÉN, Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park

PROFESSOR IVAN ESPARRAGOZA, Director of Engineering Technology and Commonwealth Engineering, Penn State University Park

PROFESSOR FREDRICK NITTERRIGHT, Program Coordinator, Penn State Erie, The Behrend College

PROFESSOR DOUGLAS MILLER, Program Coordinator, Penn State DuBois

PROFESSOR MARSHALL COYLE, Program Coordinator, Penn State York

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.

PROGRAM EDUCATIONAL OBJECTIVES

Graduates of the Associate Degree in Mechanical Engineering Technology program will:

Practice in the areas of applied design, manufacturing, testing, evaluation, technical sales, or 2D and 3D modeling.

Communicate effectively and work collaboratively in multi-disciplinary teams.

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.

STUDENT OUTCOMES

To support the achievement of educational objectives, the following student outcomes were established for the 2MET program. Students graduating from the 2MET program will:

1. Be able to apply the knowledge, techniques, skills, and modern tools of mechanical engineering technology to narrowly defined mechanical engineering technology activities.
2. Be able to apply a knowledge of mathematics, science, engineering and technology to mechanical engineering technology problems that require limited application of principles but extensive practical knowledge.

3. Be able to conduct standard tests and measurements, and to conduct , analyze, and interpret experiments.
4. Be able to function effectively as a member of a technical team.
5. Be able to identify, analyze, and solve narrowly defined engineering technology problems.
6. Be able to communicate effectively regarding narrowly defined mechanical engineering technology activities.
7. Be able to recognize the need for and an ability to engage in self-directed continuing professional development.
8. Demonstrate an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity.
9. Demonstrate a commitment to quality, timeliness, and continuous improvement.

Additional Program Specific criteria for 2MET

A. The application of applied mechanics, computer-aided drafting/design, experimental techniques/procedures to the fabrication, test, operation, or documentation of basic mechanical systems

B. The application of physics or chemistry to mechanical systems in a rigorous mathematical environment at or above the level of algebra and trigonometry.

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. Two tracks are available to streamline the transition to these baccalaureate degree programs. A general track is provided for students who do not plan to continue their engineering technology education at the baccalaureate level.

ENTRANCE REQUIREMENTS: Students must have a minimum 2.0 GPA to change to this Associate degree after admission to the University.

For the Associate in Engineering Technology degree in Mechanical Engineering Technology, a minimum of 65 credits is required. This program is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org.

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

GENERAL EDUCATION: 21 credits

(12-15 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: 54-64 credits

(This includes 12-15 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses, 0-3 credits of GH or GS.) A First-Year Seminar is required for students at Penn State Behrend.

PRESCRIBED COURSES (23 credits)

CAS 100 GWS(3), IET 101(3)[1], MCHT 111(3)[1] (Sem: 1-2)
IET 215(2), IET 216(2), MCHT 213(3), MCHT 214(1)[2], MET 206(3)[1], MET 210(3), (Sem: 3-4)

ADDITIONAL COURSES (31-41 credits)

ENGL 015 GWS(3); ENGL 030 GWS(3) (Sem: 1-2)

MATH 022 GQ(3), MATH 026 GQ(3); MATH 040 GQ(5)[2][3]; MATH 081 GQ(3)[2][3], MATH 082 GQ(3)[2][3](Sem: 1-2)

PHYS 150 GN(3); PHYS 211 GN(4); PHYS 250 GN(4) (Sem: 1-2)

PHYS 151 GN(3); PHYS 212 GN(4); PHYS 251 GN(4) (Sem: 1-2)

Select at least 19-24 credits from one of the following three tracks: a. General Track, b. Baccalaureate Electro-Mechanical Engineering Technology (EMET) Track, or c. Baccalaureate Mechanical Engineering Technology (METBD or M E T) Track.

a) General Track

EDSGN 100(3), EET 105(3), MET 107(3) (Sem: 1-2)

EDSGN 110(2); EGT 114(2) (Sem: 1-2)

STS 200 GS(3); STS 233 GH(3); STS 245 GS;IL(3) (Sem: 3-4)

Select at least 6 credits from the approved supporting course list for Track a.

b) Baccalaureate Electro-Mechanical Engineering Technology (EMET) Track

CMPET 117(3)[2], CMPET 120(1)[2], EDSGN 100(3), EET 105(3) (Sem: 1-2)

EDSGN 110(2); EGT 114(2) (Sem: 1-2)

EET 114(4)[2], EET 118(1)[2] (Sem: 3-4)

MATH 083 GQ(4)[2][3] or MATH 140 GQ(4)[2][3] (Sem: 3-4)

STS 200 GS(3); STS 233/PHIL 233 GH(3); STS 245 GS;IL(3) (Sem: 3-4)

c) Baccalaureate Mechanical Engineering Technology (METBD or M E T) Track

EGT 120(3), EGT 121(3), MET 107(3) (Sem: 1-2)

EET 100(3) (Sem: 3-4)

Select 1 credit of First-Year Seminar (Sem: 1-2)

Select 6 credits from the approved supporting course list for Track c (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.

[2] Students pursuing the baccalaureate track must take MATH 022 and MATH 026

[3] Students who choose to take MATH 081 and MATH 082 must select MATH 083.

Students who choose to take MATH 022 and MATH 026 must select MATH 140.

Last Revised by the Department: Spring Semester 2017

Blue Sheet Item #: 45-04-048C

Review Date: 1/10/2017

UCA Revision #1: 8/3/06

UCA Revision #2: 7/30/07

Comments

EN

Minors

Biology Minor (BIOL)

Contacts: Altoona College, Edward Levri, epi1@psu.edu; Eberly College of Science, Barbara DeHart, bzd2@psu.edu; Penn State Abington, Eric Ingersoll, epi1@psu.edu; Penn State Berks, Maureen Dunbar, med18@psu.edu; Penn State York, Dr. Anne Vardo-Zalik, amv12@psu.edu

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: 5-8)

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

Business Minor

Penn State Abington, Dr. Feng Zhang, fzz34@psu.edu
University College via World Campus, Lehigh Valley

Contacts: Business Minor Contact at campuses offering the BSB major or University College at: sah43@psu.edu; Lehigh Valley - Maung Min

The Business minor is a strong complement to virtually any major. Courses prescribed for

the minor are taught by Penn State faculty providing courses to the B.S. in Business and the A.S. in Business Administration. It provides students with the opportunity to develop and apply skills appropriate to the business contexts of their chosen majors. Students pursuing the Business minor must complete thirteen credits of prescribed course work and six credits of additional course work. A grade of C or better is required for all courses in the minor. The prescribed thirteen credits of coursework presents students with a critical foundation of core business disciplines: accounting, management, marketing, and either macro- or micro-economics. The six credits of additional coursework must be taken at the 400-level.

The additional coursework enables students to expand on the core foundation in one of two ways. They may choose to solidify their business knowledge base by exploring six credits of 400-level business courses in the following disciplines: Accounting; Business Administration; Business Law; Energy Business and Finance; Economics; Entrepreneurship; Finance; Financial Services; Health Policy and Administration; International Business; Labor Studies and Employment Relations; Management Information Systems; Management; Marketing; Risk Management; Supply Chain Management; or Statistics. Alternately, students can augment three credits of 400-level coursework in one of the above listed business disciplines with three credits of 400-level work from an approved list of specific business-related course in disciplines such as Communication Arts and Sciences; Corporate Communication; Communications; Criminal Justice; Engineering; English; Human Development and Family Studies; History; Hospitality Management; Information Sciences and Technology; Kinesiology; Philosophy; Political Science; Psychology; Recreation, Park and Tourism Management; or Sociology.

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

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES: (10 credits)

ACCTG 211(4) (Sem: 1-5)

MGMT 301(3), MKTG 301(3) (Sem: 5-8)

ADDITIONAL COURSES: (3 credits)

Select 3 credits from ECON 102 GS(3) or ECON 104 GS(3) (Sem: 1-5)

SUPPORTING COURSES AND RELATED AREAS: (6 credits)

Select 3-6 credits at the 400 level from:

ACCTG, BA, BLAW, EBF, ECON, ENTR, FIN, FINSV, HPA, IB, LER, MIS, MGMT, MKTG, RM, SCM, or STAT (Sem: 5-8)

Select 0-3 credits at the 400-level from:

CAS 404(3), CAS 452(3), CAS 483(3), CC 401(3), CC 403(3), COMM 421W(3), COMM 427(3), COMM 471(3), CRIMJ 408(3), CRIMJ/SOC 467(3), ENGL 419(3), ENGL 420(3), ENGR 425(3), HDFS 401(3), HDFS 424(3), HDFS 425(3), HDFS 455(3), HIST 458(3), HM 435(3), HM 471(3), HM 484(3), IST 402(3), IST 420(3), IST 425(3), IST 431(3), IST 432(3), IST 461(3), KINES 438(3), KINES 492(3), PHIL 406(3), PLSC 440 US;IL(3), PSYCH 404(3), PSYCH 408(3), PSYCH 423(3), PSYCH 482(3), PSYCH 484(3), PSYCH 485(3), RPTM 410(3), RPTM 415(3), RPTM 470(3), SOC 455(3), SOC 456(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2014

Blue Sheet Item #: 43-03-174

Review Date: 11/18/2014

UCA Revision #1: 8/3/06

Comments

Communication Arts and Sciences Minor (CAS)

Contact: Penn State Abington, Roy Robson, rrr5237@psu.edu; College of the Liberal Arts, Peter Miraldi, pnm10@psu.edu; Penn State York, Dr. Deborah Eicher-Catt, dle4@psu.edu

This minor provides understanding and practice in the ways humans achieve their personal and career goals by means of communication. Students may choose any of the department's pathways of specialization, such as Interpersonal, Family, Intercultural, Organizational, Legal, Political Communication and Presentation Skills, Communication and Technology, or Rhetoric. For example, Legal Communication focuses on communication within the legal system, and provides students with the theory and skills to understand the uses, evaluation, and structure of public policy and legal disputes. Students learn how perception, meaning, and conflict function in human communication if they choose to specialize in Interpersonal Communication, while Organizational Communication critically examines leadership, decision-making, interviewing, and teamwork in formal organizations. In coordination with an adviser, a student of any major may tailor this minor to complement his or her educational and career goals by pursuing a particular pathway.

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 (6 credits)

Select 3 credits from CAS 203(3), CAS 205(3), CAS 211(3), CAS 213(3), CAS 214(3), CAS 215(3), CAS 250(3), CAS 252(3), CAS 271 US;IL(3), CAS 280(3), or CAS 283(3) (Sem: 3-6)
Select 3 credits from CAS 200(3), CAS 201 GH(3), or CAS 202(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)

Select 6 credits of Communication Arts and Sciences courses (Sem: 1-8)

Select 6 credits of Communication Arts and Sciences courses at the 400 level (Sem: 1-8)

Note: CAS 100 GWS(3), CAS 126(3), or CAS 195(1) may not be counted as part of the minor.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-104

Review Date: 2/25/05

LA

English Minor (ENGL)

University Park, College of the Liberal Arts (ENGL)

Contact: Abington College, Ellen Knodt, eak1@psu.edu; Altoona College, Erin Murphy, ecm14@psu.edu; Capital College, Jennifer Hirt, jlh73@psu.edu; Penn State Brandywine, Adam Sorkin, ajs2@psu.edu; Penn State Fayette, Danielle Mitchell, dmm52@psu.edu;

Penn State Greater Allegheny, James Jaap, jaj15@psu.edu; Penn State Mont Alto, Kevin Boon, kab25@psu.edu; Penn State Wilkes-Barre, Steven Putzel, sdp4@psu.edu; College of the Liberal Arts, Elizabeth Brown, eaf4@psu.edu; Penn State York, Dr. Jennifer Nesbitt, jpn12@psu.edu

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

For the minor in English a minimum of 18 credits are required.

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 200-299 (Sem: 3-8)

Select 6 credits from ENGL 400-499 (Sem: 3-8)

Select 6 additional credits in English (Sem: 3-8)

Last Revised by the Department: Fall Semester 2015

Blue Sheet # 44-03-073

Review Date: 11/17/15

Human Development and Family Studies Minor (HD FS)

Contact: Abington College, Michael Bernstein, mjb70@psu.edu; Altoona College, Margaret Benson, enz@psu.edu; Penn State Harrisburg, Barbara Carl, bec109@psu.edu; College of Health and Human Development, Devon M. Thomas, dmc233@psu.edu; Penn State York, Dr. JeanMarie St. Clair-Christman, jxs176@psu.edu

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)

HDFS 129 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)

Select 9 credits of HDFS courses (Sem: 1-6)

Select 6 credits of 400-level HDFS courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Theatre Minor

Penn State Berks - James Brown, jnb20@psu.edu

Penn State Harrisburg - Maria Enriquez, mse19@psu.edu

University College, Penn State Schuylkill, Penn State York
University Park, College of Arts and Architecture (THEA)

The Theatre minor is designed to be an enhancement to a major area of study and/or personal enrichment. The minor should be particularly attractive to students in the humanities (English), communication (Film, Journalism), and the arts (Music, Architecture). The minor may also be attractive to students who need to demonstrate a wide range of interests.

The Theatre minor requirements total 18 credits. Theatre 100 GA;US;IL, a required course in the minor, is an experiential survey of all aspects of the living theatre, as presented by a resident company of theatre artists. Theatre 410, an advanced script analysis course, is also required. Students choose one course from the approved list of theatre history courses and one course from the approved list of design/technical courses. These supporting courses place the literature and aesthetic in historical, social, and political perspective. Students elect 6 theatre credits as additional courses. Typical supporting courses include: Theatre 102 GA, fundamentals of acting; THEA 208 GA;US;IL, Workshop: Theatre in Diverse Cultures; and advanced design or theatre history classes.

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)

THEA 410(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)

THEA 100 GA;US;IL(3) or THEA 105 GA(3) (Sem: 1-2)

Select 3 credits from THEA 130(3), THEA 131(3), or THEA 150(3) (Sem: 1-4)

Select 3 credits from THEA 401 IL(3), THEA 405 US(3), THEA 408 US(3), THEA 412 US(3), THEA 454(3), THEA 464(3), or THEA 465(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (6 credits)

Select 6 credits of THEA courses (Sem: 3-8)

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-04-018

Review Date: 5/2/07

AA

Women's Studies Minor (WMNST)

Contacts: Abington College, Roy Robson, rrr5237@psu.edu; Altoona College, Le Ann De Reus, lad12@psu.edu; Penn State Behrend College, Dr. Sarah Whitney, sew17@psu.edu; Berks College, Lauren Jade Martin, ljm37@psu.edu; Penn State Brandywine, Phyllis Cole, pbc2@psu.edu; Penn State DuBois, Jacquelyn Atkins, jka1@psu.edu; Penn State Harrisburg, Katie Robinson, kdr12@psu.edu; Penn State Mont Alto, Alice Royer, axr24@psu.edu; College of the Liberal Arts, Mindy Boffemmyer, mub21@psu.edu; Penn State York, Dr. Deborah Eicher-Catt, dle4@psu.edu

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 GH(3) (Sem: 1-4)

ADDITIONAL COURSES (3 credits)

WMNST 100 GS;US;IL(3) or WMNST 106 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

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This is the official bulletin of The Pennsylvania State University. Programmatic expectations for General Education are those in effect at the time of admission to degree candidacy, and college and major requirements are those in effect at the time of entry to college and major. These are accurately indicated in each student's degree audit.

The University reserves the right to change the requirements and regulations listed here and to determine whether a student has satisfactorily met its requirements for admission or graduation, and to reject any applicant for any reason the University determines to be material to the applicant's qualifications to pursue higher education. Nothing in this material should be considered a guarantee that completion of a program and graduation from the University will result in employment.

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