



# University Bulletin

## Undergraduate Degree Programs

### Primary Navigation

#### **Penn State Wilkes-Barre**

Penn State Wilkes-Barre, about 13 miles west of the city of Wilkes-Barre, is on park-like acreage with buildings including Hayfield House, the Student Commons, the Athletics and Recreation Building, the Science Center, the Center for Technology, and the Nesbitt Library. The Penn State Wilkes-Barre Northern Tier Center in Bradford County is the Continuing Education center for the campus that serves the primarily rural Bradford and Sullivan Counties.

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.

Penn State Wilkes-Barre 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 Wilkes-Barre and move on to the University Park campus or other appropriate Penn State campus in order to complete their degree. 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/semplans.htm>. Questions concerning the Recommended Academic Plans should be directed to the college or campus involved or the Division of Undergraduate Studies.

### **Baccalaureate Degrees**

# Administration of Justice

*University College (AJACC): Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Schuylkill, Penn State Wilkes-Barre*

The Bachelor of Arts degree in Administration of Justice provides students with a broadly based liberal education focused on the understanding and analysis of justice systems. Having grappled with the many dilemmas and controversies presented by the problems of administering justice in a complex society, graduates of this program are given the background to be educated, thoughtful, and intelligent citizens.

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

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

**GENERAL EDUCATION:** 45 credits

(4-7 credits 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 ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

**ELECTIVES:** 11-15 credits

**BACHELOR OF ARTS DEGREE REQUIREMENTS:** 24 credits

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

(See description of Bachelor of Arts Degree Requirements in this bulletin.)

**REQUIREMENTS FOR THE MAJOR:** 43-44 credits<sup>[1]</sup>

(This includes 4-7 credits of General Education courses; 0-3 credits of GH courses; 4 credits of GQ courses.)

**PRESCRIBED COURSES** (13 credits)

CRIMJ 012 GS(3), CRIMJ 100(3), CRIMJ 221(3), STAT 200 GQ(4) (Sem: 3-4)

**ADDITIONAL COURSES** (24-25 credits)

Select 3-4 credits in values and ethics from BA 243(4), or BA 241(2) and BA 242(2), CRIMJ 465(3), PHIL 003 GH(3), PHIL 103 GH(3), PHIL 105 GH(3), PHIL 106 GH(3), or PHIL/STS 107 GH(3), STS 100 GH(3), STS 101 GH(3) or STS/PHIL 107 GH(3) (Sem: 5-6)

Select 3 credits from CRIM J 451 US(3) or CRIM J 453 US(3) (Sem: 5-8)

Select 18 credits in CRIMJ, with at least 9 credits in the 400 level from: CRIMJ 013 GS(3), CRIMJ 083 GS(3), CRIMJ 113 US(3), CRIMJ 200(3), CRIMJ 201(3), CRIMJ 210(3), CRIMJ 220(3), CRIMJ 230(3), CRIMJ 234(3), CRIMJ 241(3), CRIMJ 296(1-18), CRIMJ 297(1-9), CRIMJ 300(3), CRIMJ 301(3), CRIMJ 302(3), CRIMJ 304(3), CRIMJ 310(3), CRIMJ 311(3), CRIMJ 345(3), CRIMJ 389(3), CRIMJ 406(3), CRIMJ 407(3), CRIMJ 408(3), CRIMJ 410(3), CRIMJ 412(3), CRIMJ 413(3), CRIMJ 414(3), CRIMJ 415(3), CRIMJ 420(3), CRIMJ 421(3), CRIMJ 422(3), CRIMJ 423(3), CRIMJ 424(3), CRIMJ 425(3), CRIMJ 426(3), CRIMJ 430(3), CRIMJ 431(3), CRIMJ 432(3), CRIMJ 435(3), CRIMJ 439(3), CRIMJ 441(3), CRIMJ 450(3),

CRIMJ 460(3), CRIMJ 462(3), CRIMJ 467(3), CRIMJ 469(3), CRIMJ 471(3), CRIMJ 473(3), CRIMJ 482(3), CRIMJ 489(3), CRIMJ 497(3), CRIMJ 497A(3) (Sem: 5-8)

**SUPPORTING COURSES AND RELATED AREAS** (6 credits)

Select 6 credits, in consultation with adviser, from University-wide offerings according to student's career plan (Sem: 5-8)

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

Last Revised by the Department: Fall Semester 2011

Blue Sheet Item #: 40-04-099

Review Date: 01/10/2012

UCA Revision #2: 7/26/07

## Administration of Justice

*University College (AJSCC): Penn State Beaver, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre*

The Bachelor of Science degree is intended to prepare students for careers in the administration of justice. Two emphases are provided: (1) for students interested in entry-level employment in justice agencies; (2) for students interested in academic or research positions and who may seek graduate education before beginning employment.

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

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

**GENERAL EDUCATION:** 45 credits

(4-7 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 ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

**ELECTIVES:** 14-18 credits

**REQUIREMENTS FOR THE MAJOR:** 64-65 credits**[1]**

(This includes 4-7 credits of General Education courses; 0-3 credits of GH courses; 4 credits of GQ courses.)

**PRESCRIBED COURSES** (13 credits)

CRIMJ 012 GS(3), CRIMJ 100(3), CRIMJ 221(3), STAT 200 GQ(4) (Sem: 3-4)

**ADDITIONAL COURSES** (39-40 credits)

(Some of the courses in this category may have prerequisites that are not included in the major.)

Select 3-4 credits in values and ethics from BA 243(4) or BA 241(2) and BA 242(2), CRIMJ 465(3), PHIL 003 GH(3), PHIL 103 GH(3), PHIL 105 GH(3), PHIL 106 GH(3), or PHIL/STS 107 GH(3), STS 100 GH(3), STS 101 GH(3) or STS/PHIL 107 GH(3) (Sem: 5-6)

Select 3 credits from CRIMJ 451 US(3) or CRIMJ 453 US(3) (Sem: 5-8)

Select 18 credits in CRIMJ, with at least 9 credits in the 400 level from: CRIMJ 013 GS(3), CRIMJ 083 GS(3), CRIMJ 113 US(3), CRIMJ 200(3), CRIMJ 201(3), CRIMJ 210(3), CRIMJ 220(3), CRIMJ 230(3), CRIMJ 234(3), CRIMJ 241(3), CRIMJ 296(1-18), CRIMJ 297(1-9), CRIMJ 300(3), CRIMJ 301(3), CRIMJ 302(3), CRIMJ 304(3), CRIMJ 310(3), CRIMJ 311(3), CRIMJ 345(3), CRIMJ 389(3), CRIMJ 406(3), CRIMJ 407(3), CRIMJ 408(3), CRIMJ 410(3), CRIMJ 412(3), CRIMJ 413(3), CRIMJ 414(3), CRIMJ 415(3), CRIMJ 420(3), CRIMJ 421(3), CRIMJ 422(3), CRIMJ 423 US(3), CRIMJ 424(3), CRIMJ 425(3), CRIMJ 426(3), CRIMJ 430(3), CRIMJ 431(3), CRIMJ 432(3), CRIMJ 435(3), CRIMJ 439(3), CRIMJ 441(3), CRIMJ 450(3), CRIMJ 460(3), CRIMJ 462(3), CRIMJ 467(3), CRIMJ 469(3), CRIMJ 471(3), CRIMJ 473(3), CRIMJ 482(3), CRIMJ 489(3), CRIMJ 497(3) (Sem: 5-8)

Select 15 credits -- emphasis a or b:

a. Field Research emphasis: CRIMJ 240(4), CRIMJ 290(1-3), CRIMJ 494(5), CRIMJ 495(5) (Sem: 5-8)

b. Research and Policy Analysis emphasis: Select 15 credits, at least 6 at the 400 level from: AMST 491W(3-6), CRIMJ 424W(3), any CMPSC (3), ECON 104 GS(3), LER 100 GS(3), LST 370(3), PLSC 002(3), PLSC 419 US(3), PLSC 490(3), SOC 409 US(3), SOC 419(3), SOC 422(3), or SOC 423(3) (Sem: 5-8)

### **SUPPORTING COURSES AND RELATED AREAS (12 credits)**

Select 12 credits, in consultation with adviser, from University-wide offerings according to student's career plan (Sem: 5-8)

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

Last Revised by the Department: Fall Semester 2011

Blue Sheet Item #: 40-04-100

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UCA Revision #2: 7/26/07

## **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)[1], BA 322(3)[1], BA 420(1)[1], FIN 301(3)[1], MGMT 301(3)[1], MKTG 301(3)[1], SCM 301(3)[1] (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**

## **Corporate Communication**

*Abington College (CCBA)*

*University College: Penn State Fayette, Penn State Hazleton, Penn State Lehigh Valley, Penn State Schuylkill, Penn State Wilkes-Barre, Penn State Worthington Scranton (CCCC)*

*PROFESSOR Roy Robson, Head, Division of Arts and Humanities*

The Penn State Corporate Communication Bachelor of Arts (CCBA) program prepares students for various strategic communication roles inside and outside organizations. Graduates of the program hold titles such as public relations professional, social media strategist, speech and copywriter, political aide, marketing communication manager, organizational learning and development specialist, corporate recruiter, and event

planner. Graduates have earned advanced degrees in areas such as Business, Law, and Corporate Communication.

The CCBA program is interdisciplinary. While providing depth of study in Corporate Communication, it also includes mandatory Business courses and courses focusing on web based competencies such as writing for the web and digital design. With its overall emphasis on the human and design aspects of contemporary organizations, the program is particularly well-suited to individuals seeking to develop and apply their analytical, verbal, and creative talents. Such talents foster aptitudes in strategic counseling and integrative praxis that, in part, make a Corporate Communication degree unique and highly sought after in the marketplace.

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

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

**GENERAL EDUCATION:** 45 credits  
(3-9 of these 45 credits are included in REQUIREMENTS FOR THE MAJOR)  
(See description of General Education in this bulletin)

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

**UNITED STATES CULTURES AND INTERNATIONAL CULTURES:**  
(Included in ELECTIVES or GENERAL EDUCATION courses)

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

**ELECTIVES:** 5-9 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:** 51-52 credits<sup>[1]</sup>  
(This includes 3-9 credits of General Education courses; 3-6 credits of GS courses; 0-3 credits of GH courses.)

**PRESCRIBED COURSES** (27 credits)  
CAS 204(3), CC 200(3), COMM 100 GS(3) (Sem: 1-4)  
MGMT 301(3) (Sem: 3-4)  
MKTG 301(3) (Sem: 3-4)  
CC 401(3), CC 402(3), CC 490W(3), CC 495A(3) (Sem: 7-8)

**ADDITIONAL COURSES** (24-25 credits)  
Select 3 credits from: ECON 102 GS(3); ECON 104 GS(3) (Sem: 1-4)  
Select 3-4 credits from: B A 243(4); PHIL 103 GH(3); PHIL 106 GH(3); PHIL 123 GH(3) (Sem: 1-4)  
Select 3 credits from: ART 201(3); COMM 241(3); IST 110 GS(3) (Sem: 1-4)  
Select 3 credits from: CAS 250(3); CAS 252(3); CAS 352(3); ENGL 211(3) (Sem: 3-7)  
Select 3 credits from: CC 406(3); ENGL 420(3); ENGL 480(3) (Sem: 5-8)  
Select 6 credits from: CAS 403(3); CAS 404(3); CAS 455/WMNST 455 US(3); CAS 471 US;IL(3); MGMT 433(3); MKTG 310(3) (Sem: 5-8)  
Select 3 credits from: CC 404(3); CC 405(3); COMM 472(3) (Sem: 5-8)

**[1]** A student enrolled in this major must receive a grade of C or better, as specified in



Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2016

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UCA Revision #1: 8/3/06

AB

## Electrical Engineering Technology

*Capital College (E E T)*

*University College, Penn State Wilkes-Barre*

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

*AB SHAFAYE, Program Chair, School of Science, Engineering, and Technology*

The Bachelor of Science graduate with a major in Electrical Engineering Technology (E E T) is an engineering technologist who can bridge the gap between scientific advancement and practical electrical devices and systems. Research in all fields of electrical engineering has produced an abundance of new knowledge in recent years. Many of these advanced scientific achievements have been unused due to the shortage of engineering technologists specifically educated to convert scientific information into practical devices and systems.

The E E T major helps equip students with the various skills necessary to adapt new scientific knowledge to new products. Technical selections are offered in the senior year to provide some degree of specialization, but all graduates receive a well-rounded basic education in electrical and electronic design principles. The strengths of the program include: an applied hands-on program; extensive laboratory experience; promising job placement; and accreditation by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone 410-347-7700, Web at [www.abet.org](http://www.abet.org).

E E T graduates who wish to continue their professional development can take the Fundamentals of Engineering examination in Pennsylvania, a prerequisite for taking the Professional Engineering examination.

For a B.S. degree in Electrical Engineering Technology, a minimum of 128 credits is required.

### **Admission Requirements for Transfer Students:**

Applicants must have earned a high school diploma or equivalent and have attempted at least 18 semester credits at a regionally accredited college or university with at least a 2.0 cumulative grade-point average (4.0 scale). The evaluation of prior college work is done on an individual basis by the Office of Enrollment Services at Penn State Harrisburg.

### **Entry to Major Requirements:**

Entry to the Electrical Engineering Technology major requires a 2.00 or higher cumulative grade-point average.

**Re-enrollment:**

Associate degree students should file a re-enrollment form during the final semester of their associate degree. Students re-enrolling from an associate's degree into the bachelor's degree should run a degree audit from LionPATH, using the E E T major code, to determine their curriculum requirements. Similar considerations apply to students changing majors from programs in science or engineering.

Students are directed to <http://www.psu.edu/bulletins/bluebook/gened/> for an explanation of the Penn State General Education requirements.

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

**GENERAL EDUCATION:** 45 credits

(18 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)

**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:** 5-16 credits**REQUIREMENTS FOR THE MAJOR:** 85-96 credits

(This includes 18 credits of General Education courses: 3 credits of GWS courses; 9 credits of GN courses; 6 credits of GQ courses.)

**COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS):** 59-70 credits**PRESCRIBED COURSES** (27 credits)

CHEM 110 GN(3), CHEM 111 GN(1), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-6)

EET 312(4)[1], EET 331(4)[1], ENGL 202C GWS(3) (Sem: 5-6)

EET 419(1), EET 420(3)[1] (Sem: 7-8)

**ADDITIONAL COURSES** (32-43 credits)

Select 2\*-3 credits from: EGT 101(1) and EGT 102(1) or EDSGN 100(3) (Sem: 1-2)

Select 3 credits from: CMPSC 101 GQ(3), CMPSC 121 GQ(3) or CMPSC 201 GQ(3) (Sem: 1-5)

Select 6\*-8 credits from sequence a or b:

a.) PHYS 150 GN(3) and PHYS 151 GN(3) (Sem: 3-4)

b.) PHYS 211 GN(4) and PHYS 212 GN(4) (Sem: 1-4)

Select 3-4 credits from MATH 230(4), MATH 250(3), MATH 408(3), MATH 411(3), MATH 444(3), MATH 446(3), or STAT 200 GQ(4) (Sem: 5-6)

Select 5-8\* credits from course sequence a, b, or c:

a.) EET 114(4) and EET 311(4)[1] (Sem: 1-6)

b.) EE 210(4)[1] and EE 314(3)[1] (Sem: 3-6)

c.) EE 315(5)[1] (Sem: 5-6)

Select 4\* credits from: CMPEN 271(3) and CMPEN 275(1) or CMPET 117(3) and CMPET 120(1) (Sem: 1-4)

Select 3\*-4 credits from: CMPEH 472(4) or CMPET 211(3) (Sem: 3-6)

Select 3\*-4 credits from: EET 205(1) and EET 210(2) or EE 310(4) (Sem: 3-6)

Select 3-5\* credits from: EET 213W(5) or EE 485(3) (Sem: 3-6)

\*Courses required by PSU 2 EET programs

**REQUIREMENTS FOR THE OPTION:** 26 credits

**COMPUTER ENGINEERING TECHNOLOGY OPTION:** (26 credits)

**PRESCRIBED COURSES** (11 credits)

CMPEN 431(3) , CMPET 403(4), CMPET 401(3), CMPET 402(1) (Sem: 5-8)

**ADDITIONAL COURSES** (15 credits)

2nd Programming Elective: Select 3 credits from: CMPSC 305(3), CMPSC 402(3), CMPSC 422(3), CMPSC 122(3) (Sem: 7-8)

Applications Elective: Select 4 credits of technical electives from: CMPET 412(4), EET 423(4), EET 456(4) (Sem: 7-8)

CMPET Technical Electives: Select 8 credits from CMPEH 449(3), EE 341(3), EE 418(3), EE 453(3), EET 402(4), EET 408(4), EET 413(4), EET 414(4), EET 431(4), EET 433(4), EET 478(4), ET 496(1) (Sem: 7-8)

**GENERAL ELECTRICAL ENGINEERING TECHNOLOGY OPTION:** (26 credits)

**ADDITIONAL COURSES** (26 credits)

System Elective: Select 8 credits of technical electives from: EET 408(4), EET 409(4), EET 433(4) (Sem: 7-8)

Electronics Elective: Select 4 credits from: EET 402(4), EET 423(4), EET 431(4) (Sem: 7-8)

GEET Technical Electives: Select 8 credits of GEET technical electives from: CMPEH 449(3), CMPET 401(3), CMPET 402(1), CMPEN 431(3), EE 418(3), EE 453(3), EE 458(3), EET 401(4), CMPET 403(3), EET 410(4), CMPET 412(4), EET 413(4), EET 414(4), EET 456(4), EET 478(4), ET 496(1) (Sem: 7-8)

Select 6 credits from any previous elective list plus CMPSC 452(3), EMCH 211(3), EMCH 212(3), ME 201(3) (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: Summer Session 2007

Blue Sheet Item #: 35-06-217

Review Date: 2/20/08

UCA Revision #1: 8/3/06

UCA Revision #2: 7/27/07

CL

## 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

## **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
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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/degreerequirements/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

## Rehabilitation and Human Services

*Penn State Abington (RHSAB)*

*Penn State Berks (RHSBL)*

*University College: Penn State Hazleton, Penn State Lehigh Valley, Penn State Wilkes-Barre (RHSCC)*

*University Park, College of Education (RHS)*

PROFESSOR JAMES HERBERT, *Undergraduate Program Coordinator*

This major helps prepare students for entry-level positions in a variety of human service settings, particularly settings that provide services to persons with physical, emotional, or mental disabilities. Graduates pursue employment in a variety of settings including rehabilitation centers, drug and alcohol programs, senior citizens centers, community mental health programs, mental retardation programs, corrections systems, and hospitals. Increasing opportunities are available in private for-profit insurance programs for the industrially injured, and in employee assistance programs within business and industry. Well-planned use of electives and internships allows for specialization. The full-semester (15-credit) internship is provided under the supervision of professionals in human service agencies. These intensive "hands-on" experiences are frequently avenues for employment since the internship is completed during the senior year. Students may not go on internship until they have successfully completed all other course work.

Students are encouraged to participate in volunteer experiences that provide opportunities to work with people with disabilities. Students are encouraged to declare a minor in a related area and should be discussed with the student's adviser. The major also helps prepare students for graduate study in many human service professional disciplines such as rehabilitation counseling, school counseling, occupational therapy, physical therapy and social work.

Baccalaureate degree candidates must have a minimum 2.0 GPA to be admitted to the Rehabilitation and Human Services (RHS) major; thereafter, students must earn a C or better in all RHS required courses.

For the B.S. degree in Rehabilitation and Human Services, a minimum of 120 credits is required.

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

**GENERAL EDUCATION:** 45 credits

(12-14 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 or GENERAL EDUCATION course selection)

**WRITING ACROSS THE CURRICULUM:**

(Included in REQUIREMENTS FOR THE MAJOR)

**ELECTIVES:** 17-20 credits

**REQUIREMENTS FOR THE MAJOR:** 70-72 credits

(This includes 12-14 credits of General Education courses; 6 credits of GS courses; 3-4 credits of GQ courses; 3-4 credits of GN courses.)

**PRESCRIBED COURSES** (55 credits)

PSYCH 100 GS(3), RHS 100 GS;US(3) (Sem: 1-4)

PSYCH 270(3), SOC 1 GS(3), SOC 119(4) (Sem: 1-6)

RHS 300(3)[1], RHS 301(3)[1], RHS 302(3)[1], RHS 303(3)[1], RHS 400(3)[1], RHS 401(3)[1], RHS 402(3)[1], RHS 403(3)[1], RHS 495A(15) (Sem: 5-8)

**ADDITIONAL COURSES** (9-11 credits)

EDPSY 10 GS(3), HDFS 239 GS(3), or PSYCH 212 GS(3) (Sem: 1-2)

Select 3-4 credits from ANTH 21 GN(3), BISC 1 GN(3), BISC 2 GN(3), BISC 3 GN(3), BISC 4 GN(3), BIOL 133 GN(3), BIOL 110 GN(4), or BIOL 141 GN(3) (Sem: 1-6)

STAT 100 GQ(3) or STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-6)

**SUPPORTING AND RELATED COURSES** (6 credits)

Select 6 credits from CRIM, BBH, HDFS, KINES, PSYCH, or SOC (Sem: 3-8)

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

Last Revised by the Department: Spring Semester 2013

Blue Sheet Item #: 41-05-082

Review Date: 02/19/2013

UCA Revision #1: 9/1/06

PIC updated: 2/13/12

ED

## Surveying Engineering

*University College, Penn State Wilkes-Barre (SUR E)*

PROFESSOR FRANK DERBY, *Program Coordinator, Penn State Wilkes-Barre*

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 Surveying Engineering major provides a basic undergraduate education required for

private and public service in the profession of surveying. Particular emphasis is placed on fundamental surveying principles required in all areas of surveying. Instruction is provided in the main divisions of surveying, including land surveying, mapping, photogrammetry, data analysis and adjustment, geodesy and map projection coordinate systems, remote sensing, geographic information systems, and land development. Students study various data collection techniques using surveying tools including total stations, levels, softcopy photogrammetry, satellite imagery, and the global navigation satellite system (GNSS). They also study legal principles related to land surveying, professional ethics, applications for Geographic Information Systems (GIS) in surveying, and data management techniques. Through the use of projects and capstone courses students will design measurement systems, alignments, land information systems, and land development.

### **Program Educational Objectives:**

1. Proficiently use mathematics, science, measurement methods, and modern surveying tools to collect, analyze, and reduce spatial data in professional applications or advanced study in surveying engineering or a related field.
2. Proficiently apply basic principles of land surveying, professional practice, and professional ethics to design and conduct surveys, and to analyze and interpret data in surveying engineering applications.
3. Effectively convey technical and professional information in written, verbal, and graphic forms, as an individual and as a member of a professional team.
4. Demonstrate their recognition of the importance of professional organizations for advancement toward professional licensure, development of leadership skills, and maintaining a broad understanding of contemporary societal issues by participating in activities of professional organizations in capacities ultimately leading to leadership positions.
5. Demonstrate their recognition of the need for continuous, life-long learning by participating in continuing education as students or as instructors.

### **Program Outcomes (Student Outcomes):**

The SUR E program has adopted for its program student outcomes the following outcomes as listed in the general criteria of the EAC of ABET "Criteria for Accrediting Engineering Programs, 2012-2013." Engineering programs must demonstrate that their students attain:

- a) an ability to apply knowledge of mathematics, science, and engineering,
- b) an ability to design and conduct experiments, as well as to analyze and interpret data,
- c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability,
- d) an ability to function on multidisciplinary teams,
- e) an ability to identify, formulate, and solve engineering problems,
- f) an understanding of professional and ethical responsibility,
- g) an ability to communicate effectively,
- h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context,
- i) a recognition of the need for, and an ability to engage in life-long learning,
- j) a knowledge of contemporary issues
- k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

For the B. S. degree a minimum of 132 credits is required. The baccalaureate program in Surveying Engineering is accredited by the Engineering Accreditation Commission of ABET, Inc., [www.abet.org](http://www.abet.org).

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

**GENERAL EDUCATION:** 45 credits

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

**FIRST-YEAR SEMINAR:**

(Included as part of the First-Year Experience as specified by individual campus or college)

**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:** 114 credits

(This includes 27 credits of General Education courses: 9 credits of GWS courses; 6 credits of GQ courses; 9 credits of GN courses; 3 credits of GS courses.)

**PRESCRIBED COURSES** (93 credits)

EDSGN 100(3), MATH 140 GQ(4)[1], MATH 141 GQ(4)[1], MATH 220 GQ(2-3), PHYS 211 GN(4), SUR 111(4)[1], SUR 162(3)[1] (Sem: 1-2)  
CMPSC 201 GQ(3), MATH 230(4), MATH 251(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2), STAT 401(3), SUR 212(4), SUR 222(3), SUR 241(3)[1], SUR 262(2) (Sem: 3-4)  
IE 302(3), SUR 272(3)[1], SUR 341(3), SUR 351(3), SUR 362(3), SUR 372(3)[1], SUR 381(4) (Sem: 5-6)  
SUR 441(3), SUR 455(3), SUR 462(3), SUR 471(3), SUR 490(1) (Sem: 7-8)

**ADDITIONAL COURSES** (15 credits)

CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 1-2)  
ENGL 15 GWS(3) or ENGL 30 GWS(3) (Sem: 1-2)  
ECON 102 GS(3), ECON 104 GS(3), or ECON 14 GS(3) (Sem: 3-6)  
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 5-6)  
CE 410(3) or SUR 482(3) (Sem: 7-10)

**SUPPORTING COURSES AND RELATED AREAS** (6 credits)

Select 6 credits from C E 300-level courses [2], CE 400-level courses[2], SUR 313(3), SUR 422(3), SUR 496(1-6) or SUR 497(1-6) (Sem: 7-10)

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

[2] These courses are not offered at Wilkes-Barre campus. They are provided to accommodate concurrent degree students in CE and SURE.

Last Revised by the Department: Spring Semester 2011

Blue Sheet Item #: 39-06-069

Review Date: 04/12/2011

UCA Revision #1: 8/14/06

UCA Revision #2: 7/30/07

EN

Program objectives updated with editorial changes, per COE: 5/21/12



## 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

## **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

UCA Revision #2: 7/27/07

## Letters, Arts, and Sciences

*Abington College (2LAAB)*

*Altoona College (2LAAL)*

*Penn State Erie, The Behrend College (2LABC)*

*Berks College (2LABL)*

*Penn State Harrisburg (2LACA)*

*University College (2LACC): Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango Valley, Penn State Wilkes-Barre, Penn State Worthington-Scranton*

*University Park, College of the Liberal Arts (2 LAS)*

*World Campus*

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

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

**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 Arts degree in Letters, Arts, and Sciences, a minimum of 60 credits is required.

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

**GENERAL EDUCATION:** 21 credits

(6 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)

(See description of General Education in this bulletin.)

**ELECTIVES:** 15 credits

**REQUIREMENTS FOR THE MAJOR:** 30 credits#[\[1\]](#)

(This includes 6 credits of General Education GWS courses.)

**PRESCRIBED COURSES** (6 credits)

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

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

**ADDITIONAL COURSES** (3 credits)

ENGL 202A GWS(3), ENGL 202B GWS(3), ENGL 202C GWS(3), or ENGL 202D GWS(3) (Sem:

3-4)

**SUPPORTING COURSES AND RELATED AREAS** (21 credits)

Select 3 credits in any course designated as arts\* (Sem: 1-4)

Select 3 credits in any course designated as humanities\* (Sem: 1-4)

Select 3 credits in any course designated as social and behavioral sciences\* (Sem: 1-4)

Select 3 credits in any course designated as physical, biological, or earth sciences\* (Sem: 1-4)

Select 9 credits in any one of the following areas\*: arts, humanities, social and behavioral sciences, natural sciences and quantification, and foreign language skills. (If foreign language courses are chosen, it is recommended that these courses be in one foreign language sequence.) (Sem: 1-4)

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

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

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

Last Revised by the Department: Spring Session 2017

Blue Sheet Item #: 45-04-071B

Review Date: 1/10/17

Reviewed by Publications: 06/23/06

LA

## **Surveying Engineering Technology**

*University College: Penn State Wilkes-Barre (2 SRT)*

PROFESSOR FRANK DERBY, Program Coordinator, Penn State Wilkes-Barre

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 Surveying Engineering Technology major provides the basic undergraduate education required for private and public service as a technician in the surveying profession. Basic knowledge is provided in the areas of boundary, construction, topographic, and photogrammetric surveying. The curriculum is designed to develop an individual understanding of the skills and equipment needed to make precise surveying measurements.

## Program Educational Objectives

Specific educational objectives of the program are to prepare graduates who, after the first few years of their surveying careers:

1. Proficiently apply basic principles and methods of surveying practice to perform surveys and analyze results
2. Effectively convey technical and professional information in written, verbal, and graphic forms, as individuals and as members of a professional team
3. Demonstrate their recognition of the importance of professional organizations for their development as surveying technologists
4. Demonstrate their recognition of the need for continuous, life-long learning

## Program Outcomes (Students Outcomes)

The SRT program has adopted for its program student outcomes the following outcomes as listed in the general criteria of the TAC of ABET "Criteria for Accrediting Engineering Technology Programs, 2012-2013." Each program must demonstrate that graduates have:

- a) an ability to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined 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 continuing professional development;
- h) an understanding of and a commitment to address professional and ethical responsibilities, including a respect for diversity; and
- i) a commitment to quality, timeliness, and continuous improvement.

Also adopted are the following TAC of ABET's Program Criteria for Surveying/Geomatics Engineering Technology Programs, 2012-2013. Associate degree programs must demonstrate that graduates are capable of:

- a) Utilizing modern measurement technologies to acquire spatial data;
- b) Employing industry-standard software to solve technical problems.

Graduates of the Surveying Engineering Technology major may qualify for admission to the baccalaureate degree majors in Surveying Engineering at Penn State Wilkes-Barre or Structural Design and Construction Engineering Technology at Penn State Harrisburg.

**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 Surveying Engineering Technology, a minimum of 67 to 70 credits is required. This program is accredited by the Engineering Technology Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

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

**GENERAL EDUCATION:** 21 credits

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

**REQUIREMENTS FOR THE MAJOR: 58-61 credits**

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

**PRESCRIBED COURSES (31 credits)**

SUR 111(4)[1], SUR 162(3)[1] (Sem: 1-2)

SUR 212(4), SUR 222(3), SUR 241(3), SUR 262(2), SUR 272(3)[1], SUR 313(3), SUR 362(3), SUR 372(3) (Sem: 3-4)

**ADDITIONAL COURSES (27-30 credits)**

CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 1-2)

EDSGN 100(3); or EGT 101(1), EGT 102(1) and ET 002(1) (Sem: 1-2)

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

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

MATH 022 GQ(3) and MATH 026 GQ(3); or MATH 040 GQ(5) (Sem: 1-2)

MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 3-4)

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

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

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

Last Revised by the Department: Spring Semester 2017

Blue Sheet Item #: 45-04-048D

Review Date: 1/10/2017

UCA Revision #2: 7/30/07

EN

## Minors

### 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

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UCA Revision #1: 8/3/06

### **Comments**

AB/BK/UC

## **English Minor (ENGL)**

*University Park, College of the Liberal Arts (ENGL)*

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Adam Sorkin, [ajs2@psu.edu](mailto:ajs2@psu.edu); Penn State Fayette, Danielle Mitchell, [dmm52@psu.edu](mailto:dmm52@psu.edu); Penn State Greater Allegheny, James Jaap, [jaj15@psu.edu](mailto:jaj15@psu.edu); Penn State Mont Alto, Kevin Boon, [kab25@psu.edu](mailto:kab25@psu.edu); Penn State Wilkes-Barre, Steven Putzel, [sdp4@psu.edu](mailto:sdp4@psu.edu); College of the Liberal Arts, Elizabeth Brown, [eaf4@psu.edu](mailto:eaf4@psu.edu); Penn State York, Dr. Jennifer Nesbitt, [jpn12@psu.edu](mailto: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

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Review Date: 11/17/15

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