INFORMATION TECHNOLOGY, B.S. (UNIVERSITY COLLEGE)

Begin Campus: Any Penn State Campus

End Campus: Beaver, Brandywine, DuBois, Greater Allegheny, Hazleton, Lehigh Valley, Mont Alto, New Kensington, Schuylkill, Scranton, Wilkes-Barre, York

Degree Requirements

For the Bachelor of Science degree in Information Technology, a minimum of 120 credits is required:

Requirement	Credits
General Education	45
Electives	7-9
Requirements for the Major	87-89

21 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 9 credits of GWS courses; 6 credits of GQ courses; and 6 credits of GS courses.

Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44).

Common Requirements for the Major (All Options)

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
ETI 461	Database Management and Administration	3
IST 210	Organization of Data	3
IST 220	Networking and Telecommunications	3
IST 230	Language, Logic, and Discrete Mathematics	3
IST 242	Intermediate & Object-Oriented Application Development	3
IST 256	Programming for the Web	3
IST 260W	Introduction to Systems Analysis and Design	3
IST 302	IT Project Management	3
IST 331	Foundations of Human-Centered Design	3
IST 440W	Information Sciences and Technology Integration and Problem Solving	3
IST 495	Internship	1
SRA 111	Introduction to Security and Risk Analysis	3
SRA 221	Overview of Information Security	3
Additional Courses		
Select one of the following:		3
ECON 102	Introductory Microeconomic Analysis and Policy	
ECON 104	Introductory Macroeconomic Analysis and Policy	
PLSC 1	American Politics: Principles, Processes and Powers	
PLSC 14	International Relations	
PSYCH 100	Introductory Psychology	
SOC 5	Social Problems	
Additional Courses: Require a grade of C or better		
ENGL 15	Rhetoric and Composition	3
or ENGL 30H	Honors Rhetoric and Composition	
ENGL 202C	Effective Writing: Technical Writing	3
or ENGL 202D	Effective Writing: Business Writing	
MATH 110	Techniques of Calculus I	4
or MATH 140	Calculus With Analytic Geometry I	
Select one of the following:		3
CAS 100A	Effective Speech	
CAS 100B	Effective Speech	
CAS 100C	Effective Speech	
Select one of the following:		3
CMPSC 121	Introduction to Programming Techniques	
CMPSC 131	Programming and Computation I: Fundamentals	
IST 140	Introduction to Application Development	
Select one of the following:		3
CYBER 100	Computer Systems Literacy	
CYBER 100S	Computer Systems Literacy	
IST 110	Information, People and Technology	
Select one of the following:		4
DS 200	Introduction to Data Sciences	
STAT 200	Elementary Statistics	
SCM 200	Introduction to Statistics for Business	
Select one of the following: [1]		3-4
ACCTG 211	Financial and Managerial Accounting for Decision Making	
BA 100	Introduction to Business	
ECON 102	Introductory Microeconomic Analysis and Policy [2]	
ECON 104	Introductory Macroeconomic Analysis and Policy [2]	
MGMT 301	Basic Management Concepts	
MKTG 301	Principles of Marketing [2]	
Select one of the following: [1]		3
CYBER 262	Cyber-Defense Studio	
IST 226	Networking Essentials	
IST 451	Network Security	
IST 454	Computer and Cyber Forensics	
Requirements for the Option		
Select an option		18-19

[1]   These courses may not double count with other additional or option requirements.
[2]   Course does not require a grade of C or better.

Requirements for the Option
Application Development Option (18 credits)
Available at the following campuses: Abington, Altoona, Beaver, Berks, Brandywine, Lehigh Valley, Schuylkill, Scranton, York

Code	Title	Credits
Additional Courses		
Additional Courses: Require a grade of C or better		

Select 12 credits, with at least 3 credits at the 400 level, from the following:		12
IST 261	Application Development Design Studio I	
IST 311	Object-Oriented Design and Software Applications	
IST 361	Application Development Design Studio II	
IST 411	Distributed-Object Computing	
IST 412	The Engineering of Complex Software Systems	
IST 413	Usability Engineering	
Supporting Courses and Related Areas		
Supporting Courses and Related Areas: Require a grade of C or better		
Select 6 credits at the 300 or 400 level in Advanced IT courses from College approved list.		6

Business Applications Option (19 credits)
Available at the following campuses: Abington, Altoona, Beaver, Berks, Brandywine, DuBois, Greater Allegheny, Hazleton, Lehigh Valley, Mont Alto, New Kensington, Schuylkill, Scranton, York

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
ACCTG 211	Financial and Managerial Accounting for Decision Making	4
Additional Courses		
Additional Courses: Require a grade of C or better		
Select one of the following: [1]		3
FIN 301	Corporation Finance	
MGMT 301	Basic Management Concepts	
MKTG 301	Principles of Marketing	
SCM 301	Supply Chain Management	
Supporting Courses and Related Areas		
Supporting Courses and Related Areas: Require a grade of C or better		
Select 6 credits from ACCTG, BA, BLAW, EBF, ECON, ENTR, FIN, FINSV, HPA, IB, LER, MIS, MGMT, MKTG, RM, SCM, or STAT, including 3 credits at the 400-level.		6
Select 3 credits at the 300 or 400 level in Advanced IT Business courses from College-approved list.		3
Select 3 credits at the 300 or 400 level in Advanced IT courses from College-approved list.		3

[1]   Option courses may not double count with other requirements.

Custom Information Technology Option (18 credits)
Available at the following campuses: Altoona, Berks, Brandywine, Greater Allegheny, Hazleton, Lehigh Valley, Mont Alto, New Kensington, Schuylkill, Scranton, Wilkes-Barre, York

Code	Title	Credits
Supporting Courses and Related Areas		
Supporting Courses and Related Areas: Require a grade of C or better		
Select 12 credits, with at least 3 credits at the 400 level, in consultation with an adviser that follow a coherent theme in information technology.		12
Select 6 credits at the 300 or 400 level in Advanced IT courses from College-approved list.		6

Cybersecurity Option (18 credits)
Available at the following campuses: Altoona, Beaver, Berks, Brandywine, Lehigh Valley, Mont Alto, New Kensington, Schuylkill, Scranton, York

Code	Title	Credits
Additional Courses		
Additional Courses: Require a grade of C or better		
Select 12 credits, with at least 3 credits at the 400 level, from the following:		12
CYBER 262	Cyber-Defense Studio	
IST 451	Network Security	
IST 454	Computer and Cyber Forensics	
IST 456	Information Security Management	
SRA 472	Integration of Privacy and Security	
Any 300 or 400 Level CYBER Course		
Supporting Courses and Related Areas		
Supporting Courses and Related Areas: Require a grade of C or better		
Select 6 credits at the 300 or 400 level in Advanced IT courses from College-approved list.		6

Networking Option (18 credits)
Available at the following campuses: Abington, DuBois, Mont Alto

Code	Title	Credits
Additional Courses		
Additional Courses: Require a grade of C or better		
Select 12 credits, with at least 3 credits at the 400 level, from the following:		12
CYBER 262	Cyber-Defense Studio	
IST 225	PC Hardware Basics	
IST 226	Networking Essentials	
IST 227	Network Administration	
IST 228	Advanced Network Administration	
IST 451	Network Security	
IST 454	Computer and Cyber Forensics	
Supporting Courses and Related Areas		
Supporting Courses and Related Areas: Require a grade of C or better		
Select 6 credits at the 300 or 400 level in Advanced IT courses from College-approved list.		6

Security and Risk Analysis Option (18 credits)
Available at the following campuses: Altoona, Berks, Brandywine, Lehigh Valley, Schuylkill

Code	Title	Credits
Additional Courses		
Additional Courses: Require a grade of C or better		
Select 12 credits, with at least 3 credits at the 400 level, from the following:		12
IST 432	Legal and Regulatory Environment of Information Science and Technology	
IST 452	Legal and Regulatory Environment of Privacy and Security	
IST 456	Information Security Management	
SRA 211	Threat of Terrorism and Crime	
SRA 231	Decision Theory and Analysis	
SRA 311	Risk Analysis in a Security Context	

| SRA 365 | Statistics for Security and Risk Analysis | |

Supporting Courses and Related Areas

Supporting Courses and Related Areas: Require a grade of C or better	
Select 6 credits at the 300 or 400 level in Advanced IT courses from College-approved list.	6

General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)
- **Quantification (GQ):** 6 credits
- **Writing and Speaking (GWS):** 9 credits

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)
- **Arts (GA):** 3 credits
- **Health and Wellness (GHW):** 3 credits
- **Humanities (GH):** 3 credits
- **Social and Behavioral Sciences (GS):** 3 credits
- **Natural Sciences (GN):** 3 credits

Integrative Studies
- **Inter-Domain Courses (Inter-Domain):** 6 credits

Exploration
- **GN,** may be completed with Inter-Domain courses: 3 credits
- **GA, GH, GN, GS, Inter-Domain courses.** This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student's degree program, whichever is higher**:** 6 credits

University Degree Requirements

First Year Engagement
All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

Cultures Requirement
6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

Writing Across the Curriculum
3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits
A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work
Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

Limitations on Source and Time for Credit Acquisition
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. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.