INFORMATION SCIENCES AND TECHNOLOGY, A.S. (INFORMATION SCIENCES AND TECHNOLOGY)

Begin Campus: World Campus, University Park
End Campus: World Campus, University Park

Program Description

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

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 multimedia 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

Available at the following campuses: Berks, DuBois, Greater Allegheny, Mont Alto, New Kensington, Scranton, University Park, Wilkes-Barre, World Campus, York

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

Available at the following campuses: Berks, DuBois, Hazleton, Mont Alto, New Kensington, Scranton, University Park, World Campus, York

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

Individualized Option

Available at the following campuses: Berks, Greater Allegheny, Hazleton, Mont Alto, New Kensington, Scranton, University Park, Wilkes-Barre, World Campus, York

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.

Networking Option

Available at the following campuses: DuBois, Mont Alto, Shenango, World Campus, York

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

Entrance to Major

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

Degree Requirements

For the Associate in Science degree in Information Sciences and Technology, a minimum of 60 credits is required:

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9-12 of the 21 credits for General Education are included in the Requirements for the Major. For all options, this includes: 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.

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/associate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

Foundations (grade of C or better is required.)

- Quantification (GQ): 3 credits
- Writing and Speaking (GWS): 3 credits

Knowledge Domains

- Arts (GA): 3 credits
- Humanities (GH): 3 credits
- Social and Behavioral Sciences (GS): 3 credits
- Natural Sciences (GN): 3 credits
Foundations or Knowledge Domains
- A General Education course selected from GWS, GQ, GN, GA, GH, or GS, and may include Integrative Studies (Inter-domain or Linked) courses: 3 credits

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.

University Degree Requirements

Cultures Requirement
3 credits of United States (US) or International (IL) cultures coursework are required and may satisfy other requirements.

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 60 degree credits must be earned for a associates degree. The requirements for some programs may exceed 60 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
Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80). For more information, check the Suggested Academic Plan for your intended program.

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. Additional Courses: Require a grade of C or better

IST 295A Distributed Team Project 1
or IST 295B IST Internship

Requirements for the Option
Select an option 15-17

Requirements for the Option
Baccalaureate Option (17 credits)
Available at the following campuses: Berks, DuBois, Greater Allegheny, Mont Alto, New Kensington, Scranton, University Park, Wilkes-Barre, World Campus, York

Prescribed Courses
ECON 102 Introductory Microeconomic Analysis and Policy 3
STAT 200 Elementary Statistics 4

Prescribed Courses: Require a grade of C or better
IST 230 Language, Logic, and Discrete Mathematics 6
& IST 240 and Introduction to Computer Languages

Additional Courses
MATH 110 Techniques of Calculus I 4
or MATH 140 Calculus With Analytic Geometry I

Generalized Business Option (15-16 credits)
Available at the following campuses: Berks, DuBois, Hazleton, Mont Alto, New Kensington, Scranton, University Park, World Campus, York

Additional Courses
Select 15 credits in consultation with the adviser from the following list: 15

ACCTG 151 Introductory Financial Accounting I
ACCTG 152 Introductory Financial Accounting II
ACCTG 211 Financial and Managerial Accounting for Decision Making
BA 250 Small Business Management
ECON 102 Introductory Microeconomic Analysis and Policy
or ECON 104 Introductory Macroeconomic Analysis and Policy
or ECON 14 Principles of Economics
MATH 21 College Algebra I
or MATH 22 College Algebra II and Analytic Geometry
or MATH 26 Plane Trigonometry
or MATH 37 Finite Mathematics
MGMT 100 Survey of Management
MGMT 321 Leadership and Motivation
MGMT 341 Human Resource Management
MKTG 220 Introduction to Selling Techniques
MKTG 221 Contemporary American Marketing
MKTG 310 Public Relations and Marketing
MKTG 327 Retailing

Individualized Option (15 credits)
Available at the following campuses: Berks, Greater Allegheny, Hazleton, Mont Alto, New Kensington, Scranton, University Park, Wilkes-Barre, World Campus, York

Prescribed Courses
CAS 100B Rhetoric and Composition 3
ENGL 15 Effective Speech 3

Prescribed Courses: Require a grade of C or better
CMPSC 101 Introduction to Programming 3
IST 110 Information, People and Technology 3
IST 111S Seminar in Information Sciences and Technology 1
IST 210 Organization of Data 3
IST 220 Networking and Telecommunications 3
IST 250 Introduction to Web Design and Development 3
IST 260W Introduction to Systems Analysis and Design 3

Additional Courses
ENGL 202C Effective Writing: Technical Writing 3
or ENGL 202D Effective Writing: Business Writing

Credits
3
3

Credits
4
4

Credits
3
3

Credits
4
4

Credits
1
1

Credits
1
1

Credits
1
1

Credits
4
4
Information Sciences and Technology, A.S. (Information Sciences and Technology)

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 courses.

Networking Option (15 credits)
Available at the following campuses: DuBois, Mont Alto, Shenango, World Campus, York

Code | Title | Credits
--- | --- | ---
IST 225 | PC Hardware Basics | 3
IST 226 | Networking Essentials | 3
IST 227 | Network Administration | 3
IST 228 | Advanced Network Administration | 3

Prescribed Courses: Require a grade of C or better

- MATH 21 College Algebra I
- MATH 22 College Algebra II and Analytic Geometry
- MATH 26 Plane Trigonometry
- MATH 37 Finite Mathematics

Program Learning Objectives

- **Know Networking Systems and Industry Methods:** Demonstrate ability to apply various industry standards in networking, server maintenance, and hardware standards.
- **Know Security Risk Factors:** Demonstrate knowledge technology risk factors for networks, servers, various hardware components and their impact on technology systems. Having the ability to secure various networks, using the latest industry standards and best practices, design, develop, and implement (i.e. securing hardware, software compliance, etc.).
- **Know the System Development Lifecycle (SDLC):** Demonstrate knowledge of the SDLC by applying its methods to information systems projects and lab exercises.
- **Manage Network Systems:** Demonstrate knowledge of designing and management various networking systems.
- **Use Information Sciences Theory/Practice:** Use management theory and information technology processes in managing networks. Which includes best practices for network and infrastructure design, development, and implementation.

Academic Advising

The objectives of the university’s academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee’s unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/)

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https://www.worldcampus.psu.edu/degrees-and-certificates/information-sciences-and-technology-associates/overview

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