INFORMATION SCIENCES AND TECHNOLOGY, B.S. (BERKS)

Begin Campus: Any Penn State Campus

End Campus: Berks

Degree Requirements
For the Bachelor of Science degree in Information Sciences and Technology, a minimum of 125 credits is required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Electives</td>
<td>8</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>84</td>
</tr>
</tbody>
</table>

12 of the 45 credits for General Education are included in the Requirements for the Major. This includes 12 credits of General Education courses: 6 credits of GQ courses; 3 credits of GS courses; and 3 credits of GWS courses.

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.)
- Quantification (GQ): 6 credits
- Writing and Speaking (GWS): 9 credits

Knowledge Domains
- Arts (GA): 6 credits
- Health and Wellness (GHW): 3 credits
- Humanities (GH): 6 credits
- Social and Behavioral Sciences (GS): 6 credits
- Natural Sciences (GN): 9 credits

Integrative Studies (may also complete a Knowledge Domain requirement)
- Inter-Domain or Approved Linked Courses: 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 (http://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.

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 (http://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)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Prescribed Courses: Require a grade of C or better</strong></td>
<td></td>
</tr>
<tr>
<td>STAT 200</td>
<td>Elementary Statistics</td>
<td>4</td>
</tr>
<tr>
<td>IST 110</td>
<td>Information, People and Technology</td>
<td>3</td>
</tr>
<tr>
<td>IST 210</td>
<td>Organization of Data</td>
<td>3</td>
</tr>
<tr>
<td>IST 220</td>
<td>Networking and Telecommunications</td>
<td>3</td>
</tr>
<tr>
<td>IST 230</td>
<td>Language, Logic, and Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>IST 301</td>
<td>Information and Organizations</td>
<td>3</td>
</tr>
<tr>
<td>IST 331</td>
<td>Foundations of Human-Centered Design</td>
<td>3</td>
</tr>
<tr>
<td>IST 440W</td>
<td>Information Sciences and Technology Integration and Problem Solving</td>
<td>3</td>
</tr>
<tr>
<td>IST 495</td>
<td>Internship</td>
<td>1</td>
</tr>
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<td><strong>Additional Courses: Require a grade of C or better</strong></td>
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</table>
ENGL 202C
or ENGL 202D
Effective Writing: Technical Writing
3

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

Select one of the following:

CMPSC 101
Introduction to Programming
3

CMPSC 121
Introduction to Programming Techniques

IST 140
Introduction to Application Development

Select one of the following:

ECON 14
Principles of Economics

ECON 102
Introductory Microeconomic Analysis and Policy

ECON 104
Introductory Macroeconomic Analysis and Policy

Supporting Courses and Related Areas

Attainment of third-level proficiency in a single foreign language
1
12

Select 6 credits of international courses in foreign culture from College-approved list
6

Supporting Courses and Related Areas: Require a grade of C or better

Select 3 credits at the 400 level in emerging issues and technologies from College-approved list
3

Requirements for the Option

Select an option
24

1 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.

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Effective Writing: Technical Writing
Effective Writing: Business Writing
Techniques of Calculus I
Calculus With Analytic Geometry I
Introduction to Programming
Introduction to Programming Techniques
Introduction to Application Development
Principles of Economics
Introductory Microeconomic Analysis and Policy
Introductory Macroeconomic Analysis and Policy

Supporting Courses and Related Areas

Attainment of third-level proficiency in a single foreign language
1
12

Select 6 credits of international courses in foreign culture from College-approved list
6

Supporting Courses and Related Areas: Require a grade of C or better

Select 3 credits at the 400 level in emerging issues and technologies from College-approved list
3

Requirements for the Option

Select an option
24

1 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.

Additional Courses

IST 242
Intermediate & Object-Oriented Application Development

IST 311
Object-Oriented Design and Software Applications

Additional Courses: Require a grade of C or better

IST 261
Application Development Design Studio I

IST 361
Application Development Design Studio II

Select 6 credits of the following:
6

IST 411
Distributed-Object Computing

IST 412
The Engineering of Complex Software Systems

IST 413
Usability Engineering

Supporting Courses and Related Areas

Select 9 credits from College-approved list (at least 3 credits must be at the 400-level)
9

1 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.

Information Technology: Integration & Application Option (24 credits)

Available at the following campuses: Abington, Beaver, Berks, Brandywine, Greater Allegheny, Harrisburg, Hazleton, Lehigh Valley, Mont Alto, New Kensington, Schuylkill, Scranton, University Park, Wilkes-Barre, World Campus, York

Prescribed Courses

Prescribed Courses: Require a grade of C or better

IST 431
The Information Environment

& IST 432
and Legal and Regulatory Environment of Information Science and Technology

6

IST 420
Fundamentals of Systems and Enterprise Integration

3

IST 421
Advanced Enterprise Integration: Technologies and Applications

3

Additional Courses

Additional Courses: Require a grade of C or better

IST 240
Introduction to Computer Languages

or IST 242
Intermediate & Object-Oriented Application Development

3

IST 302
IT Project Management

or IST 413
Usability Engineering

3

Supporting Courses and Related Areas

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)
12

Information Systems: Design & Development Option (24 credits)

Available at the following campuses: Abington, Beaver, Berks, Brandywine, Harrisburg, Lehigh Valley, Scranton, University Park, World Campus, York

Code
Title
Credits

Prescribed Courses

Prescribed Courses: Require a grade of C or better

IST 431
The Information Environment

& IST 432
and Legal and Regulatory Environment of Information Science and Technology

6

IST 420
Fundamentals of Systems and Enterprise Integration

3

IST 421
Advanced Enterprise Integration: Technologies and Applications

3

Additional Courses

Additional Courses: Require a grade of C or better

IST 240
Introduction to Computer Languages

or IST 242
Intermediate & Object-Oriented Application Development

3

IST 302
IT Project Management

or IST 413
Usability Engineering

3

Supporting Courses and Related Areas

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)
12