

# INFORMATION SCIENCES AND TECHNOLOGY, B.S. (CAPITAL)

Seven Penn State campuses are scheduled for closure after Spring 2027: DuBois, Fayette, New Kensington, Mont Alto, Shenango, Wilkes-Barre, and York. New students are not being admitted at these campuses.

**Begin Campus:** Any Penn State Campus

**End Campus:** Harrisburg

## Degree Requirements

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

| Requirement                | Credits |
|----------------------------|---------|
| General Education          | 45      |
| Electives                  | 8       |
| Requirements for the Major | 84      |

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.

## 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/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/>).

### Common Requirements for the Major (All Options)

| Code                                                      | Title                                                                       | Credits |
|-----------------------------------------------------------|-----------------------------------------------------------------------------|---------|
| <b>Prescribed Courses</b>                                 |                                                                             |         |
| <i>Prescribed Courses: Require a grade of C or better</i> |                                                                             |         |
| ETI 301                                                   | Technology Adoption and Organizational Change                               | 3       |
| HCDD 331                                                  | Foundations of Human-Centered Design                                        | 3       |
| IST 110                                                   | Information, People and Technology                                          | 3       |
| IST 210                                                   | Organization of Data                                                        | 3       |
| IST 220                                                   | Networking and Telecommunications                                           | 3       |
| IST 230                                                   | Language, Logic, and Discrete Mathematics                                   | 3       |
| IST 440W                                                  | Information Sciences and Technology Integration and Problem Solving         | 3       |
| IST 495                                                   | Internship                                                                  | 1       |
| STAT 200                                                  | Elementary Statistics                                                       | 4       |
| <b>Additional Courses</b>                                 |                                                                             |         |
| Select one of the following:                              |                                                                             | 3       |
| ECON 14                                                   | Principles of Economics                                                     |         |
| ECON 102                                                  | Introductory Microeconomic Analysis and Policy                              |         |
| ECON 104                                                  | Introductory Macroeconomic Analysis and Policy                              |         |
| <i>Additional Courses: Require a grade of C or better</i> |                                                                             |         |
| ENGL 202C<br>or ENGL 202D                                 | Effective Writing: Technical Writing<br>Effective Writing: Business Writing | 3       |
| MATH 110<br>or MATH 140                                   | Techniques of Calculus I<br>Calculus With Analytic Geometry I               | 4       |

|                              |                                         |   |
|------------------------------|-----------------------------------------|---|
| Select one of the following: |                                         | 3 |
| CMPSC 101                    | Introduction to Programming             |   |
| CMPSC 121                    | Introduction to Programming Techniques  |   |
| IST 140                      | Introduction to Application Development |   |

|                                                                                                  |    |
|--------------------------------------------------------------------------------------------------|----|
| <b>Supporting Courses and Related Areas</b>                                                      |    |
| Attainment of third-level proficiency in a single world language <sup>1</sup>                    | 12 |
| Select 6 credits of international courses in foreign culture from College-approved list          | 6  |
| <i>Supporting Courses and Related Areas: Require a grade of C or better</i>                      |    |
| Select 3 credits at the 400 level in emerging issues and technologies from College-approved list | 3  |
| <b>Requirements for the Option</b>                                                               |    |
| Select an option                                                                                 | 24 |

<sup>1</sup> 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 world language courses.

### Requirements for the Option Information Systems: Design & Development Option (24 credits) Available at the following campuses: Harrisburg, World Campus

| Code                                                      | Title                                                                               | Credits |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------|---------|
| <b>Prescribed Courses</b>                                 |                                                                                     |         |
| <i>Prescribed Courses: Require a grade of C or better</i> |                                                                                     |         |
| HCDD 311                                                  | Object-Oriented Design and Software Applications                                    | 3       |
| IST 242                                                   | Intermediate & Object-Oriented Application Development <sup>1</sup>                 | 3       |
| <b>Additional Courses</b>                                 |                                                                                     |         |
| <i>Additional Courses: Require a grade of C or better</i> |                                                                                     |         |
| IST 261<br>or HCDD 361                                    | Application Development Design Studio I<br>Application Development Design Studio II | 3       |
| Select 6 credits of the following:                        |                                                                                     | 6       |
| HCDD 411                                                  | Distributed-Object Computing                                                        |         |
| HCDD 412                                                  | The Engineering of Complex Software Systems                                         |         |
| HCDD 413                                                  | Usability Engineering                                                               |         |

|                                                                                           |   |
|-------------------------------------------------------------------------------------------|---|
| <b>Supporting Courses and Related Areas</b>                                               |   |
| Select 9 credits from College-approved list (at least 3 credits must be at the 400-level) | 9 |

<sup>1</sup> 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: Harrisburg

| Code                                                      | Title                                                          | Credits |
|-----------------------------------------------------------|----------------------------------------------------------------|---------|
| <b>Prescribed Courses</b>                                 |                                                                |         |
| <i>Prescribed Courses: Require a grade of C or better</i> |                                                                |         |
| ETI 302                                                   | IT Project Management                                          | 3       |
| ETI 420                                                   | Fundamentals of Systems and Enterprise Integration             | 3       |
| ETI 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                     | 3 |
| or IST 242 | Intermediate & Object-Oriented Application Development |   |

**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 |
|-----------------------------------------------------------------------------------------------------------------------------------|----|

**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/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/>)). For more information, check the Suggested Academic Plan for your intended program.