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

Begin Campus: Any Penn State Campus

End Campus: Harrisburg

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 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

Available at the following campuses: Beaver, Berks, Scranton, University Park

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

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

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

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

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.

What is Information Sciences and Technology?

Information Sciences and Technology is a discipline that explores how we can strengthen the power of information and technology, and use it to increase human potential. This includes focusing on creating innovative systems and technological solutions that benefit businesses, organizations, and individuals, and understanding the role of technology in how we live our lives.

MORE INFORMATION ABOUT INFORMATION SCIENCES AND TECHNOLOGY (https://ist.psu.edu/students/undergrad/majors/istbs/)

You Might Like This Program If...

• You want to develop new software and web applications, help businesses operate more effectively by creating and implementing technological solutions, or understand how technology is connected to broader social issues.
• You are interested in technology but also want to work with people.
• You enjoy coming up with creative solutions to difficult challenges.

MORE INFORMATION ABOUT WHY STUDENTS CHOOSE TO STUDY INFORMATION SCIENCES AND TECHNOLOGY (https://issuu.com/istpsu/docs/information-sciences-and-technology-major/)

Entrance to Major

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; IST 140 (or equivalent CMPSC 101 or CMPSC 121) IST 210; and IST 220.
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.

Entrance to the Integrated Undergraduate-Graduate (IUG) Program

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 February 15 of their sophomore year and no later than February 15 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 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.
4. Must apply to and be accepted without reservation into the Graduate School and M.S. program in Informatics. Students must complete the Graduate School application (http://gradschool.psu.edu/apply/).
5. Must apply to the IUG program by February 15 of their junior year.

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 (http://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>STAT 200</td>
<td>Elementary Statistics</td>
<td>4</td>
</tr>
<tr>
<td>Prescribed Courses: Require a grade of C or better</td>
<td></td>
<td></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 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>
<tr>
<td>Additional Courses: Require a grade of C or better</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional Courses
### Information Sciences and Technology, B.S. (Capital)

**Effective Writing: Technical Writing**
- ENGL 202C
- or ENGL 202D

**Effective Writing: Business Writing**
- MATH 110
- or MATH 140

**Techniques of Calculus I**
- IST 140

**Calculus With Analytic Geometry I**
- IST 240

**Introduction to Programming**
- CMPSC 101
- or CMPSC 121

**Introduction to Application Development**
- IST 140

**Introduction to Programming Techniques**
- IST 240

**Introduction to Application Development**
- IST 140

**Introductory Microeconomic Analysis and Policy**
- ECON 102

**Introductory Macroeconomic Analysis and Policy**
- ECON 104

**Principles of Economics**
- ECON 14

**ECON 202D**
- or MATH 140

**The Information Environment**
- CMPSC 101

**Introduction to Application Development**
- IST 240
- or IST 242

**Intermediate & Object-Oriented Application Development**
- IST 311

**Object-Oriented Design and Software Applications**
- IST 411

**Distributed-Object Computing**
- IST 412

**The Engineering of Complex Software Systems**
- IST 413

**Usability Engineering**
- IST 420
- or IST 421

**Advanced Enterprise Integration: Technologies and Applications**
- IST 431
- or IST 432

**Introduction to Computer Languages**
- IST 240
- or IST 242

**IT Project Management**
- IST 302
- or IST 413

**Usability Engineering**
- IST 413

**Advanced Enterprise Integration: Technologies and Applications**

**Supporting Courses and Related Areas**
- Select 9 credits from College-approved list (at least 3 credits must be at the 400-level)

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.

#### Requirements for the Option

**Information Context: People, Organizations, and Society Option (24 credits)**

**Available at the following campuses: Beaver, Berks, Scranton, University Park**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 240</td>
<td>Intermediate &amp; Object-Oriented Application Development</td>
<td>3</td>
</tr>
<tr>
<td>IST 311</td>
<td>Object-Oriented Design and Software Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Courses**

**Additional Courses: Require a grade of C or better**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 261</td>
<td>Application Development Design Studio I</td>
<td>3</td>
</tr>
<tr>
<td>or IST 361</td>
<td>Application Development Design Studio II</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 6 credits of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 411</td>
<td>Distributed-Object Computing</td>
<td>6</td>
</tr>
<tr>
<td>IST 412</td>
<td>The Engineering of Complex Software Systems</td>
<td>3</td>
</tr>
<tr>
<td>IST 413</td>
<td>Usability Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>

**Supporting Courses and Related Areas**

Select 12 credits from College-approved list (at least 3 credits must be at the 400-level)

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**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 302</td>
<td>IT Project Management</td>
<td>3</td>
</tr>
<tr>
<td>IST 420</td>
<td>Fundamentals of Systems and Enterprise Integration</td>
<td>3</td>
</tr>
<tr>
<td>IST 421</td>
<td>Advanced Enterprise Integration: Technologies and Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Courses**

**Additional Courses: Require a grade of C or better**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 240</td>
<td>Introduction to Computer Languages</td>
<td>3</td>
</tr>
<tr>
<td>or IST 242</td>
<td>Intermediate &amp; Object-Oriented Application Development</td>
<td>3</td>
</tr>
</tbody>
</table>

**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)

**Program Learning Objectives**

**Knowledge/Application:**

1. Understand and apply the interdisciplinary, theoretical knowledge of the information sciences or security sciences.
   a. Define and explain the core concepts, principles, processes, and theories within the academic majors of IST and/or SRA.
   b. Apply the core concepts of the academic majors of IST and/or SRA to real-world problems.

**Problem-Solving:**

1. Understand, apply and adapt various problem solving strategies, using appropriate technology and methods.
   a. Identify information problems and/or opportunities in terms of the human, informational and technology dimensions.
b. Analyze issues surrounding the problem and/or opportunity in terms of the human, informational, and technology dimensions; and determine the requirements appropriate to understanding the situation.

c. Design systems, architectures, processes, components, or programs to meet desired needs of the human context at varying levels of analysis (e.g., individual, group, organization, society, and/or world).

d. Deploy up-to-date and appropriate techniques, methodologies, and/or tools necessary for understanding opportunities and constraints and/or the optimal design, implementation and continuance of an information based solution.

e. Evaluate the success of systems, architecture, processes, components, or programs intended to meet desired needs of the human context at varying levels of analysis (e.g., individual, group, organization, society, and/or world).

Communication (Individual and Team):

1. Communicate and work effectively (both individually and in teams) with a range of perspectives and audiences through a variety of media.
   a. Participate effectively on teams in order to accomplish a common goal.
   b. Communicate effectively with a range of audiences, formally or informally, through writing and the spoken word.
   c. Seek out, analyze, and incorporate diverse ideas and broader perspectives represented in the diversity of people.
   d. Make respectful and inclusive choices in interacting with customers, peers, supervisors, and/or subordinates with a diversity of identity characteristics (e.g., age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, gender identify, or veteran status).

Professional Responsibilities:

1. Understand professional responsibilities in terms of the ethical, legal, security and social aspects of any given problem and its solution.
   a. Demonstrate an understanding of the cognitive, social, legal, ethical, diversity, and security perspectives surrounding a given problem.
   b. Assess the impact of information, computing and technology on individuals, groups, organizations, society, and the world for the purpose of making informed decisions from a sociological, governmental, legal, and/or security perspective.

Lifelong Learning:

1. Commit to the continuous acquisition of relevant knowledge for professional development by self-teaching and/or on-going education and learning.
   a. Employ information-seeking strategies and self-directed learning in pursuit of current knowledge.
   b. Enroll in professional development and tutoring opportunities.

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 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/)

Harrisburg

Jesse Middaugh, PMP
Program Coordinator
Olmsted Building E335
Middletown, PA 17057
717-948-6153
jlm10@psu.edu

Abington

Joseph Oakes
Program Chair
1600 Woodland Road
Abington, PA 19001
267-633-3316
jxo19@psu.edu

Berks

Tricia Clark
Program Coordinator, Instructor
Gaige 211
Reading, PA 19610
610-396-6349
tkc3@psu.edu

Brandywine

Nannette D’Imperio
Lecturer in Computer Science
25 Yearsley Mill Road
Media, PA 19063
610-892-1343
nxd13@psu.edu

DuBois

Jason Long
Assistant Teaching Professor
1 College Place
DuBois, PA 16823
814-372-3000
jel115@psu.edu

Greater Allegheny

Advising Office
Academic Affairs
101 Frable Building
4000 University Drive
McKeesport, PA 15132
412-675-9140
GA-Academics@lists.psu.edu
**Hazleton**  
Barbara Brazon  
Assistant Teaching Professor of Information Sciences and Technology  
Kostos 117  
Hazleton, PA 18202  
570-450-3089  
bxb30@psu.edu

**Lehigh Valley**  
Kermit Burley  
Coordinator of Information Sciences and Technology  
2809 Saucon Valley Road  
Center Valley, PA 18034  
610-285-5071  
kmb6846@psu.edu

**Mont Alto**  
Paul Bart  
Lecturer, IST  
6 Bookstore Building  
Mont Alto, PA 17237  
717-749-6241  
pjb159@psu.edu

**New Kensington**  
Hal Smith  
Associate Professor, Information Sciences and Technology  
036 Theater & IST Building  
3550 Seventh Street Road  
New Kensington, PA 15068  
724-334-6089  
hhs10@psu.edu

**Scranton**  
Debra Smarkusky  
Associate Professor  
212F Dawson  
Dunmore, PA 18512  
570-963-2593  
dls102@psu.edu

**University Park**  
Undergraduate Academic Advising Center  
E103 Westgate Building  
University Park, PA 16802  
814-865-8947  
advising@ist.psu.edu

**Wilkes-Barre**  
Wei-Fan Chen  
Program Co-Coordinator, IST  
44 University Drive  
Dallas, PA 18612  
570-675-9142  
weifan@psu.edu

**World Campus**  
Undergraduate Academic Advising  
301 Outreach Building  
University Park, PA 16802  
814-863-3283

**York**  
William Cantor  
Assistant Teaching Professor in IST  
226 Grumbacher Building (GISTC)  
York, PA 17403  
717-771-4143  
wpc2@psu.edu

### Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2020-21 academic year. To access previous years' suggested academic plans, please visit the [archive](http://bulletins.psu.edu/undergraduate/archive/) to view the appropriate Undergraduate Bulletin edition (Note: the archive only contain suggested academic plans beginning with the 2018-19 edition of the Undergraduate Bulletin).

**Harrisburg Campus**  
Design and Development Option

The course series listed below provides only one of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an Academic Requirements or What If report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

#### First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 110*#</td>
<td>3</td>
<td>IST 210*#</td>
<td>3</td>
</tr>
<tr>
<td>IST 140*#</td>
<td>3</td>
<td>General Education Course</td>
<td>3</td>
</tr>
<tr>
<td>MATH 110 or 140††</td>
<td>4 World Language Level 2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>World Language level 1</td>
<td>4</td>
<td>ECON 102, 104, or 14†</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 15 or 30†</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 220*#</td>
<td>3</td>
<td>IST 242*</td>
<td>3</td>
</tr>
<tr>
<td>IST 230*</td>
<td>3</td>
<td>STAT 200††</td>
<td>4</td>
</tr>
<tr>
<td>World Language level 3</td>
<td>4</td>
<td>CAS 100††</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course</td>
<td>3</td>
<td>General Education Course</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course</td>
<td>3</td>
<td>General Education Course</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Summer</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 311*</td>
<td>3</td>
<td>IST 301*</td>
<td>IST 495*</td>
<td>1</td>
</tr>
<tr>
<td>IST 331*</td>
<td>3</td>
<td>IST 411*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

advising@outreach.psu.edu
### Support of Option

| General Education Course (GHW) | 1.5 Foreign Cultures Requirement | 3 |
| General Education Course | 3 ENGL 202C or 202D‡ | 3 |
| Elective | 3 | 3 |

<table>
<thead>
<tr>
<th><strong>Fourth Year</strong></th>
<th><strong>Fall Credits</strong></th>
<th><strong>Spring Credits</strong></th>
<th><strong>Total Credits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 402*</td>
<td>3 IST 413*</td>
<td>3</td>
<td>16.5</td>
</tr>
<tr>
<td>IST 261 or 361*</td>
<td>3 IST 440W*</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>World Cultures Requirement</td>
<td>3 Support of Option (400-level)‡</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>3 General Education Course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>General Education Course</td>
<td>3 Elective</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>General Education Course (GHW)</td>
<td>1.5</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits 125

* Course requires a grade of C or better for the major
‡ Course requires a grade of C or better for General Education
# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

1. MIS 465 can be substituted for IST 210
2. IST 4XX: Select 3 credits from:
   - IST 402 - Emerging Issues and Technologies (3)
   - IST 441 - Information Retrieval and Organization (3)
   - IST 446 - An Introduction to Building Computer/Video Games (3)
   - IST 452 - Legal and Regulatory Environment of Privacy and Security (3)
   - IST 454 - Computer and Cyber Forensics (3)

### University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures). W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GHW, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS, and Integrative Studies). Foundations courses (GWS and GQ) require a grade of "C" or better.

### Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

### Advising Notes:

- 1 Credit of IST 495 - Internship is required
- 30 Credits of GA, GH, GHW, GN, GS to include 6 Integrative Studies credits
- 15 Credits of GQ and GWS require a grade of "C" or better

### Program Notes:

- Please note: IST courses are only offered once per year.
- IST 495 - Internship: (1) Supervised work experience where the student is employed in an Information Science and Technology position in industry, government or academia. IST students are required to complete one internship, but may complete three. For more information, contact IST Internship Coordinator, Jane Kochanov at jxs121@psu.edu.
- Students must complete a 3-credit course in "United States Cultures (US)" and a 3-credit course in International Cultures (IL).”
- Students in the Information Sciences and Technology (ISSCA_BS) major are expected to complete 24 credits of upper level course work in the major and the senior capstone course for the major at Penn State Harrisburg. This is in compliance with Faculty Senate Policy 83-80.5.

### Integration and Application Option

The course series listed below provides only one of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an Academic Requirements or What If report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 110*</td>
<td>3</td>
<td>IST 210*</td>
<td>3</td>
</tr>
<tr>
<td>IST 140*</td>
<td>3</td>
<td>General Education Course</td>
<td>3</td>
</tr>
<tr>
<td>MATH 110 or 140†</td>
<td>4</td>
<td>World Language level 2</td>
<td>4</td>
</tr>
<tr>
<td>World Language level 1</td>
<td>4</td>
<td>ECON 102, 104, or 14*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ENGL 15 or 30†</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 220*</td>
<td>3</td>
<td>IST 242*</td>
<td>3</td>
</tr>
<tr>
<td>IST 230*</td>
<td>3</td>
<td>STAT 200†</td>
<td>4</td>
</tr>
<tr>
<td>World Language level 3</td>
<td>4</td>
<td>CAS 100†</td>
<td>3</td>
</tr>
<tr>
<td>General Education Course</td>
<td>3</td>
<td>General Education Course</td>
<td>3</td>
</tr>
</tbody>
</table>
### Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 331*</td>
<td>3</td>
<td>IST 301*</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Support of</td>
<td>3</td>
<td>Option</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>1.5</td>
<td>Support of</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>Option</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course (GHW)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>3</td>
<td>Foreign Cultures</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>Requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>3</td>
<td>ENGL 202C or</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>202D‡</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 4XX -</td>
<td>3</td>
<td>IST 440W*</td>
<td>3</td>
</tr>
<tr>
<td>Emerging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issues &amp;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technologies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>from College,</td>
<td></td>
<td>approved list</td>
<td></td>
</tr>
<tr>
<td>IST 420*</td>
<td>3</td>
<td>IST 421*</td>
<td>3</td>
</tr>
<tr>
<td>Support of</td>
<td>3</td>
<td>Option (400-</td>
<td>3</td>
</tr>
<tr>
<td>Option</td>
<td></td>
<td>level)</td>
<td></td>
</tr>
<tr>
<td>World Cultures</td>
<td>3</td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Requirement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>3</td>
<td>Elective</td>
<td>2</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 125

* Course requires a grade of C or better for the major
‡ Course requires a grade of C or better for General Education
# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement
1 MIS 465 can be substituted for IST 210
MIS 448 can be substituted for IST 220

### University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GHW, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS, and Integrative Studies). Foundations courses (GWS and GQ) require a grade of ‘C’ or better.

Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

### Advising Notes:

- 1 Credit of IST 495 - Internship is required.
- 30 Credits of GA, GH, GHW, GN, GS to include 6 Integrative Studies Credits.
- 15 Credits of GQ and GWS require a grade of "C" or better.

### Program Notes:

- IST 4XX* Select 3 credit from:
  - IST 402 - Emerging Issues and Technologies (3)
  - IST 441 - Information Retrieval and Organization (3)
  - IST 446 - An Introduction to Building Computer/Video Games (3)
  - IST 452 - Legal and Regulatory Environment of Privacy and Security (3)
  - IST 454 - Computer and Cyber Forensics (3)

Please note: IST courses are only offered once per year.

IST 495 Internship: (1) Supervised work experience where the student is employed in an Information Science and Technology position in industry, government or academia. IST students are required to complete one internship, but may complete three. For more information, contact IST Internship Coordinator, Jane Kochanov at jxs121@psu.edu.

Students must complete a 3-credit course in "United States Cultures (US)" and a 3-credit course in "International Cultures (IL)."

Students in the Information Sciences and Technology (ISSCA_BS) major are expected to complete 24 credits of upper level course work in the major and the senior capstone course for the major at Penn State Harrisburg. This is in compliance with Faculty Senate Policy 83-80.5.

### Career Paths

IST allows you to explore some of the biggest challenges facing society and work to solve them by leveraging information and using technology. It blends skills from a number of fields – computer science, business, psychology, math, sociology, political science – so you can help people and organizations thrive. IST's Office of Career Solutions helps students navigate their internship and career development in the field through coaching, workshops, interview preparation, resume reviews, career fairs, job postings, and networking opportunities.

### Careers

Because our courses blend technical knowledge with skills in communication and business, an IST degree allows for careers in nearly
every industry including consulting, business, government, defense, entertainment, and medicine.

MORE INFORMATION ABOUT POTENTIAL CAREER OPTIONS FOR GRADUATES OF THE INFORMATION SCIENCES AND TECHNOLOGY PROGRAM [https://www.ist.psu.edu/students/careers/]

Contact

Harrisburg
SCHOOL OF BUSINESS ADMINISTRATION
Olmsted Building, E355
717-948-6141
ljc43@psu.edu


Abington
DIVISION OF SCIENCE AND ENGINEERING
1600 Woodland Road
Abington, PA 19001
267-633-3316
jxo19@psu.edu


Berk
EBC DIVISION
Gaige Building
Reading, PA 19610
610-396-6349
tkc3@psu.edu


Brandywine
25 Yearsley Mill Road
Media, PA 19063
610-892-1343
nxd13@psu.edu

http://brandywine.psu.edu/information-sciences-and-technology [http://brandywine.psu.edu/information-sciences-and-technology/]

DuBois
1 College Place
DuBois, PA 16823
814-372-3000
jell15@psu.edu

http://dubois.psu.edu/ist [http://dubois.psu.edu/ist/]

Greater Allegheny
101 Frable Building
4000 University Drive
McKeesport, PA 15132
412-675-9140

GA-Academics@lists.psu.edu

Hazleton
Kostos 117
Hazleton, PA 18202
570-450-3089
bxb30@psu.edu


Lehigh Valley
2809 Saucon Valley Road
Center Valley, PA 18034
610-285-5071
kmb6846@psu.edu

https://lehighvalley.psu.edu/academics/degrees/information-sciences-and-technology [https://lehighvalley.psu.edu/academics/degrees/information-sciences-and-technology/]

Mont Alto
6 Bookstore Building
Mont Alto, PA 17237
717-749-6241
pjbl9@psu.edu


New Kensington
036 Theater & IST Building
3550 Seventh Street Road
New Kensington, PA 15068
724-334-6089
hhs10@psu.edu

https://newkensington.psu.edu/2-year-information-sciences-technology [https://newkensington.psu.edu/2-year-information-sciences-technology/]

Scranton
212F Dawson
Dunmore, PA 18512
570-963-2593
dls102@psu.edu


University Park
OFFICE OF THE ASSOCIATE DEAN FOR GRADUATE AND UNDERGRADUATE STUDIES
E397F Westgate Building
University Park, PA 16802
814-863-3450
programs@ist.psu.edu

https://ist.psu.edu/directory/office/grad_undergrad_studies (https://ist.psu.edu/directory/office/grad_undergrad_studies/)

**Wilkes-Barre**
44 University Drive
Dallas, PA 18612
570-675-9142
weifan@psu.edu

http://wilkesbarre.psu.edu/academics/ist (http://wilkesbarre.psu.edu/academics/ist/)

**World Campus**
OFFICE OF THE ASSOCIATE DEAN FOR GRADUATE AND UNDERGRADUATE STUDIES
E397F Westgate Building
University Park, PA 16802
814-863-3450
programs@ist.psu.edu


**York**
226 Grumbacher Building (GISTC)
York, PA 17403
717-771-4143
wpc2@psu.edu

http://york.psu.edu/academics/baccalaureate/information-sciences-and-technology (http://york.psu.edu/academics/baccalaureate/information-sciences-and-technology/)