



Bachelor of Science in Information Sciences and Technology

The Information Sciences and Technology Bachelor of Science program prepares students for a career that focuses on how people create, improve, and use technology in their everyday lives—at work, at home, in business, in the media, and in the government. From developing new software like smartphone applications, to exploring how social media is used in a crisis, to helping businesses implement more efficient systems, they'll learn how to tackle problems in new ways. By analyzing information from real-world scenarios, students will understand technology's impact on the world and develop solutions to improve the ways people live, work, and play.

The most successful students in this major are:

Adaptable • Analytical • Collaborative • Detail-oriented • Logical • Perceptive • Strategic thinkers • Strong communicators

Entrance to major requirements:

Students must choose their major by the end of their second year. To enter this major, students must have earned between 40-70 Penn State credits and at least a 3.00 cumulative GPA at the time of applying to the major. Please check with your Penn State adviser for the most current information.

Options within this major

Design and Development



Design software, develop smartphone applications, and learn how to program new systems to meet the individual needs of organizations. By mastering every step of the software development process—from understanding user requirements to testing applications and troubleshooting complex issues—students will take a people-oriented approach to designing technology with end users in mind.

Integration and Application



Help organizations operate more effectively and efficiently by implementing technology-based solutions. Students will take on a big picture mindset to analyze the needs of an organization, integrate seamless information sharing, and evaluate outcomes. With theoretical knowledge and the ability to implement systems, they'll revolutionize the way work is done by improving system reliability, accessibility, and efficiency.

People, Organizations, and Society



Study how technology can be used to better structure organizations, how people influence the design and use of information technology, and how it is connected to broader social issues. Whether it's exploring how smartphones are transforming the way we communicate or how we assess online information to make decisions, they'll investigate the human side of technology.

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All Information Sciences and Technology (IST) options require 60 credits of prescribed coursework, with 26 of these credits earned through common required courses, 13 credits selected by the student from a defined list, and the remaining 21 credits selected by the student from different categories. Each option also requires the student to earn 24 additional credits through eight courses that will expand skills in their area of focus.

When selections are allowed, students should plan a coherent set of choices in consultation with his or her adviser.

ADDITIONAL PRESCRIBED COURSES:

In addition to the requirements above, students pursuing an IST degree must complete 24 credits earned through a combination of required courses and courses selected by the student from a defined list. These credits distinguish the student's focus of study and include courses like the following:

Design and Development

- **IST 311 – Object-Oriented Design and Software Applications**
Gain an understanding of object-oriented design and application development by learning the fundamentals of object-oriented modeling and programming languages. Work in teams to apply design concepts and develop working application prototypes.
- **IST 361 – Application Development Design Studio II**
Engage with the concepts, processes, tools, and materials used to envision and develop software applications. Collaborate, experiment, and refine your design with feedback sessions throughout the development lifecycle.

Integration and Application

- **IST 302 – IT Project Management**
Explore the key phases of the project lifecycle and apply the concepts and practices of project management to IT. Utilize methodologies, tools, and technology applications to define project scope, create workable project plans, and address real-world problems.
- **IST 420 – Fundamentals of Systems and Enterprise Integration**
Learn the role of information systems and technologies in achieving a variety of business goals. Review the theories and skills required for planning, developing, implementing, and managing the integration of information technology and different systems.

People, Organizations, and Society

- **IST 431 – The Information Environment**
Understand the economic, legal, ethical, and social issues of today's global IT environment. Discuss the policy and communication implications of emerging technologies.
- **IST 432 – Legal and Regulatory Environment of IST**
Examine the legal, regulatory, and political environment of the digital economy to understand how new technologies impact these areas. Discuss how legal and business practices must adapt to support these advances.

Our graduates are in high demand.

Graduates from the College of IST have technical expertise and business savvy, giving them the versatility employers want.

Their unique skills add value to every field as the need for professionals who can bring IT knowledge to businesses and organizations grows.

Pursue meaningful and diverse careers.

With two career fairs for students in our majors and more than 300 companies actively recruiting them, Information Sciences and Technology graduates are prepared for careers like:

- Application Developer
- Business Technology Analyst
- Database Administrator
- IT Project Manager
- Network Engineer
- Programmer Analyst
- Software Developer
- Systems Engineer
- Technology Risk Consultant



PennState
College of Information
Sciences and Technology