

## What is Information Technology and Management at IIT?

### IIT's Bachelor of Information Technology and Management

The objective of the Bachelor of Information Technology and Management degree from the IIT School of Applied Technology is to produce graduates prepared for a career in the information technology field, while equipping them with critical thinking skills necessary to cope with the emergence of new technologies and management principles needed to advance in their careers. While the program was originally designed for students who have achieved an Associate's Degree and would like to complete a Bachelor's Degree, students may also enter the program as incoming freshmen.

Government studies such as Free and Aspray, *The Supply of Information Technology Workers in the United States*, show that technology positions will be the fastest growing segment in the United States for the next thirty years. Organizations of all kinds have become dependent on networked computing infrastructure as the key element to enabling modern business processes, and our graduates are prepared to select, manage, and maintain that infrastructure, ensuring that it meets organizational needs. Information technology professionals assume responsibility for selecting hardware and software products appropriate for an organization, integrating those products with organizational needs and infrastructure, and installing, customizing, and maintaining those applications for the organization's computer users. Planning and managing an organization's technology infrastructure is a difficult and complex job that requires a solid foundation in applied computing as well as management and people skills. Professionals in this discipline require special skills, such as understanding how networked systems are composed and structured and what their strengths and weaknesses are, and being prepared to deal with important software systems concerns such as reliability, security, usability, and effectiveness and efficiency for their intended purpose. These topics are difficult and intellectually demanding.

The Bachelor of Information Technology and Management program produces graduates who can make information technology work in a wide range of settings, create digital content for that infrastructure and provide support to the individuals who use it. Our goal is to provide students with up-to-date knowledge of the technologies in use in today's workplace and at the same time equip them to manage those technologies. Courses are taught by professionals who work in the field and are in tune with the latest currents in information technologies.

### What's in the Bachelor of Information Technology and Management?

The degree shares common general education requirements with other undergraduate degrees at Illinois Institute of Technology. Including mathematics, natural science and engineering, humanities and the social sciences, these courses ensure that our graduates are well-rounded and have the full benefit of learning across a variety of disciplines and are not just focused on professional education topics. Courses in the ITM program generally have a stronger theoretical component than you might find in similar courses in other institutions, as we believe that a good grasp of theory equips our graduates to be far better prepared to adapt to the constantly shifting and evolving environment of information technology. A strongly defined set of eleven required courses ensure that our graduates have a broad grasp of all areas of the field, and the six electives allow students to deepen their understanding in a particular area, which can be demonstrated through the completion of one or more of seven specializations.

Required courses include:

**ITM 301 *Introduction to Contemporary Operating Systems & Hardware***

Students study the basics of logical and physical computer architecture and learn to use a contemporary operating system. Students learn using the same knowledge base that drives the CompTIA A+ certification, a international, vendor-neutral certification demonstrating proven competence in areas such as installation, preventative maintenance, networking, security and troubleshooting.

**ITM 302 *Introduction to Contemporary Operating Systems II***

Introduces students to the UNIX/Linux family of operating systems, and teaches programming for job automation in this environment through shell scripting.

**ITM 311 *Introduction to Software Development***

A broad introduction to object-oriented programming and the related knowledge necessary to program in a contemporary programming language, currently Java.

**ITM 312 *Introduction to Systems Software Programming***

An introduction to concepts of systems programming using C++.

**ITMD 411 *Intermediate Software Development***

Covers a broad spectrum of object-oriented programming concepts and application programming interfaces which currently includes deeper study in Java and the introduction of C#.

**ITMD 421 *Data Modeling and Applications***

Introduction to basic data modeling and database concepts; practical application includes hands-on database design, implementation, and administration of database applications using a contemporary relational database management system, currently Oracle.

**ITMD 434 *Human/Computer Interaction***

Introduction to this discipline which is concerned with the design, evaluation and implementation of inter-active computing systems for human use, with particular emphasis on practical design and usability of computer system user interfaces.

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Required courses (continued):

**ITMO 440 *Introduction to Data Networks and the Internet***

Covers current and evolving data network technologies, protocols, network components, and the networks that use them, focusing on the Internet and related local area networks.

**ITMS 448 *Cyber Security Technologies***

Prepares students for a role as a network security administrator and analyst, covering attack mechanisms, vulnerabilities and countermeasures, network security protocols, encryption, identity and authentication, scanning, firewalls, security tools, and organizations addressing security.

**ITMD 461 *Internet Technologies & Web Design***

This course will cover how the Internet is organized, the use of Internet applications, and the creation of Web pages using HTML and graphical applications. The design of effective Web site including page layout, user interface design, graphic design, content flow and site structure as well as management of Web site resources are addressed. Students design and create a major Web site.

**ITMM 471 *Project Management for Information Technology***

Basic principles of project management are taught with a particular focus on project planning for information technology hardware, software and networking project implementation.

Students choose six or more electives from 20 more Information Technology and Management undergraduate courses as well as business and management courses from IIT Stuart School of Business, and can complete an optional specialization which reflects deeper understanding and knowledge in a particular area. Specializations include:

***Systems Security***

Focuses on application, data, and network security and the management of information technology security.

***Data Management***

Focuses on the design, development and administration of traditional and Internet-based data management.

***Web Design and Application Development***

Focuses on the design and development of fully-interactive Web sites and applications for Internet deployment.

***IT Entrepreneurship and Management***

Focuses on business, managerial and entrepreneurial skills needed to launch a new information technology enterprise.

***Software Development***

Focuses on programming and the development of sophisticated applications.

***System Administration***

Focuses on the provisioning, administration and management of servers in an enterprise environment.

***Networking and Communications***

Focuses on network applications, network management and digital communications systems.

## About Information Technology & Management Courses

Courses in our program are available at IIT's Rice Campus in Wheaton, at our Chicago Main Campus live or on the Internet, and at remote locations via the Internet. Courses are offered on a semester basis with the fall semester beginning in late August and the Spring semester beginning in mid-January. As this is a program originally structured for working professionals, most course offerings are in the evening or on Saturday morning. To meet the needs of our full-time students, we do offer daytime classes as well, but in most cases these courses will be available online for part-time students. Courses with laboratories normally run from 5:30pm to 9:30pm one evening a week; lecture-only courses normally run 6:25pm to 9:05pm one evening a week. Because of the strong hands-on emphasis of these programs, many courses will include a laboratory. Bus transportation is provided from IIT's Main Campus for courses that are only taught in our specialized labs at the Rice Campus. Daytime courses normally will meet two days a week for 75 minutes each session, but may meet once a week for 150 minutes.

## About Illinois Institute of Technology's School of Applied Technology

Illinois Institute of Technology's School of Applied Technology offers hands-on, project-based technology-oriented education and training for both full-time students and working professionals. Courses are taught by IIT professors and industry professionals with significant working, teaching and research experience in their fields. The School of Applied Technology offers degree, non-degree, certificate, credit, non-credit programs, corporate training, short courses and seminars ranging from a few hours to several days in length. Both Bachelors and Masters Degrees are offered in Information Technology & Management and Industrial Technology & Management, as well as Undergraduate Certificates in Industrial Technology & Management, Graduate Certificates in Information Technology & Management topics and adult education/CEU courses in all fields. Our Information Technology & Management curriculum is supported by extensive dedicated laboratory facilities.

Illinois Institute of Technology (IIT) is a private, Ph.D. granting university founded in Chicago in 1890, offering programs in engineering, science, technology, architecture, design, psychology, public administration, technical communication, business and law.