Master of Information Technology and Management
Specialization in Technology Innovation

Current economic conditions and global sourcing makes it crystal-clear that innovation may be the leading business tool for developing a competitive edge. Innovation long has been considered a competency of leading-edge design engineering, but the number of employees in enterprises equipped to innovate has been dwindling. Businesses of all kinds need to innovate to develop customer-specific solutions in near-real-time. The growing prominence of publications such as BusinessWeek's *IN: Inside Innovation* suggest that innovation is a key force in the business world today. But as noted by the Winter 2007 issue of *IIT Magazine*. "...despite its popularity, innovation continues to be an almost entirely unplanned activity". Research in the field has identified three main drivers for successful innovation - business, technology, and design. Already a leader in design innovation, to answer the technology call of this dilemma Illinois Institute of Technology has developed the specialization in Technology Innovation in our Masters Degree in Information Technology and Management. Our program incorporates Einstein's thinking and Edison's methods to establish an innovation process that can be applied in current business environments. Our four-course sequence in Innovation Management, coupled with a three-course Technology Focus, will equip students with the knowledge and skills to become the technology innovators of tomorrow. In the technology focus area, students participate in projects to develop and demonstrate their capability to develop innovative ideas, and in the common core of innovation management courses they are equipped and enabled to develop business plans for ideas developed through the projects they have completed.

Degree Requirements
Students must complete a minimum of 30 credit hours of study to complete the degree. Courses may be selected from 400-and 500-level courses; a minimum of 18 credit hours must be at the graduate level (500-level or higher). Students are expected to maintain a GPA of 3.0/4.0 or better. Students whose undergraduate degree is not in a computer- related area or who do not have significant experience or certifications in the information technology field will be required to complete core courses or demonstrate their knowledge through equivalent coursework, certification or experience.

Core Courses (9 hours)
Students in the program are expected to have a core competency in information technology. These core courses will ensure an ability to program at a competent level using a contemporary programming language; basic knowledge of networking concepts, protocols and methods; knowledge of the Internet, including the ability to build Web sites and deliver them on a server; and the ability to create and administer databases using a modern database management. Students entering the program who have not gained this background through undergraduate education or industry certification are required to take the following courses:

> ITM 411 Intermediate Software Development
> **and** 6 hours chosen from the following, based on the Technology Focus selected:
> ITM 421 Data Modeling and Applications
> ITM 561 Internet Technologies & Web Design
> ITM 540 Introduction to Data Networks and the Internet

Note: *Core courses may be waived upon presentation of evidence of equivalent coursework, certification or experience.*

Innovation Management Core (12 hours)
All students take the following courses dealing with the management of technology innovation in the workplace; these courses equip and enable students to develop business plans for ideas developed through projects completed in their Technology Focus area.

> ITM 571 Project Management for Information Technology and Management
> ITM 582 Business Innovation
> ITM 581 IT Entrepreneurship
> ITM 573 Building and Leading Effective Teams

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Technology Focus (9 hours)

Students select a sequence of courses in a particular technology area in which they are required to demonstrate their capability to develop innovative ideas. The demonstrations may produce a software prototype, new process techniques, proof of concept, problem solutions, etc. They will also be encouraged to present their innovative ideas at a technical conference or professional society meeting. Several such events are sponsored by various professional societies and the Information Technology and Management (ITM) programs each semester on campus. ITM students are regular presenters at these events. Students are also encouraged to submit their ideas to national conferences and competitions and to apply for patents when truly significant results are attained.

The following focus areas enable students to participate in numerous corporate sponsored projects that, in the past, have produced a collection of innovative ideas each semester. ITM faculty, working with corporate sponsors, direct students in these projects.

Computer and Network Security Technology
> ITM 548 System and Network Security
> ITM 549 System and Network Security: Projects & Advanced Methods
> ITM 538 Computer & Network Forensics
> **or**
> ITM 543 Vulnerability Analysis and Control

Voice and Data Communication Technology
> ITM 546 Voice Communications over Data Networks
> ITM 547 Voice Communications Over Data Networks: Projects & Advanced Methods
> ITM 545 Telecommunications Technology Management
> **or**
> ITM 542 Wireless Technologies and Applications

Web Design and Application Development
> ITM 562 Web Application Development
> ITM 563 Internet Application Development
> ITM 565 Rich Internet Applications

Systems Analysis and Process Management
> ITM 531 Object-Oriented System Analysis, Modeling and Design
> ITM 572 Process Engineering for Information Technology Managers
> ITM 574 Information Technology Management Frameworks

Software Development
> ITM 532 UML Based Software Development
> ITM 515 Advanced Software Development
> ITM 511 Application Development Methodologies
> **or**
> ITM 519 Topics in Software Development

Data Management
> ITM 422 Advanced Database Management
> ITM 526 Data Warehousing
> ITM 527 Data Analytics

Digital Device Technologies
> ITM 534 Human/Computer Interaction
> ITM 555 Intelligent Device Applications
> ITM 556 Intelligent Device Projects

Non-ITM Technology Focus
> Other departments offer courses that could be substituted for the Technology Focus of the program with the approval of a student's ITM Graduate Adviser.