The University of Kansas MS Degree in Information Technology

According to the U.S. Department of Labor, employment opportunities in information technology (IT) will be among the fastest growing in the U.S. for many years to come. KU’s Department of Electrical Engineering & Computer Science (EECS) offers a Master’s of Science in Information Technology (MSIT). The MSIT program is motivated a direct response to the opportunities and challenges presented by the ever expanding information technologies as it relates to economic growth of the Kansas City metropolitan area. The MSIT program includes graduate courses that provide individuals with the essential in making important IT decisions and contributions. To achieve this goal the program is split between about ~2/3 Technical and 1/3 Business and Management content. The educational opportunities offered by the MSIT degree will help recent graduates and existing high-tech practitioners gain advanced knowledge, hence improved productivity and enhanced competitiveness. The MSIT degree reflects the KU mission statement and its commitment to offer the highest quality professional and graduate programs to serve the workforce, economic and community development needs of the region.

Individuals completing the MSIT program are expected to:

- Understand fundamental principles and underlying technologies of IT.
- Understand how to realize an IT infrastructure, from defining requirements, design, implementation, deployment, integration and on through its lifecycle.
- Understand how to apply IT within an organizational context to increase productivity, competitiveness, and meet business goals
- Understand the policy, security, privacy, ethical, and legal aspects of IT and its evolution and future trends
- Have the ability to effectively communicate to impact technological decisions

For example, the MSIT program lays a foundation for individuals with long-term goals of pursuing positions as:

- CIO and CSO (Chief Security Officer)
- Director of IT
- IT and software manager
- IT security manager
- IT consultant
- IT staff
Convenience
Location and Scheduling

The MSIT program is specifically designed for the professionals in the Kansas City metropolitan area to address their needs while accommodating their scheduling constraints and thus it is primarily offered at the KU Edwards Campus in Overland Park. By locating the program at the Edwards Campus, the EECS department is able to better address the KU’s mission statement in offering high quality professional and graduate programs to serve the workforce, economic, and community development needs of the Kansas City metropolitan area, and is able to offer a program in which practitioners in information intensive industries can earn a degree during the evenings without interrupting their professional careers. To accommodate the IT professionals’ busy day-time schedules, all MSIT courses are offered during the evening hours and each course meets once a week. The program includes 30 credit hours and can be completed in two years. All courses are taught by highly qualified faculty who have earned Ph.D. degrees from well-known U.S. institutions of higher education and who are known nationally and internationally for their research contributions.
Focus Areas

The KU MSIT program is focused in the following areas:

**Software Engineering and Management**

This focus area aims at uniting theory with industrial-strength practices to provide a solid education in software development, management and maintenance. The program contents emphasize skills in requirements engineering, software architecture, software project managements, software quality assurance and object technologies.

**Internet Engineering**

The focus area in Internet engineering covers important topics related to computer networks, networking performance tuning, routing architectures, information and network security, data retrieval, storage and transmission, and other important topics related to Internet applications and operations.

**Information Security**

The focus area in information security and assurance will provide technical knowledge and practical skills in the science and methodologies for identifying important information assets, securing and protecting such assets, and assuring their availability for authorized users.

**MSIT Courses**

All MSIT courses will be taught one day/week in the evening. The majority of the MSIT courses will be taught on the Edwards campus. MSIT courses can be taught in Lawrence one day/week in the evening with a distance learning link to Edwards. MSIT courses taught at Edwards may have a distance learning link to Lawrence. See [http://www.eecs.ku.edu/courses](http://www.eecs.ku.edu/courses) for the current course descriptions.
Admission Requirements

The admission requirements to the Master’s of Science in Information Technology include the following:

Undergraduate Degree Requirement:

The MSIT program is intended for students who have a bachelor’s degree in:

- Information technology, computer science, computer information systems, computer engineering or a related field who will enter the program for advanced studies;
- A field not listed above who are already employed in the IT field and are seeking additional academic studies for professional growth or career advancement.
- A baccalaureate degree from an accredited college or university
- A minimum undergraduate GPA of 3.00

GRE Requirement: Applicants should demonstrate evidence of aptitude for graduate studies by suitable test scores on the Graduate Record Examination (GRE).

Industrial Background Requirement:

- A minimum of two years of professional work experience with an undergraduate degree in information technology, computer science, computer information systems, computer engineering.
- Without an undergraduate degree in a technical field four years relevant professional work experience is required and must be documented. Work experience within the IT industry is preferred. The professional work experience requirement maybe waived for newly graduated students with an undergraduate degree in a IT or a computing field.

Programming Requirement:

Applicants must also be able to demonstrate knowledge of programming via experience or equivalent coursework in data structures and a modern programming language. This can be demonstrated by completion of a course, such as, CS 250 Basic Data Structures using C++ * from Johnson County Community College.

Mathematics Requirement:

As an applicant for a technology-based degree, an applicant must also be able to demonstrate sufficient mathematics aptitude via academic background, GRE scores, and/or work history (advanced math and probability is used in the program).
Program Completion Requirements

Total required hours – 31 Hours

Required Core Courses – 18 Hours

- EECS 710 (3 hrs) Information Security and Assurance
- EECS 780 (3 hrs) Communication Networks
- EECS 810 (3 hrs) Principles of Software Engineering
- EECS 811 (3 hrs) IT Project Management
- EMGT 806 (3 hrs) Finance for Engineers
- EMGT 821 (3 hrs) Strategic Analysis of Technology Projects

- EECS802 (1 hr): EECS Colloquium (required for all graduate students)

All students are required to choose a focus area and project or thesis topic as early in his/her graduate program as possible and identify a faculty adviser who would be interested in supervising their work.

Electives:

<table>
<thead>
<tr>
<th>Internet Engineering</th>
<th>Software Engineering and Management</th>
<th>Information Assurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>EECS881: High-Performance Networking</td>
<td>EECS812: Software Requirements Engineering</td>
<td>EECS711: Security Management and Audit</td>
</tr>
<tr>
<td>EECS882: Mobile Wireless Networking</td>
<td>EECS814: Software Quality Assurance</td>
<td>EECS712: Network Security</td>
</tr>
<tr>
<td>EECS712: Network Security</td>
<td>EECS818: Software Architecture</td>
<td>EECS746: Database Management Systems</td>
</tr>
<tr>
<td>EECS767: Information Retrieval</td>
<td>EECS746: Database Management Systems</td>
<td>EECS882: Mobile Wireless Networking</td>
</tr>
</tbody>
</table>
Preparing a Plan of Study

Early in the program a student must choose a faculty adviser (upon admission, a student is assigned an initial graduate adviser). The student, together with the help of the adviser, must develop a Plan of Study that includes the courses that the student wishes to take to complete the program in a timely basis. The student along with their faculty advisor also forms the student’s graduate committee. Developing a plan of study has three important considerations:

1. Deciding on the thesis/project option; the graduate adviser will discuss the merits and challenges of each option.
2. Deciding on what EECS electives should be taken. This decision is based primarily on the “focus area” chosen by the student.
3. Deciding how many classes to take each semester and work out a schedule based on class prerequisites and when EECS graduate classes are offered.

Once the Plan of Study has been completed, it should be submitted online at: gradplan.engr.ku.edu. The plan of study must be approved by the student’s graduate committee and the EECS Associate Chair for Graduate Studies.

Enrollment Planning Form. At the beginning of each semester, a student is required to complete an “enrollment planning form” that indicates what courses he or she plans to take. The student’s adviser must approve and sign the enrollment planning form to allow student’s registration

Hold Removal. If a student does not have a Plan of Study on file, or if he/she has not prepared an enrollment planning form for a particular semester, he/she will not be able to enroll (his/her records will be “on hold”). An exception is made for the first semester of enrollment.
How to Apply

Prospective applicants are encouraged to apply online at: www.graduate.ku.edu. The online application should be accompanied by the following documents:

- One official copy of all university transcripts
- Statement of objective and work experience summary
- GRE score (see the admission requirements)
- TOEFL score (international students only)
- Three letters of reference

and sent via postal mail to the EECS Graduate Admission office:

EECS Graduate Admission
Eaton Hall 2001
University of Kansas
Lawrence, Kansas 66045

Application Due Dates. For consideration in the normal review cycle application are due are October 1st (for spring admissions) and March 1st (for fall admissions); however applications can be submitted anytime.

Additional and Contact Information

EECS Graduate Web site. This information booklet is an abridged version of the EECS graduate catalog and includes the most essential information for the individuals interested in the MSIT program. Once admitted into the program, a student is strongly encouraged to visit the EECS’s graduate Web site for additional information: www.eecs.ku.edu/graduate

Contact Information. You may direct all your questions and inquiries to the program director, Professor Hossein Saiedian:
Tel: +1 913-897-8515 — FAX +1 913-897-8490
E-Mail: saiedian@eecs.ku.edu