Master of Science in Information Technology and Management

36 semester credit hours minimum

Faculty


**Clinical Professors:** Ranavir Bose, Kutsal Dogan, Forney Fleming III, William Hefley, Peter Lewin, Daniel Rajaratnam, Rajiv Shah, Mark Thouin

**Associate Professors:** Jianqing Chen, Surya N. Janakiraman, Atanu Lahiri, Amit Mehra, Young U. Ryu, Gil Sadka, Harpreet Singh, Upender Subramanian, Feng Zhao

**Clinical Associate Professor:** Carolyn Reichert

**Assistant Professors:** Mehmet Ayvaci, Radha Mookerjee, Shaojie Tang, Zhe (James) Zhang

**Clinical Assistant Professors:** Moran Blueshtein, Judd Bradbury, Maria Hasenhuttl, Jeffery (Jeff) Hicks, Liping Ma, Ravi Narayan, Dawn Owens, Nassim Sohaee

**Senior Lecturers:** Prithi Narasimhan, Kashif Saeed, Luell (Lou) Thompson

Degree Requirements

The Master of Science in Information Technology Management (MS ITM) is a minimum 36 semester credit hours STEM (Science, Technology, Engineering and Mathematics) degree program that prepares students to better understand the complex world of Information Technology, its management, and issues that occur at the interface between IT and business.

Course requirement consists of core courses, IT elective courses, and free elective courses. Core courses provide foundational knowledge regarding information technology and management practices and serve as the foundation for understanding the complex issues that occur at the interface between IT and business. IT elective courses provide students with opportunities to learn specialized knowledge in one or more focused tracks and free elective courses enable students to select courses that maximize their individual educational and professional goals. Detailed course requirements for the MS ITM degree may be found in the following section.

To apply for this degree program, an undergraduate degree is required (all majors are considered). Students must maintain a 3.0 grade-point average (GPA) in both core courses and in aggregate courses to qualify for the MS degree.
**Prerequisite**

Students pursuing the Master of Science in Information Technology Management degree program are required to complete one semester credit hour of **MAS 6102** Professional Development course. Degree credit is not earned for program prerequisites, however, the grade achieved in prerequisites will count toward the student's grade-point average (GPA). All program prerequisites must be satisfied within the first semester of graduate study as a degree-seeking student.

**Course Requirements**

**Core Courses: 18 semester credit hours**

Select the following three courses (9 semester credit hours).

- **MIS 6323** Object Oriented Programming in Java
- or **MIS 6382** Object Oriented Programming in Python
- **MIS 6326** Data Management
- **MIS 6308** Systems Analysis and Project Management

And choose three courses listed below (9 semester credit hours).

- **ACCT 6305** Accounting for Managers
- **ENTP 6370** Innovation and Entrepreneurship
- **FIN 6301** Financial Management
- **MECO 6303** Business Economics
- **MKT 6301** Marketing Management
- **OB 6301** Organizational Behavior
- **OPRE 6301** Statistics and Data Analysis
- **OPRE 6302** Operations Management

**Electives: 12 semester credit hours**

Choose 12 semester credit hours from courses listed below.

- **MIS 6302** Managing Digital Strategy
- **MIS 6309** Business Data Warehousing
- **MIS 6316** Data Communications
- **MIS 6317** Healthcare Informatics
- **MIS 6319** Enterprise Resource Planning
MIS 6324  Business Analytics with SAS
MIS 6330  Information Technology Security
MIS 6332  ERP Configurations and Implementation
MIS 6333  Digital Forensics and Incident Management
MIS 6334  Advanced Business Analytics with SAS
MIS 6337  Information Technology Audit and Risk Management
MIS 6338  Accounting Systems Integration and Configuration
MIS 6344  Web Analytics
MIS 6345  High Performance Analytics
MIS 6346  Big Data Analytics
MIS 6356  Business Analytics with R
MIS 6357  Advanced Business Analytics with R
MIS 6360  Agile Project Management
MIS 6363  Cloud Computing
MIS 6364  Enterprise Architecture: Modeling the Digital Enterprise
MIS 6369  Supply Chain Software
MIS 6372  Managing IT-as-a-Service
MIS 6373  Social Media Business
MIS 6375  Technology and New Product Development
MIS 6378  Enterprise Systems and CRM
MIS 6380  Data Visualization
MIS 6383  Programming Approaches for Data Management
MIS 6384  Preparing for Cybersecurity Threats
MIS 6V98  Information Systems Internship
MIS 6V99  Special Topics in Management Information Systems
MIS 7340  Independent Study in MIS
BUAN 6335  Managing Analytics Projects
BUAN 6340  Programming for Data Science
BUAN 6341  Applied Machine Learning

Free Electives: 6 semester credit hours
Students may choose any masters-level course offered within JSOM except for MIS 6204 and MIS 6320.

Information Technology Management Tracks

The MS ITM degree program offers opportunities for students to focus in a specific track (optional) to obtain an in-depth knowledge in a specific area depending on their interests.

The Enterprise Systems track is recommended for students interested in developing and managing large-scale applications and IT infrastructure.

- MIS 6309 Business Data Warehousing
- MIS 6319 Enterprise Resource Planning
- MIS 6332 ERP Configurations and Implementation
- MIS 6338 Accounting Systems Integration and Configuration
- MIS 6369 Supply Chain Software
- MIS 6378 Enterprise Systems and CRM

The Business Intelligence and Analytics track is recommended for students interested in managing large-scale data and analyzing them to develop sound business strategies.

- BUAN 6335 Organizing for Business Analytics: A System Approach
- MIS 6309 Business Data Warehousing
- MIS 6324 Business Analytics with SAS
- MIS 6334 Advanced Business Analytics with SAS
- MIS 6344 Web Analytics
- MIS 6345 High Performance Analytics
- MIS 6373 Social Media Business
- MIS 6380 Data Visualization
- OPRE 6301 Statistics and Data Analysis

The Cyber Security Management track is recommended for students interested in cyber security risk management.

- MIS 6316 Data Communications
- MIS 6330 Information Technology Security
- MIS 6333 Digital Forensics and Incident Management
- MIS 6337 Information Technology Audit and Risk Management
- MIS 6384 Preparing for Cybersecurity Threats

The IT Consulting and Services Management track is recommended for students interested in IT consulting and project management.
The **Healthcare Systems** track is recommended for students interested in managing IT in the healthcare domain.

- **HMGT 6323** Healthcare Informatics
- **HMGT 6320** The American Healthcare System
- **MIS 6324** Business Analytics with SAS
- **HMGT 6327** Electronic Health Records Applications
- **MIS 6330** Information Technology Security
- **MIS 6381** Electronic Health Records Applications

### Graduate Certificate in Healthcare Information Technology

9 semester credit hours

#### Faculty

- **Professor:** Indranil R. Bardhan
- **Assistant Professor:** Mehmet Ayvaci

#### Overview

The Graduate Certificate in Health Information Technology emphasizes practical concepts in healthcare IT and hands on experience gained using electronic medical records (EMR) software. The focus will be on identification and understanding the key information required for managing and working with healthcare information systems. It also demonstrates the use of analytics and software tools related to healthcare information to develop sound healthcare decisions, particularly the core functionalities of the EMR software platform, including how to support clinical information workflows in a paperless environment, and the interconnectivity with other clinical and business systems.

Courses required for graduate certificate in health information technology (9 semester credit hours)
Graduate Certificate in Enterprise Systems
9 semester credit hours

Faculty

Associate Professor: Atanu Lahiri
Clinical Assistant Professor: Judd Bradbury
Senior Lecturers: Mary Beth Goodrich, Luell (Lou) Thompson

Overview

The Graduate Certificate in Enterprise Systems emphasizes theoretical concepts in enterprise resource planning and hands on experience using SAP software. It provides broad exposure to various SAP functional modules such as sales and distribution, supply chain management, customer relationship management, procurement, human capital management, accounting, and data warehousing. Furthermore, the certificate program provides students with an opportunity to get an in-depth knowledge of two of these modules.

MIS 6319 Enterprise Resource Planning

and choose two of the courses listed below:

MIS 6309 Business Data Warehousing
MIS 6332 ERP Configurations and Implementation
MIS 6338 Accounting Systems Integration and Configuration
MIS 6369 Supply Chain Software
MIS 6378 Enterprise Systems and CRM

Graduate Certificate in Business Intelligence and Data Mining
12 semester credit hours

Faculty

Professors: Huseyin Cavusoglu, Syam Menon, Zhiqiang (Eric) Zheng
Clinical Professor: Kutsal Dogan
Overview

The Graduate Certificate in Business Intelligence and Data Mining provides students with an understanding of how to analyze large complex data sets in order to solve business problems. It emphasizes theoretical concepts and clinical knowledge associated with the design, delivery and use of business intelligence and data mining techniques in organizations.

Required courses: 12 semester credit hours

- **MIS 6309** Business Data Warehousing (ITM Majors Only)
  - or **MIS 6320** Database Foundations (non-ITM Majors Only)
- **MIS 6324** Business Analytics with SAS
- **MIS 6334** Advanced Business Analytics with SAS
- **OPRE 6301** Statistics and Data Analysis