Naveen Jindal School of Management

Master of Science in Information Technology and Management

36 semester credit hours minimum

Faculty


**Associate Professors:** Mehmet Ayvaci, Nina Baranchuk, Zhonglan Dai, Rebecca Files, Michael Hasler, Dorothée Honhon, Bin Hu, Surya N. Janakiraman, Robert L. Kieschnick Jr., Atanu Lahiri, Jun Li, Ningzhong Li, Maria Loumioti, Lívia Markóczy, Ramachandran (Ram) Natarajan, Naim Bugra Ozel, H. Dennis Park, Anyan Qi, Young U. Ryu, Harpreet Singh, David J. Springate, Upender Subramanian, Shaojie Tang, Shouqiang Wang, Kelsey D. Wei, Han (Victor) Xia, Yexiao Xu, Alejandro Zentner, Jieying Zhang, Yuan Zhang, Feng Zhao, Yibin Zhou

**Assistant Professors:** Khai Chiong, Rafael Copat, Soraya Fatehi, Andrew Frazelle, Ying Huang, Joonhwi Joo, Sora Jun, Jason Kautz, Tongil Kim, Sheen Levine, Christopher Mace, Samir Mamadehussene, Jean-Marie Meier, Zixuan Meng, Radha Mookerjee, Jedson Pinto, Ignacio Rios Uribe, Alejandro Rivera Mesias, Simon Siegenthaler, Serdar Simsek, Kirti Sinha, Shujing Sun, Xiaoxiao Tang, Shervin Tehrani, Ashwin Venkataraman, Christian Von-Drathen, Guihua Wang, Hongchang Wang, Pingle Wang, Junfeng Wu, Steven Xiao, Zhe (James) Zhang

**Professor Emeritus:** R. Chandrasekaran

**Clinical Professors:** John Barden, Britt Berrett, Abhijit Biswas, Pamela Foster Brady, Shawn Carraher, Larry Chasteen, Paul Convery, Tsvifk Dalgic, Howard Dover, John Gamino, Randall S. Guttery, William Hefley, Robert Hicks, Robert Kieschnick, Marilyn Kaplan, Van Latham, Sonia Leach, Peter Lewin, Jeffrey Manzi, John F. McCracken, Diane S. McNulty, Larry Norton, Divakar Rajamani, Daniel Rajaratnam, Kannan Ramanathan, Prakash Shrivastava, Mark Thouin, McClain Watson, Jeff Weekley, Habte Woldu, Fang Wu, Laurie L. Ziegler

**Clinical Associate Professors:** Shawn Alborz, Dawn Owens, Carolyn Reichert, Avanti P. Sethi, Ramesh Subramoniam, James Szot, Aysegul Toptal, David Widdifield

**Clinical Assistant Professors:** Athena Alimirzaei, Christina (Krysta) Betanzos, Moran Blueshtein, Judd
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 all graduate courses taken in the degree program, excluding program prerequisites 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

**MIS 6009** Information Systems Internship (required elective)

**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
- **BUAN 6320** Database Foundations for Business Analytics
  - or **MIS 6326** Data Management
- **MIS 6308** System Analysis and Project Management

Select three courses from three different core business areas listed below. Business core areas are listed in bold and underlined. (9 semester credit hours). Note that statistics is a required prerequisite for many courses in JSOM. In particular, **BUAN 6359/OPRE 6359** is required for several courses that are part of the Business Intelligence and Analytics track.

**Statistics**

- **OPRE 6301** Statistics and Data Analysis
- **OPRE 6359** Advanced Statistics for Data Science

**Accounting**

- **ACCT 6305** Accounting for Managers
- **ACCT 6336** Information Technology Audit and Risk Management
- **ACCT 6386** Governance, Risk Management and Compliance (GRC)

**Marketing**

- **MKT 6301** Marketing Management
- **MKT 6337** Predictive Analytics Using SAS
- **MKT 6321** Interactive and Digital Marketing
- **MKT 6382** Professional Selling I

**Innovation and Entrepreneurship**

- **ENTP 6370** Innovation and Entrepreneurship
- **ENTP 6375** Technology and New Product Development
Electives: 18 semester credit hours

Select 18 semester credit hours from electives listed below. 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. Students are not required to choose any track - they may select the 18 semester credit hours from any mix of courses across the different tracks. As part of the 18 semester credit hours of elective courses, students may also substitute up to six semester credit hours of any master’s-level courses offered within JSOM as free electives, except for MIS 6320 or ACCT 6320 or OPRE 6393. Additionally, students must abide by any restriction specified in a course description.

Information Technology Management Tracks

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 Intelligent Enterprise Systems with SAP
- MIS 6332 Intelligent Enterprise Systems Configurations and Implementation with SAP
- MIS 6338 Accounting Systems Integration and Configuration
- MIS 6345 SAP Analytics
- MIS 6369 Supply Chain Software with SAP
- MIS 6371 SAP Cloud Analytics
- MIS 6378 Customer Relationship Management with Salesforce

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

- MIS 6309 Business Data Warehousing
- MIS 6324 Business Analytics with SAS
- or MIS 6356 Business Analytics with R
- MIS 6334 Advanced Business Analytics with SAS
- or MIS 6357 Advanced Business Analytics with R
- MIS 6341 Applied Machine Learning
- MIS 6344 Web Analytics
- MIS 6345 SAP Analytics
- MIS 6346 Big Data
- MIS 6386 Modeling for Business Analytics
- MIS 6373 Social Media Business
- MIS 6380 Data Visualization
- MIS 6385 Robotic Process Automation
The **Cyber Security Management** track is recommended for students interested in cyber security risk management.

- **MIS 6316** Data Communications
- **MIS 6330** Cybersecurity Fundamentals
- **MIS 6333** Digital Forensics and Incident Management
- **MIS 6337** Information Technology Audit and Risk Management
- **MIS 6339** Analytical Reviews Using Audit Software
- **MIS 6363** Cloud Computing Fundamentals
- **MIS 6368** Applied Cybersecurity Analytics and Risk Management
- **MIS 6384** Preparing for Cybersecurity Threats

The **Digital Product Management** track is recommended for students interested in managing the creation, design, and delivery of digital software products.

- **MIS 6393** Foundations of Digital Product Management
- **MIS 6313** Managing IT in the Analytics Age
- **MIS 6349** Digital Consulting Project
- **MIS 6360** Agile Project Management
- **MIS 6375** Technology and New Product Development
- **MIS 6380** Data Visualization
- **MIS 6396** User Experience Design

The **IT Consulting and Services Management** track is recommended for students interested in IT consulting and project management.

- **MIS 6204** Information Technology for Management
- **MIS 6302** Managing Digital Strategy
- **MIS 6313** Managing IT in the Analytics Age
- **MIS 6339** Analytical Reviews Using Audit Software
- **MIS 6349** Digital Consulting Project
- **MIS 6360** Agile Project Management
- **MIS 6363** Cloud Computing Fundamentals
MIS 6374 Internet of Things  
MIS 6375 Technology and New Product Development  
MIS 6378 Customer Relationship Management with Salesforce  
MIS 6385 Robotic Process Automation  
MIS 6398 Blockchain Technology and Applications  
BPS 6360 Management and Organizational Consulting: Theory and Practice  

The **Healthcare Systems** track is recommended for students interested in managing IT in the healthcare domain.  

HMGT 6320 The American Healthcare System  
MIS 6305 Healthcare Analytics  
MIS 6317 Healthcare Informatics  
MIS 6330 Cybersecurity Fundamentals  
MIS 6374 Internet of Things  
MIS 6381 Electronic Health Records Applications  
MIS 6393 Foundations of Digital Product Management  

The **Cloud Computing** track is recommended for students interested in cloud computing.  

MIS 6363 Cloud Computing Fundamentals  
MIS 6389 AWS Cloud Solution Architecture  
MIS 6347 AWS Cloud Analytics  
MIS 6374 Internet of Things

1. Students may use MIS 6009 only for their first internship and any additional internship must be completed as MIS 6V98 (3 semester credit hours maximum). Students may use MIS 6V98 or MIS 6349 to fulfill the internship requirement. Students are no longer eligible to enroll in MIS 6009 if they have already completed MIS 6V98 or MIS 6349.

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**Graduate Certificate in Healthcare Information Technology**  
*9 semester credit hours*

**Faculty**  
**Associate 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)

- **MIS 6317** Healthcare Informatics
- **MIS 6305** Healthcare Analytics
- **MIS 6381** Electronic Health Records Applications

Graduate Certificate in Enterprise Systems

9 semester credit hours

Faculty

- **Associate Professor**: Atanu Lahiri
- **Clinical Assistant Professor**: Judd Bradbury
- **Professors of Instruction**: Mary Beth Goodrich, Luell (Lou) Thompson
- **Assistant Professor of Practice**: Abu Naser Islam

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 with SAP

And choose two of the courses listed below:

- **MIS 6309** Business Data Warehousing
- **MIS 6332** ERP Configurations and Implementation with SAP
Graduate Certificate in Business Intelligence and Data Mining

12 semester credit hours

Faculty

Professors: Huseyin Cavusoglu, Jianqing Chen, Syam Menon, Zhiqiang (Eric) Zheng

Associate Professor: Atanu Lahiri

Assistant Professors: Radha Mookerjee, Zhe (James) Zhang

Clinical Assistant Professors: Judd Bradbury, Ravi Narayan, Nassim Sohaee

Assistant Professor of Practice: Abu Naser Islam

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
- **MIS 6324** Business Analytics with SAS
  - or **MIS 6356** Business Analytics with R
- **MIS 6334** Advanced Business Analytics with SAS
  - or **MIS 6357** Advanced Business Analytics with R
- **OPRE 6301** Statistics and Data Analysis
  - or **OPRE 6359** Advanced Statistics for Data Science

2. OPRE 6359 is required for MIS 6356