

# Management Information Systems

Degree Offered:	Master of Science in Management Information Systems (MS MIS)
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The UAB Collat School of Business, Master of Science in Management Information Systems (MS MIS) program focuses on the business side of information systems and how to strategically position technology to maximize value for an organization. This program provides the broad perspective needed to advance in the information systems management field, and allow students to tailor their education based on specific career goals by focusing in one of three areas: **Cyber Security Management, IT Management, or Business Analytics**. UAB's emphasis is on the managerial aspects of information systems, and although the program does provide opportunities for skill development in the latest technologies, the goal of the program is to help those currently working in information systems related fields move into managerial positions by improving understanding of how to use the latest information technologies to benefit organizational stakeholders, such as managers, organizations, employees, customers and partners.

The Management of Information Systems field is growing at an exponential rate as organizations struggle to stay current with new and emerging technologies, such as mobile applications, social media, and business analytics. Professionals are needed that can help organizations understand the business potential of these new technologies, how to develop new applications to meet changing market dynamics, and how to secure these systems from threats. Students graduating from this program are prepared to succeed in an exciting and dynamic career field combining a solid technical information system foundation with business skills so they can immediately contribute to solving business problems, and can drill down into specific fields, such as IT management, web and mobile development or information security.

## Program Details

The MS MIS program is taught completely online. Most students can complete degree requirements within 1.6 years (1 year for full-time students). Concentrations are available in Cyber Security Management, IT Management, and Business Analytics. Each concentration consists of twelve semester hours. The Collat School of Business is accredited by AACSB–The Association to Advance Collegiate Schools of Business.

## Master of Science in Management Information Systems -

### Concentration in Cyber Security Management

Requirements	Hours
<b>Core Curriculum</b>	
IS 607 Introduction to Cyber Security <sup>1</sup>	3
IS 608 Desktop Analytics with IT Tools	3

IS 611 Information Technology and Business Strategy	3
IS 618 IT Project Management <sup>2</sup>	3
IS 650 Business Intelligence Strategy	3
IS 660 Emerging IT Trends & Technologies	3
<b>Concentration Course Requirements</b>	
IS 620 Cyber Attacks and Threat Mitigation	3
IS 621 Incident Response and Business Continuity	3
IS 613 Information Security Management	3
IS 644 Digital Forensics	3
<b>Total Hours</b>	<b>30</b>

### Concentration in Information Technology Management

Requirements	Hours
<b>Core Curriculum</b>	
IS 607 Introduction to Cyber Security <sup>1</sup>	3
IS 608 Desktop Analytics with IT Tools	3
IS 611 Information Technology and Business Strategy	3
IS 618 IT Project Management <sup>2</sup>	3
IS 650 Business Intelligence Strategy	3
IS 660 Emerging IT Trends & Technologies	3
<b>Concentration Course Requirements</b>	
IS 612 IT Governance and Management	3
IS 621 Incident Response and Business Continuity	3
IS 640 Technology Planning and Capital Budgeting	3
IS 641 Leadership in IT	3
<b>Total Hours</b>	<b>30</b>

### Concentration in Business Analytics

Requirements	Hours
<b>Core Curriculum</b>	
IS 607 Introduction to Cyber Security <sup>1</sup>	3
IS 611 Information Technology and Business Strategy	3
IS 650 Business Intelligence Strategy	3
IS 660 Emerging IT Trends & Technologies	3
IS 608 Desktop Analytics with IT Tools	3
IS 618 IT Project Management <sup>2</sup>	3
<b>Concentration Course Requirements</b>	
IS 617 Data Science for Business	3
IS 619 Advanced Business Analytics	3
IS 651 Data Management & SQL for Analytics	3
IS 652 Data Visualization for Business	3
<b>Total Hours</b>	<b>30</b>

Students have a maximum of 3 years to complete degree requirements. Certain professional certifications are eligible for transfer credit upon Program Director approval. Students must be in current good standing and provide proof of completed continuing education requirements if certification is scheduled to expire with the calendar year. No more than 6 semester hours may be credited using certifications.

<sup>1</sup> Security+ earned through CompTIA, or Certified Information Systems Security Professional (CISSP) earned through ISC2 may satisfy this course requirement.  
<sup>2</sup> Project Management Professional earned through PMI may satisfy this course requirement.

## Courses

### IS 599. Directed Readings. 1-3 Hour.

Readings and independent study in selected areas.

### IS 607. Introduction to Cyber Security. 3 Hours.

This course serves as an introduction to the field of cyber security where students will develop a basic understanding of the cyber security principles. Students will be able to understand the business value of cyber security and its legal / ethical considerations. Students will also gain an appreciation for security planning and risk management and how risk may be mitigated through technical, physical, and administrative controls.

### IS 608. Desktop Analytics with IT Tools. 3 Hours.

Business decisions require the basic skills of analyzing data to understand the problem more completely and to produce better solutions. This course examines the role of IT desktop tools to support a wide variety of business problems in the field of business analytics. Students work at the operational level using business analytics desktop tools to learn foundational topics relating to analysis, statistical modeling, and decision-making in an IT-based business environment. Students will gain hands-on experience with spreadsheet modeling and practical business problems that require analysis and interpretation of data.

### IS 611. Information Technology and Business Strategy. 3 Hours.

This course is designed to improve your understanding of business strategy and the information technology that supports and shapes it. Information technology spans all business functions. We will study both the challenges and the opportunities that are the result of this pervasiveness.

### IS 612. IT Governance and Management. 3 Hours.

This course introduces the concept of IT governance and will expose students to various IT governance frameworks. Particular focus will be given to the IT Governance Institutes COBIT framework, ITIL and ISO standards. Students will have an advanced understanding of the various IT governance frameworks, their application in an organizational setting and the managerial issues associated with different governance structures.

### IS 613. Information Security Management. 3 Hours.

The primary objectives of the course are for the students to develop a managerial and operational understanding of critical information security risk management concepts. The focus of this course will be on an in-depth investigation of how risk, threats, and vulnerabilities impact information systems and work processes. The course will provide students with an opportunity to gain insights into critical security mitigation best practices.

**Prerequisites:** IS 607 [Min Grade: C]

### IS 617. Data Science for Business. 3 Hours.

This course will introduce students to the rapidly growing fields of business analytics/ data science, focusing on how data can be used to support decision making in organizations. It explains what and how principles and technologies of data science can be used to extract useful information and knowledge from large volume of structured and unstructured data (e.g., textual content) in order to improve business decision making.

**Prerequisites:** IS 608 [Min Grade: C]

### IS 618. IT Project Management. 3 Hours.

The course provides the foundation for the management and successful execution of projects of many types applying PMBOK, or the PMI Project Management Body of Knowledge. The objective is to provide students with an understanding of how to manage technology-oriented projects. A combination of skill development in the general area of project management and application of those skills in evaluating case studies involving technology projects will be used.

### IS 619. Advanced Business Analytics. 3 Hours.

The course is the study and practice of how we can extract insightful knowledge from large amounts of data. It is a burgeoning area, currently attracting substantial demand from academy and industry.

**Prerequisites:** IS 617 [Min Grade: C]

### IS 620. Cyber Attacks and Threat Mitigation. 3 Hours.

Covers the concepts of network vulnerabilities from a hacker's perspective. Addresses the latest cutting edge attacks and common attacks still prevalent. Students will explore legal issues associated with computer network attacks. The course also provides students with the knowledge they need to design, build, and operate network systems to prevent, detect, and respond to attacks.

### IS 621. Incident Response and Business Continuity. 3 Hours.

This course provides students with the knowledge necessary to prepare for and respond to computer security incidents. Topics include incident response preparation, detection, reaction, recovery, and maintenance. Computer-related disaster recovery and business continuity planning are also addressed.

### IS 640. Technology Planning and Capital Budgeting. 3 Hours.

This course will cover financial techniques and metrics that IT managers should be familiar with, including topics such as measuring returns on IT investments, categories of IT investments, defining and quantifying expected benefits, managing the IT investment portfolio, and budgeting for IT expenditures.

### IS 641. Leadership in IT. 3 Hours.

The Leadership in IT course will prepare students for leadership roles in IT related careers. The course will provide students with the knowledge, skills, and foundation in Leadership necessary to be effective in organizational settings, and develop an understanding of the components that make leadership successful.

### IS 644. Digital Forensics. 3 Hours.

This course focuses on how organizations conduct digital forensics investigations due to intrusion or cyber crime. This course explores how organizations identify, track, and potential aide in the prosecution of cyber criminals. Students will gain an appreciation for how to conduct digital investigations, preserve evidence, understand the role of law enforcement, and intellectual property concerns associated with cyber crime.

### IS 650. Business Intelligence Strategy. 3 Hours.

The goal of this course is to develop a managerial level understanding the strategic role of business analytics. Students gain an appreciation for data-driven decision-making and its role in supporting business and IT strategy. This course explores the differences between the fields of data science, business analytics, and business intelligence. Topics covered include an introduction to the field of business analytics, data management planning, and decision-making with data. This course is designed to provide a high level overview of the disruptive nature of data in business today and how to prepare for a data-driven business environment.

**IS 651. Data Management & SQL for Analytics. 3 Hours.**

Explore various concepts of data management/ data warehousing for business analytics. The focus of this course is the process of extracting data from a diverse set of sources, transforming and cleaning data, and loading this data into a format used by analytics professionals. Students will also gain expertise in advanced data querying using Structured Query Language (SQL).

**IS 652. Data Visualization for Business. 3 Hours.**

In this course, students gain experience with techniques on how to effectively communicate the results of an analysis using information and visual aids. Students learn effective methods of presenting information in textual and graphical formats and how to frame data results in a business case format for interpretation by business managers. Students gain hands-on experience with the use of Tableau.

**IS 660. Emerging IT Trends & Technologies. 3 Hours.**

This course explores emerging IT trends and technologies arising in the business environment based on current events and business developments. The focus of this course will be on the presentation of emerging technologies and an exploration of their business role. Students will gain an appreciation for the business case associated with emerging technologies and IT trends facing IT managers.

**IS 690. Current Topics in Information Systems. 3 Hours.**

A study of selected current developments in information systems emphasizing development and managerial implications. Permission of instructor required.