Management, Information Systems, and Quantitative Methods

Degree Offered:	Master of Science in Management Information Systems (MS MIS)
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Admission

To obtain specific admissions requirements on how to apply to Graduate School, prospective students should visit this page:

https://businessdegrees.uab.edu/mis-degree-masters/

Application Deadlines

Fall semester - August 1st
Spring semester - December 1st
Summer semester- May 1st

Required Documents

- Online application with a $70 application fee or $85 international application fee
- Current resume
- Personal Statement: statement must include the student's professional career goals and how they faced and overcame challenges in their life
- References: 2 from supervisors, trainers, or instructors who can confirm requisite knowledge and skills as identified with the admission qualifications

Admission Requirements

Applicants for the MS MIS program must:

1. Have graduated with a baccalaureate degree in an information technology/systems related field from a regionally accredited college or university with a minimum overall grade point average (GPA) of 3.0 on a 4.0 scale. Those not meeting this requirement must have:

- Completed a baccalaureate degree in other areas of study from a regionally accredited college or university, or completed another graduate degree; AND completed the UAB MS MIS Bridge Program with a grade of B or better in all coursework. The Bridge Program consists of the following courses:

  - BUS 350 Business Communications

  - IS 303 Information Systems

  - IS 302 Business Data Communications
  - IS 204 Introduction to Business Programming
  - IS 301 Introduction to Database Management Systems
  - IS 321 Systems Analysis

OR:

- Submitted evidence to UAB as to significant work experience in IS/IT/computer programming, enterprise systems, databases, and/or system design and analysis; OR
- Submitted evidence to UAB as to IS/IT/Computer industry certifications in computer programming, enterprise systems, databases, and/or system design and analysis.

2. Provide evidence of relevant work experience (a minimum of 3 years of experience is preferred)

3. Have a GMAT score of 480 or higher. Those not meeting this requirement can:

- Submit a GRE combined verbal and quantitative score of 1050 (score of 303 after August 1, 2011) or higher (GRE scores many not be more than 5 years old), OR
- Show 5 years of relevant work experience, AND

- Show documentation of completing a graduate degree in any discipline with a minimum GPA of 3.0 on a 4.0 scale, or completion of the MSMIS Bridge Program with a grade of B or better in all coursework AND maintain a minimum overall undergraduate GPA of 3.0 on a 4.0 scale.

International Applicants

International applicants whose native language isn't English are required to show proof of English proficiency by submitting a TOEFL, IELTS, or PTE Academic test score. Official test scores are required and should be sent directly from the testing agency to UAB. Scores should not be more than 2 years old. The minimum score requirements are as follows:

- TOEFL (Test of English as a Foreign Language) score of 550 on the paper-based examination, 213 on the computer- based version, or 80 on the Internet-based version
- IELTS (International English Language Testing Service) score of 6.5 overall with at least a 5.0 on each section of the examination

Full Time Student Enrollment Status

To be enrolled as a full-time graduate student, a student must register for at least 9 semester hours in the fall, spring, and summer semesters. http://catalog.uab.edu/graduate/enrollment/. If a student is enrolled in courses offered in a 7-week format, those credit hours are applied toward the 9 semester hour requirement for the entire 14-week term.

Example: If a student is enrolled in 6 credit hours in the Spring A term (first 7 weeks) and 3 credit hours in the Spring B term (second 7 weeks), the university recognizes this student to be enrolled in 9 semester hours for the entire period (14-week term), and of full time status.

Master of Science in Management Information Systems -
Concentration in Cyber Security Management

Requirements		Hours
Core Curriculum		
IS 607	Introduction to Cybersecurity [1]	3
IS 608	Desktop Analytics with IT Tools	3
IS 611	Information Technology and Business Strategy	3
IS 618	IT Project Management [2]	3
IS 650	Artificial Intelligence Strategy	3
IS 660	Emerging IT Trends & Technologies	3
Concentration Course Requirements		
IS 620	Cyber Attacks and Threat Mitigation	3
IS 621	Incident Response and Business Continuity	3
IS 613	Information Security Risk Management	3
IS 644	Digital Forensics	3
Total Hours		**30**

Concentration in Business Analytics

Requirements		Hours
Core Curriculum		
IS 607	Introduction to Cybersecurity [1]	3
IS 611	Information Technology and Business Strategy	3
IS 650	Artificial Intelligence Strategy	3
IS 660	Emerging IT Trends & Technologies	3
IS 608	Desktop Analytics with IT Tools	3
IS 618	IT Project Management [2]	3
Concentration Course Requirements		
IS 617	Artificial Intelligence and Machine Learning	3
IS 619	Text Mining & LLMs	3
IS 651	Data Management & SQL for Analytics	3
IS 652	Data Visualization for Business	3
Total Hours		**30**

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.

[1]   Security+ earned through CompTIA, or Certified Information Systems Security Professional (CISSP) earned through ISC2 may satisfy this course requirement.

[2]   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 Cybersecurity. 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 Risk 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. Artificial Intelligence and Machine Learning. 3 Hours.
This class will apply the basic principles of Artificial Intelligence (AI) and Machine Learning (ML) with regards to their revolution in business processes. Students will master AI and ML algorithms, how they can be used in decision making, process automation, data analysis and customer services. With hands-on exercises and case-study scenarios, participants will understand how companies use AI and ML to innovate, increase efficiency, and gain competitive advantages. It covers topics such as supervised and unsupervised learning, predictive modeling, and AI deployment ethics. Students will be able to critically evaluate and adopt AI and ML tactics in any business domain by the end of the course.

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. Text Mining & LLMs. 3 Hours.
This course provides an in-depth exploration of text analytics and the emerging field of large language models (LLMs). Students will learn foundational concepts in natural language processing (NLP), including text preprocessing, tokenization, sentiment analysis, and the practical applications of large language models. Students will also learn how powerful LLMs are used in the business world, such as summarizing insights, generating new opportunities, and making marketing predictions. You'll gain hands-on experience using these tools to solve real-world problems in business and beyond.
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. Artificial Intelligence Strategy. 3 Hours.
Students taking this class will gain a managerial-level understanding of the strategic implications of Artificial Intelligence (AI) for businesses today. By weighing data-driven decision-making, addressing data quality issues, managing big data and machine learning, and deliberating ethical considerations, students will learn to deploy AI in organizations to maximize business value.

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.