ACADEMIC CATALOG
2026-2027



MIDWAY
UNIVERSITY

Midway University Course Catalog - Management Information Systems

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Management Information Systems

Master of Management Information Systems

Type: Major

Midway University's MMIS is designed to prepare leaders in the field of technology and equip them with the ability to synthesize new innovations in an ever-changing field.

Program Learning Outcomes

- Analyze organizational needs, develop MIS strategies aligned with business objectives, and implement innovative solutions.
- Demonstrate the ability to leverage information systems for strategic decision-making and competitive advantage.
- Utilizing statistical methods and business intelligence tools, interpreting complex data sets, extract meaningful insights, and communicate data-driven recommendations to support informed decision-making.
- Design and implement robust security protocols, ensuring the confidentiality, integrity, and availability of organizational data while adhering to industry best practices and regulations.

The selection process for Midway's MMIS students will emphasize strong academic ability, personal qualities and characteristics. Admission eligibility will be assessed via:

- Academic records
- Resumes may be requested to consider work experience

Admission Criteria

1. Earned a bachelor degree from a regionally accredited college or university.
2. If English is not the first language, a TOEFL score of 550 (paper-based), 213 (computer-based), or 79-80 (internet-based).
3. Applicants not meeting the recommended requirements for admission may be offered conditional admission upon the recommendation of the Dean. To attain full standing from conditional admission, the student must complete the two modules of course work at Midway University with at least a "B" average (3.0 on a 4.0 scale).

Enrollment Status

Six credits per semester is considered full-time enrollment. A student enrolled in a minimum of three credits per semester is considered to be enrolled half-time.

Graduation Requirements

To graduate, a student must complete a minimum of 30 course credits with a cumulative GPA of at least 3.0. No more than six of these credit hours may be transferred from another institution.

Requirements

Elective Hours - 0

Total Hours to Complete - 30-33

Major Course Requirements

BUSM 520 - Leadership and Effective Decision-Making - 3 hours

BUSM 540 - Organizational Behavior - 3 hours

MIS 502 - Business Programming - 3 hours

MIS 602 - System Development and Deployment - 3 hours

MIS 612 - Data and Information Management - 3 hours

MIS 622 - Strategy and Governance - 3 hours

MIS 632 - Intelligent Business Systems - 3 hours

MIS 642 - Information Systems Security - 3 hours

MIS 652 - Business Analytics - 3 hours

MIS 662 - Machine Learning in MIS - 3 hours

Master of Management Information Systems 4+1

Type: Minor

The Master of Management Information Systems 4+1 program is designed to encourage Midway undergraduates to complete their MMIS at Midway.

Undergraduate students admitted to this program will be permitted to take two cross-listed MMMIS courses, BUSM 520U Leadership, Decision Making and MIS 502U Business Programming, or MIS 612U Data and Information Management, their senior year. Students in these courses take the same class as MMMIS students and are in the courses with MMMIS students. The courses will count towards their undergraduate and graduate degrees.

Program admission requirements

Students must apply to the 4+1 program and be accepted during their junior year. To be eligible, they must have:

1. 90 hours of undergraduate coursework completed
2. 3.0 Cumulative GPA

Students admitted to the MMMIS 4+1-degree pathway will be permitted to take two (2) graduate MMMIS courses in their senior year. These courses will either be in addition to the 120 credit hours earned in the undergraduate degree program or the student will have to complete an MMIS concentration in order to meet the required 150 credit hours for both degrees.

Application for the 4+1 Program is hosted in SharePoint on the registrar's page here:4 + 1 Application

After graduation with their bachelor degree, students in the 4+1 program must apply to the MMIS program.

Requirements

The 4+1 program provides a pipeline of students to our graduate programs.

BUSM 520 - Leadership and Effective Decision-Making - 3 hours

MIS 502 - Business Programming - 3 hours

MIS 612 - Data and Information Management - 3 hours

Management Information Systems

Courses

MIS 502 - Business Programming

This course explores various applications of programming techniques for business analytics. Topics include data collection, processing, analysis, database access, and data visualization in contemporary business environments. This course reinforces the development of students' programming skills and provides students with a foundation for advanced work in data modeling and analysis. Upon completing this course, students will be able to apply software engineering principles to design and implement applications that can be used for data management and business analysis.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

MIS 602 - System Development and Deployment

This course covers the design of information systems and services including human interaction. Students will survey and apply techniques in analyzing and modeling information systems. Requirements are derived in various domains and abstracted at conceptual, logical and physical levels. Process, data and state modeling are investigated through a project that follows the system development lifecycle. The course also includes the development of competencies related with implementation and deployment of systems.

Upon completion, students will be able to:

- Analyze and specify requirements of IT artifacts through studying and documenting domain activities.
- Design and document systems that meet specified user requirements.
- Develop iterative processes that integrate analysis, design, implementation, and deployment of IT applications.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

MIS 612 - Data and Information Management

Data and Information Management covers data models, query languages, implementation techniques of database management systems, management of semi-structured and complex data, and distributed databases. Focus will be on how organizations can use data to improve decision making.

Upon completion, students will be able to:

- Identify data and information management technology alternatives and select the most appropriate options based on organizational information needs.
- Identify, create and manage organizational policies and processes related to data and information management by balancing multidimensional requirements such as legal, ethical, organizational business requirements, data quality issues and requirements of operating in an international environment.
- Analyze the needs of a domain and determine how those needs can best be addressed with data, information and content management solutions.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

MIS 622 - Strategy and Governance

This course focuses on the key concepts, practices and issues in the strategic management of IT. It begins with a discussion of the strategic value of IT, including the role of business-IT alignment in realizing that value. Second, the course looks at strategic IT decision processes, including planned and emergent strategy-making and IT governance. Third, the course considers strategy implementation issues, including the role of IT leadership, project and portfolio management, and sourcing decisions. The course closes with a discussion of the strategic role of IT-enabled innovation and current trends in strategy and IT.

Upon completion, students will be able to:

- Analyze the effect and impact of IS on organizations and develop and implement plans for maximizing firm benefits associated with IS.
- Create and manage oversight mechanisms by which an organization evaluates, directs and monitors organizational IT.
- Establish practices for minimizing environmental impacts and planning for long-term firm viability.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

MIS 632 - Intelligent Business Systems

The concepts of business intelligence (BI) as components and functionality of information systems are explored in this course. Students examine how business problems can be solved effectively by using operational data to create data warehouses, and then applying data mining tools and analytics

to gain new insights into organizational operations. Detailed discussion of the analysis, design and implementation of systems for BI, including: the differences between types of reporting and analytics, enterprise data warehousing, data management systems, decision support systems, knowledge management systems, big data and data/text mining. Case studies are used to explore success and limitations of BI as well as technical and social issues.

Upon completion, students will be able to:

- Apply business intelligence tools to aid in organizational decision making.
- Develop decision models using appropriate technology to support efficient operation.
- Design a solution to using unstructured data as well as historical data to improve an organization’s decision-making process.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

MIS 642 - Information Systems Security

The study of information systems security will cover planning, policy and protections approaches used in organizations. Topics include planning for security, information security policy, developing security program, access control, cryptography, risk management, information security administration and incident handling and response.

Upon completion, students will be able to:

- Explain high level problems related to IS security vulnerabilities within organizations.
- Develop approaches for combatting ethical violations and fraud in a technology setting.
- Plan and undertake an IS risk audit using IS risk analysis tools and techniques.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

MIS 652 - Business Analytics

This course provides students with knowledge of emerging technical issues related to data science in MIS, as well as experience with a variety of methods and techniques related to all aspects of data science, from data collection to optimization. After completing the extensive practical exercises in this course, students master using business analytics algorithms and tools to solve real-world problems.

Grade Basis: L
Credit hours: 3.0
Lecture hours: 3.0

MIS 662 - Machine Learning in MIS

This course introduces students to the foundational machine-learning techniques that are transforming the way we do business. Upon completing this course, students have a theoretical understanding of how machine learning algorithms work and how they create value. Students also receive hands-on experience with machine learning models and gain the ability to derive insights and predictions from real-world data.

Grade Basis: L
Credit hours: 3.0

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