

# MANAGEMENT INFORMATION SYSTEMS

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## Courses

### **MIS 150. Professional Development Experiences in Information Systems. 0 Hours**

Participation in experiences to promote development of practical knowledge, career networks, and professional skills relevant to the field of information systems.

### **MIS 203L. Introduction to Spreadsheets. 1 Hour**

Introduction to electronic spreadsheet software (e.g., Microsoft Excel) skills. Prerequisite(s): BIZ 200 or BIZ 201 or permission.

### **MIS 220. Exploring Careers in Information Systems. 1 Hour**

Designed to immerse students into the contemporary issues of management information systems. Site visits and guest lectures from management information systems leaders. Priority given to first and second year students. Satisfactory/No Credit. Prerequisite(s): Permission of department chairperson.

### **MIS 300. Survey of Management Information Systems. 3 Hours**

Introduction to management information systems concepts, terminology, purposes, and applications for the nonbusiness student. Not open to students in the School of Business Administration or to those with credit in MIS 301. Permission of department chairperson required. Prerequisite(s): (BAI 103L or BIZ 200 or BIZ 201 or CPS 111); junior standing.

### **MIS 301. Information Systems in Organizations. 3 Hours**

Survey of theory and applications of computer-based information systems in organizations. The role of information in organizational processes, current information technology, decision support systems, and end-user computing and distributed processing systems. Sophomores are encouraged to take this course during their second term. Prerequisite(s): BIZ 200 or BIZ 201 OR (ACC 207; (ACC 208 or ACC 200) (may be taken as a corequisite); ECO 203; (BAI 103L or CPS 111)). Business majors only.

### **MIS 302. Systems Thinking in Organizations. 3 Hours**

Focus on understanding systems thinking, decision making, and information systems in organizations. Learn general systems concepts, system diagramming tools, and different approaches to systems thinking as a mode of inquiry. Compare modes of inquiry. Develop a learning community to build knowledge. Apply knowledge by (1) analyzing organizations as systems and the information systems and technologies used to support decision making and (2) suggesting improvements. Prerequisite(s): Completed 45 semester hours.

### **MIS 303L. Using Spreadsheets in Business. 1 Hour**

Use of electronic spreadsheets (e.g., Microsoft Excel) as a tool to support business decision making. Prerequisite(s): BIZ 200 or BIZ 201 or MIS 203L or permission.

### **MIS 305. Introduction to Business Applications: Problem Solving with Visual Tools. 1 Hour**

Introduction to basic programming structures, graphical user interface design, and other tools using a visual programming language such as Visual Basic.net. Prerequisite(s): BIZ 200 or BIZ 201 or BAI 103L or equivalent.

### **MIS 307L. Developing Spreadsheet Applications. 1 Hour**

Application of computer programming concepts to the spreadsheet environment. Development of full-featured spreadsheet applications. Prerequisite(s): MIS 303L, MIS 305.

### **MIS 325. Programming for Business Systems. 4 Hours**

Process of software development for business system implementation. Fundamental object-oriented programming concepts include program design, documentation, development, and testing of computer solutions for business problems using a modern programming language, such as Java. Prerequisite(s): MIS 305.

### **MIS 360. E-Commerce Processes & Technology. 3 Hours**

Introduction to information systems technologies and techniques that enable business-to-business and business-to-consumer electronic relationships. Development of interactive websites with an introduction to client- and server-side scripting and simple database access. Prerequisite(s): (MIS 300 or MIS 301); (MIS 305 or equivalent); (BAI 103L or equivalent HTML knowledge).

### **MIS 365. Protecting Personal Information Resources in an Interconnected World. 3 Hours**

In an increasingly interconnected world, threats to the confidentiality, integrity and availability of valuable information resources are increasingly salient. This creates particular challenges for the individual who wishes to put online resources to their fullest use. This course will identify threats to confidentiality, integrity and availability of information resources, and how individuals can put in place appropriate controls to protect their personal information. Some discussion of how these basic concepts apply in organizational membership will also be discussed. Not available as elective for MIS majors.

### **MIS 366. Business Intelligence. 3 Hours**

The use of computer-based data analysis tools to support managers in problem solving and decision making. Prerequisite(s): DSC 211; MIS 300 or MIS 301. Corequisite(s): MIS 385.

### **MIS 368. Principles of Information Security Management. 3 Hours**

Addresses issues relevant to creating a systematic information assurance, compliance control structure and systematic security procedures. Information security policy, assets, physical and logical information resource security, business continuity, and compliance with relevant security standards are covered. Prerequisite(s): MIS 300 or MIS 301.

### **MIS 380. Systems Analysis & Re-Engineering. 3 Hours**

Concepts, methods, techniques, and tools needed to initiate a systems development project and to conduct the requirements collection, analysis, and structuring activities of systems development. Structured life cycle and alternatives. Re-engineering business processes through information systems. Prerequisite(s): MIS 300 or MIS 301; MIS 385 (may be taken as a corequisite); Business majors only or permission of department chairperson. Corequisite(s): MIS 381.

### **MIS 381. Principles of Project Management. 1 Hour**

Introduction to project management concepts and ideas. Possible use of an existing team project from another course to learn principles of scheduling, team management, client management, etc., emphasizing best project management practices. Prerequisite(s): MIS 300 or MIS 301.

**MIS 385. Systems Implementation with Database Management Systems. 3 Hours**

Concepts, techniques, and tools to convert a logical system design into a working application using a relational DBMS. File and data structures, logical and physical database design, security and data integrity, file design and processing. DBMS functions, SQL, 3GL and 4GL access to databases, linkage to WWW pages, database architectures, CASE. Prerequisite(s): MIS 300 or MIS 301; MIS 305 (may be taken as a corequisite).

**MIS 410. Object-Oriented Analysis & Design. 3 Hours**

Introduction to object-oriented concepts and techniques for analyzing and designing systems. Systems development project using an object-oriented CASE tool. Prerequisite(s): MIS 301 or permission of instructor; MIS 305 recommended.

**MIS 420. Expert & Knowledge-Based Systems. 3 Hours**

Introduction to artificial intelligence and expert and knowledge-based systems; knowledge acquisition, implementation, and validation; advanced topics; applications to business. Use of expert system software. Prerequisite(s): BAI 103L or equivalent; DSC 375 recommended.

**MIS 425. Information for Total Quality. 3 Hours**

Theory and practice of total quality management (TQM); applications of TQM in the information systems function, information system requirements for TQM programs. Prerequisite(s): MIS 301; OPS 301.

**MIS 430. Telecommunications & Networking. 3 Hours**

Introduction to computer-based communication networks, underlying concepts; basic hardware components and operating systems; network architectures and protocols; data integrity and security; message routing; network management. Prerequisite(s): MIS 368 (may be taken as corequisite).

**MIS 460. Advanced Web Development. 3 Hours**

Study of web development concepts and techniques. Design and development of dynamic web-sites using technologies such as ASP.NET. Prerequisite(s): MIS 305 or equivalent.

**MIS 461. E-Business. 3 Hours**

Models of how to conduct business electronically. Topics include different forms of e-business, products and services provided on the Internet, how to combine electronic business with brick-and-mortar business, and keys to success for electronically enhanced businesses. Prerequisite(s): MIS 301.

**MIS 465. MIS Project I-Analysis & Design in Teams. 3 Hours**

First of a two-course sequence. Team participation/management and project management skills. Apply these skills in teams to perform an analysis and preliminary re-design of an existing organization's information system. Emphasis on written and oral communications, including team-prepared reports and presentations. Offered fall semester only. Prerequisite(s): MIS 325, MIS 380, MIS 381, MIS 385.

**MIS 467. Data Warehousing. 3 Hours**

Purpose, design, implementation, and effective use of data warehouses and data warehousing technologies. Topics include data warehouse design, data marts, data quality management, extract-transform-load process, and business intelligence. Prerequisite(s): MIS 300 or MIS 301, MIS 385.

**MIS 468. Internet Security. 3 Hours**

This course provides students with an understanding of both defensive and offensive issues of information security. The course includes instruction on information security theory, psychological operations, hacking, viruses, and systems management. The course emphasizes security for e-commerce on the Internet. Prerequisite(s): MIS 430.

**MIS 475. MIS Project II-Design & Implementation in Teams. 3 Hours**

Continuation of MIS 465. With its organizational client, each team carries its project as far as possible toward final design and actual implementation. Students are guided to reflect about how their UD educational experience has influenced understanding of their major in terms of vocation. Emphasis on written and oral communications, including team-prepared reports and presentations. Offered spring semester only. Prerequisite(s): MIS 150, MIS 465.

**MIS 491. Honors Thesis. 3 Hours**

Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson.

**MIS 492. Honors Thesis. 3 Hours**

Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson.

**MIS 494. Seminar in Management Information Systems. 1-4 Hours**

Study of selected technical and/or organizational issues in information systems. Topics vary from time to time. May be taken more than once if topics change. Title will reflect topics covered in a particular offering.

**MIS 497. Laboratory Work Experience. 1-6 Hours**

Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major concentration. (See internship coordinator for details.) Prerequisite(s): Permission of department chairperson.

**MIS 498. Cooperative Education. 1-6 Hours**

Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Prerequisite(s): Permission of department chairperson.

**MIS 499. Independent Study in Management Information Systems. 1-6 Hours**

Research in conjunction with a faculty member on a subject within the general area of management information systems. Open only to juniors or seniors who have attained a cumulative grade point average of 3.0 or above. Prerequisite(s): Permission of department chairperson.

**MIS 616. Project Management for Professionals. 3 Hours**

Project-oriented work makes up the bulk of managerial activity in organizations and consequently knowledge of project management principles is valued highly. This course offers a broad review of issues and approaches to contemporary professional project management useful for any MBA student and future manager. Graduate Standing.

**MIS 622A. Security Management for Informational Systems. 3 Hours**

Addresses issues relevant to creating and managing a systematic security process in organizations. Information security policy, assets, physical and logical information resource security, business continuity, and compliance with relevant security standards are covered. Prerequisite(s): MBA 660.

**MIS 662A. Security Management for Informational Systems. 3 Hours**

Addresses issues relevant to creating and managing a systematic security process in organizations. Information security policy, assets, physical and logical information resource security, business continuity, and compliance with relevant security standards are covered. Prerequisite(s): MBA 660.

**MIS 662B. Telecommunications and Networking. 3 Hours**

Introduction to management of computer-based communication networks. Includes underlying concepts; basic hardware components and operating systems; network architectures and protocols; data integrity and security; message routing; network resource management. Prerequisite(s): MBA 660.

**MIS 662C. Internet Security. 3 Hours**

This course provides managers with an understanding of both defensive and offensive issues surrounding the security of computer-based information networks. The course includes instruction on theory about information security, psychological operations, hacking, viruses, and network systems management, and security for e-commerce on the Internet. Prerequisite(s): MBA 662B.

**MIS 664. Database Management. 3 Hours**

Introduction to databases and their management. File organization and data structures; database management systems; major data models; conceptual, logical, and physical database design; data definition and manipulation with SQL; data administration; and client/server and distributed databases. SQL-based software tool for database project. Prerequisite(s): MBA 660.

**MIS 665. System Analysis & Design. 3 Hours**

Introduction to object-oriented concepts and techniques for analyzing and designing systems. Activities performed and models created during the different phases of the development life cycle. Systems development project using a CASE tool. Prerequisite(s): MBA 660.

**MIS 667A. Business Intelligence. 3 Hours**

This course is about developing a program for Business Intelligence in an organization. Will cover the framework, concepts, methods, people skills, and technologies necessary for making effective decisions fast. Also addresses issues from the capture of facts to the delivery of information and decision support systems, including data quality, data warehousing, business intelligence success factors and impact on organizations, business performance management (dashboards and scorecards), multi-dimensional data analysis and online analytic processing, data visualization, and applications of Business Intelligence. Prerequisite(s): MBA 611, MBA 660, and some SQL query language.

**MIS 667B. Data Warehousing. 3 Hours**

This course will emphasize the purpose, design, implementation, and effective use of data warehouses and data warehousing technologies. Various schemas for the design of a data warehouse, modeling time in a data warehouse, data quality management for building a data warehouse from operational data stores and legacy applications, and technologies to populate and retrieve information from data warehouses will be covered. Related topics of data marts, analytical processing, data mining, and active data warehousing will also be addressed. MBA 664 is required unless student has database management coursework or relevant database management experience. Prerequisite(s): MBA 660, MBA 664.

**MIS 668. Advanced Website Development. 3 Hours**

This course covers issues involved in developing Web sites for business usage. Issues covered or investigated include: site layout, implementation and management, good site design practices, connecting Web sites to company data, and processing secure transactions across the Web. Prerequisite(s): HTML and a high-level programming language required or Instructor permission.

**MIS 669. Special Topics in Management Information Systems. 3 Hours**

Advanced and current topics in management information systems. Topics vary. Prerequisite(s): Permission of instructor.