

# MANAGEMENT INFORMATION SYSTEMS (MIS)

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## MIS 1305 Intro to Computer Applications

An introduction to the use of computer applications and the Internet for problem-solving. This course will emphasize hands-on work with personal productivity applications (e.g., word processing, spreadsheet, presentation software).

TCCN: COSC 1301

## MIS 1350 Contemporary Prog Fundamentals

The course will take novice students through the setup, configuration, and programming of a basic cloud-based system. This stand-alone course has no prerequisites. Using freely available software, the student will learn first-hand how to build a basic system.

## MIS 2350 Introduction to Programming

This course introduces students to Object-Oriented Programming. Major topics include language syntax, programming structures, using a development environment, using intrinsic components, screen and report design.

## MIS 3310 Management Information Systems

Theory, capabilities, applications, benefits, liabilities and economics of business computer information systems. Using the computer to solve business problems. Management information systems and computer-based decision support is emphasized. The standard support application packages will be used. Written and/or oral presentations are required.

Prerequisites: Junior standing.

## MIS 3320 Information System Analysis

The objective of this course is to introduce students to the processes, principles, guidelines, tools and techniques for systems analysis. Students will learn how to determine organizational needs, to understand and document business and information processes, and to find and organize the information that must be collected and stored by the organization. The course presents various modeling techniques used for this purpose, in particular, methods for modeling the way the organization operates, its business processes, the data used in business processes, and the information systems processing operations. Upon completion of this course, the student will be able to analyze and document the business functions and information processes activities of the firm using the appropriate tools necessary to effectively communicate systemic needs to all stakeholders. Prerequisites: MIS 2350 and MIS 3310 or concurrent enrollment in MIS 3310.

## MIS 3330 Database Design Implementation

Analysis of file organization techniques and data structures. Consideration of the management of data as a resource. Design of data models and data bases in business organizations. Use of data base management systems and user-oriented data manipulation languages, such as SQL.

Prerequisites: Junior standing.

## MIS 3340 Data Comm. & Networking

The purpose of this course is to develop an understanding of the differences between centralized, decentralized, and distributed data processing systems; their relationships with the business enterprise, data communications and the parameters affecting the implementation of the system. Background for analysis, design, selection and evaluation of hardware, software and support required for a distributed data processing environment will be gained.

Prerequisites: Junior standing.

## MIS 3360 Business Data Visualization

This course provides an overview of data visualization and analysis methods relevant to current business decision making. Students will develop skills through all phases of the analysis and visualization process; determine analysis purpose; retrieve relevant data; analyze the data; and present the data in a method that enhances understanding. Use of current visualization and analysis programs will be emphasized throughout the course.

Prerequisites: DS 2310 or permission of instructor.

## MIS 4320 Data Mining and Buss Intel

This course will introduce students to various statistical techniques frequently used in analyzing data to generate information useful in business decision-making. Advanced data analytic techniques such as mathematical optimization, data mining, and artificial intelligence models will also be introduced using software-based data analytic tools.

Prerequisites: DS 2310 or permission of instructor.

## MIS 4360 Social Business Analytics

This course is designed to enhance students' understanding of social information technologies (social IT), to prepare them to analyze massive data generated from social IT, and to help them understand how to leverage the capacities of social IT and the data to create firms' competitive advantages. This course will introduce students to various statistical techniques frequently used in analyzing data to generate information useful in business decision-making. Advanced data analytic techniques such as mathematical optimization, data mining, and artificial intelligence models will also be introduced using software-based data analytic tools.

Prerequisites: DS 2310 or permission of instructor.

## MIS 4380 Business Decision Modeling

This course includes fundamental concepts of both statistics and decision theory. This course provides an introduction to generic modeling techniques that can be employed to address the complexity of business decision making. Prerequisites: DS 2310 or permission of instructor.

## MIS 4399 Issues in Information Systems

Examines state of the art technology and issues related to the analysis, design, implementation, and control of information systems. Includes a significant project. May be repeated once when the topic changes.

Prerequisites: MIS 3310.

## MIS 5201 Information Systems & Programm

For students interested in a basic introduction to computing. Introduces how computers create, preserve, manipulate and communicate information and the concepts and tools used to that end. By doing so, students will be able to recognize computational problems and develop basic skill sets to solve future problems. Topics include the basics of computer and Internet hardware and software, creating web pages, algorithms and logic, basic programming, and solving problems.

## MIS 5330 Advanced Programming

An extended introduction to an advanced programming environment utilizing a business oriented programming language. The course will provide instruction in the advanced manipulation of data, and the programming of sophisticated data-intensive applications and file structures.

Prerequisites: MIS 2350 or equivalent or permission of instructor

**MIS 5340 Networks&Distributed Systems**

This course is designed to introduce the fundamental concepts of data/voice communication for both a technical and related managerial issues in an organizational environment. The course addresses network implementation and administration, telecommunications, client/server technologies, wireless technologies, standards and protocols, network management, strategic business applications and the managerial implications of globally distributed communications and information systems.

**MIS 5350 Information System Analysis**

The objective of this course is to provide an integrated perspective of problem solving utilizing information technology in today's complex business environment, with a concentration on the processes, principles, guidelines, tools and techniques for systems analysis. Topics include information requirements identification, systems theory, systems modeling, project planning, documentation, current and proposed systems specification, and introduction to data modeling. Communication skills will be honed, and formal presentations are required.

**MIS 5360 Management of Info Systems**

Issues relating to the administration of computer-based systems including planning and development; control and evaluation; organization and personnel. Societal and technological issues are also addressed from both a domestic and global managerial perspective.

**MIS 5365 Business Info Security**

Basic notions of confidentiality, integrity, authentication models, protection models, security kernels, audit, intrusion detection, operational security issues, physical security issues, security system life cycle management, personnel security, policy formation and enforcement, trust modeling, risks and vulnerabilities assessment, basic issues of law and privacy, trade secrets, employee covenants, copyright, database protection, software and hardware validation, verification and certification.

Prerequisites: MIS 5360 or concurrent enrollment.

**MIS 5370 Database Management & Design**

The objectives and methods of database management are covered. Topics include objectives of data and database management, data models, elementary database design, data dictionaries, data integrity, security and privacy. Actual use of a commercial database management system is required.

Prerequisites: MIS 5330 or concurrent enrollment.

**MIS 5375 Data Mining&Bus Analytics**

This course describes the set of techniques and tools for the transformation of an organization's raw data into meaningful and useful information for business decision-making. Major topics include data warehousing, data mining, data analytics, and statistical modeling.

Prerequisites: DS 2310 or equivalent.

**MIS 5390 Project Design & Management**

This course includes a practical approach to business problem solving through the actual implementation of a significant software product. It includes study of project management tools and techniques necessary to plan, staff, organize and control the development of computer-based information systems.

Prerequisites: Must be taken during final semester prior to graduation.

**MIS 5399 Special Issues in Info Systems**

The course examines timely topics of concern to the MIS developer and systems manager. May be repeated once when topic changes.

**MIS 6310 Seminar in Global Systems Mgt**

Managing in an information-intensive environment requires skills and knowledge of business and systems change. This course teaches strategies for aligning a firm's information systems with rapidly changing business environments, taking both the perspective of organizational and technical issues. In addition, this course has a major emphasis on IT leadership and the skills necessary to be a successful leader in information-intensive, global environments. This course focuses on the interdependence between organizations, people and information technology by examining several key areas, from both a global and an organizational perspective, including: Managing Business Process Redesign and Software Development Managing Projects and Changes Information Technology and Leadership Managing Enterprise Information Systems

Prerequisites: Consent of the instructor and the Graduate Advisor.

**MIS 6325 Social Business Analytics**

This course is a doctoral level seminar in social media analytics. It examines topics in social data analysis including influence and centrality in social media, information diffusion on networks, topic modeling and sentiment analysis, identifying social bots, and predicting behavior.

**MIS 6335 Data Mining & Bus Intelligence**

It examines topics in theory and foundational issues, e-commerce models, data mining methods, algorithms for data mining, and the knowledge discovery process.

**MIS 6345 Business Data Visualization**

The class examines topics in business data visualization, including techniques and algorithms for creating effective visualization based on principles from graphic design, visual art, perceptual psychology and cognitive science.

**MIS 6350 Emerging Technologies**

This course examines topics in theory and foundational issues in these topics: Virtual reality in business, smart interaction with consumers, digital entrepreneurship, smart business process management, strategic value of big data and business analytics, software variability in dynamic environments, big data commerce, design science research, social commerce, market transformation to an IT-enable services oriented economy and social responsibilities for the management of mega projects.