management information systems (MISM)

MISM 1990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

MISM 2301. Management Information Systems. 4 Hours.
Explores how a wide range of enterprises around the world use information and information technology to create better-managed, more innovative, and successful organizations. The twenty-first-century enterprise runs on information, and every part of the business has been transformed by the use of information technology. Today’s business leaders, therefore, must have ready access to timely, accurate, and relevant information to manage effectively in the global economy.

MISM 2309. Management Information Systems. 4 Hours.
Does not count as credit for business majors. Counts as MISM 2301 for business minors only.

MISM 2510. Fundamentals of Information Analytics. 4 Hours.
Focuses on information analytics concepts and techniques needed by educated information analysts, designers, and consumers to lead organizations in the contemporary information age. Includes concepts, techniques, methods, and strategies for the entire information lifecycle—collection, organization, exploration, analysis, manipulation, visualization, interpretation, and presentation of information for business. Each of these topics is introduced with real-world examples and data sets, grounded in relevant theory and principles, and is reinforced using various user-friendly software tools to gain the necessary analytical skills and knowledge.

MISM 2990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

MISM 3305. Information Resource Management. 4 Hours.
Examines how information technology is used to support the functional areas of business (finance, accounting, marketing, manufacturing, and human resource management) to achieve business results (creating new products and services, redesigning business operations, and altering relations with customers and suppliers to achieve competitive advantage). Offers students an opportunity to understand the business issues involved in investing in new technologies.

MISM 3403. Data Management in the Enterprise. 4 Hours.
Offers students an introduction to and overview of the methodological frameworks and tool sets for the design, development, and implementation of data-management solutions. Today, almost no aspect of business operates without a strong reliance on the flow of information. Even small enterprises track huge volumes of data, from sales transactions and supply chain activities to Web site traffic. Knowledge workers and managers at all levels within the organization require an understanding of data management, database design and operations, and associated decision-support and data-analysis tools and systems to complete even day-to-day tasks. Offers students an opportunity to work hands-on, applying these methods and tools to solve actual business problems.

MISM 3404. Data Communications. 4 Hours.
Introduces data communications concepts and terminology, network design and architecture, distributed information systems, and security within a business systems environment. The modern enterprise relies on being able to get information to where it is needed quickly, accurately, and securely. From the instantaneous global reach of the Internet, to mobile wireless devices, to multimedia communication, innovations in data communication have directly changed the way business is done today.
Explores key emerging technologies such as Web services and Web 2.0, service-oriented architecture, wireless and mobile communication, and multimedia networking.

MISM 3406. Introduction to Web Design, Practices, and Standards. 4 Hours.
Seeks to equip students with the foundational skills and knowledge necessary to design, evaluate, and build websites. Offers a hands-on and lab-based course in which students have an opportunity to develop websites for small businesses, including nonprofits and for-profit entities. Studies accessibility tools and standards. Students participate in the analysis of a specific Web practice/service/technology that is relevant for improving the performance and/or security of websites. Uses Web development software for the labs. Each student is expected to have his or her laptop for this course. Prior programming skill is not required. Students who do not meet course prerequisites may seek permission of instructor.

MISM 3501. Information Visualization for Business. 4 Hours.
Introduces the use of design, interaction, and visualization techniques and strategies to support the effective presentation and manipulation of business information. Based on principles from art, design, psychology, and information science, offers students opportunities to learn how to successfully choose appropriate methods of representing various kinds of business data to support analysis, decision making, and communication to organizational stakeholders.

MISM 3515. Data Mining for Business. 4 Hours.
Covers key concepts, techniques, methods, and applications of data mining in the context of business. Offers students opportunities to learn how to distill key insights from a large amount of unknown data, which techniques to choose from, how to apply the techniques and methods to get the answer and insights from the data, and how to interpret the results from the analysis. Example predictive analysis techniques include market basket analysis and principle component analysis. Covers all techniques using business examples and user-friendly tools.

MISM 3990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

MISM 4501. Business Systems Integration. 4 Hours.
Examines significant improvements to business performance, which can be achieved through sharing information within the enterprise and with customers and suppliers. Realizing the full business benefits of shared information requires changing processes and organizational structures. This team- and project-based course offers students an opportunity to design and implement these strategies and to examine significant improvements to business performance.

MISM 4990. Elective. 1-4 Hours.
Offers elective credit for courses taken at other academic institutions. May be repeated without limit.
MISM 4993. Independent Study. 1-4 Hours.
Allows students who have received approval to undertake independent
study in lieu of any course required in the various concentrations.
Students present proposals to an Independent Studies Committee for
evaluation and approval. Every proposal requires a detailed outline of the
objectives and plan of study and must be accompanied by a supporting
statement from the supervising faculty member under whose direction
the study takes place. A copy of the final report prepared by the student
is presented to the appropriate Independent Studies Committee. Further
information about the Independent Studies Program can be obtained
from concentration coordinators. May be repeated without limit.

MISM 6200. Introduction to Business Analytics. 3 Hours.
Provides a comprehensive approach to understanding how business
analytics enable companies to become more competitive. Offers
students an opportunity to learn how to apply value chain analysis and
other strategic perspectives to determine how business analytics can
be integrated effectively into a firm's operations. Interactive activities
such as simulations and case studies allow students to explore how
insights from data can improve business decisions. Examines real-world
eamples of how companies have used business analytics perspectives
and tools to enhance different types of business processes, such as
inventory prediction, customer service quality, and resolution of ethical
dilemmas.

MISM 6202. Foundations of Data Analysis for Business. 3 Hours.
Covers basic principles and techniques of descriptive and predictive
analytics. What are the essential data analysis concepts underlying
business analytics? Topics include descriptive statistics, data
visualization, probability and modeling uncertainty, sampling, estimation
and confidence intervals, hypothesis testing, analysis of variance, simple
and multiple regression analysis, time-series analysis, and forecasting.
Emphasizes an understanding of how these tools can support decision
making and analytics initiatives in a business context with real-world
eamples and case studies. Uses various software packages for
analyzing data sets and creating visualizations.

MISM 6203. Business Analytics Methods. 3 Hours.
Introduces key analytics methods for using data through the perspectives
of applied statistics and operations analysis. Covers application of
these methods to business areas including marketing, supply chain
management, and finance. Topics include business-analytic thinking;
application of business analytics solutions to business problems; data
mining, supervised and unsupervised machine learning; methods for
detecting co-occurrences and associations; and achieving and sustaining
competitive advantage by using business analytics methods.

MISM 6210. Information Visuals and Dashboards for Business. 3 Hours.
Introduces design principles for creating meaningful displays of
information to support effective business decision making. Studies
how to collect and process data; create interactive visualizations; and
use them to demonstrate or provide insight into a problem, situation,
or phenomenon. Introduces methods to critique visualizations along
with ways to identify design principles that make good visualizations
effective. Discusses the challenges of making data understandable
across a wide range of audiences. Provides an overview of data
visualization, key design principles and techniques for visualizing
data, and the fundamentals of communication that are required for
effective data presentation. Other topics may include ethical uses of
information displays, storytelling, infographics, immersive visualizations,
and information dashboard design. Offers students an opportunity to use
one or more software tools.

MISM 6212. Data Mining and Machine Learning for Business. 3 Hours.
Examines data mining perspectives and methods in a business context.
Introduces the theoretical foundations for major data mining methods
and studies how to select and use the appropriate data mining method
and the major advantages for each. Students use contemporary data
mining software applications and practice basic programming skills.
Focuses on solving real-world problems, which require data cleaning, data
transformation, and data modeling.

MISM 6213. Business Information Design, Quality, and Strategy. 3 Hours.
Covers the leading data practices from early adopters, focusing on
innovative information design, data quality, data sharing, and data
integration perspectives and methods for managing data and business
analytics. Explores how data analytics and management can be
strategically implemented to transform a company. Discusses theories
and contemporary industry practice, and real-world data and cases are
used for discussion and projects. Offers students an opportunity to
prepare for problem identification and solution perspectives of data-
related projects, gearing up for MISM 6214.

MISM 6214. Business Analytics Capstone. 3 Hours.
Offers students an opportunity to engage in a real-world project that
engages all concepts and methods covered over the course of the
business analytics program. Students apply the business analytics
knowledge they have gained to collect, visualize, analyze, and manage
data from a real company (or companies). Based on their results,
students present a proposal for strategic actions to be taken by the
company with a viable scope. The project is reviewed by peers, faculty,
and external judges from industry.