INFORMATION SYSTEMS MANAGEMENT (ISM)

Course Descriptions

ISM 525 Fundamentals of Information Systems 3 Credit Hours
This course is designed to provide students with an overview of information systems in the business world. It presents an organizational and managerial view of how to use information technology to manage global organizations, provide useful products and services to customers, and create competitive advantages. Topics include a survey of information technology, information systems, and organizations; strategic information systems; management support systems; technological advancements and impacts; and ethical and social issues in information systems. The course prepares students to be proficient in concepts of information systems and ready for advanced ISM courses
Restriction(s):
Can enroll if Class is Graduate

ISM 526 IT Services Management 3 Credit Hours
Students in IT Services Management will learn how to organize and operate in an IT environment centered on processes and services. Students will learn to use major models like ISO 20000 and the Information Technology Library (ITIL) as tools for managing and controlling the IT function within an organization. Upon completion of the course, students should be prepared for the ITIL Foundations examination.
Prerequisite(s): ISM 525* or MIS 525*

ISM 527 Programming & Data Structures 3 Credit Hours
This course introduces the basic concepts of program design, emphasizing an event-driven environment. Students will develop an understanding of fundamental programming logic and learn to use basic programming structures to solve simple business problems. Students are introduced to the program development cycle and programming principles, basic programming logic and structures, and common data types. Topic coverage may include an introduction to object-oriented programming and other next generation programming environments.
Prerequisite(s): ISM 525* or MIS 525*

ISM 575 Information and Database Management 3 Credit Hours
This course examines the basic concepts of information management for business organizations. Database systems are examined as a key tool for managing information. The goal of this course is to provide adequate technical detail while emphasizing the organizational and implementation issues relevant to the management of computerized information in an organizational environment. Topics include data modeling, database design, data definition and manipulation languages, database administration, data standards and policies, data, quality, data integration, data warehousing and data mining.
Prerequisite(s): ISM 525* or MIS 525*

ISM 580 AI Application Development 3 Credit Hours
AI has emerged as a transformative force in the business landscape, enabling new models and opportunities while freeing professionals from the constraints of extensive technical support and labor-intensive tasks. This course delves into the potential of generative AI in business through hands-on app development. Engaging actively in the creation of applications that harness AI capabilities for pragmatic business solutions, students will explore two application types: those seamlessly integrating AI abilities, such as chatbots, and those developed with AI assistance, requiring no extensive programming background. Streamlit, an accessible open-source Python library, will be adopted as the primary tool for app development. Upon successful completion, students are expected to gain profound insights into AI and develop skills to integrate it effectively into their professional endeavors.
Prerequisite(s): BA 520

ISM 585 Network App Development 3 Credit Hours
This course is designed for students to explore the unique concerns in developing applications designed to run in a networked environment. The goal of this course is for students to gain proficiency in network-based programming languages, while at the same time understanding concerns specific to networked applications, such as security and latency. Topics include client-server development, distributed object models, training in specific languages such as PHP and PERL, programming and security, and networked application tuning.
Prerequisite(s): MIS 527 or ISM 527

ISM 640 Info Systems Development 3 Credit Hours
This course provides a foundation in systems analysis and design concepts, methodologies, techniques, and tools. Students will learn to analyze an organizational program, define user requirements, design an information system, and plan an implementation. Methodologies covered include the traditional life cycle approach as well as newer methodologies such as an object-oriented approach, joint application development (JAD), and prototyping. A semester-long project gives students the opportunity to apply these techniques to a business problem. This project will use technologies such as computer-aided software engineering (CASE) tool, a database management system (DBMS), fourth generation language.
Prerequisite(s): MIS 575* or ISM 575*

ISM 641 Enterprise Architecture Netwrk 3 Credit Hours
In this class, students will learn the principles of managing the hardware, software, networks, and data centers that are used in modern enterprises. Students will learn the interfacing of IT systems to business goals and objectives. Traditional architecture frameworks will be discussed, along with the integration of more contemporary topics like cloud networking, green computing, mobile enterprise/BYOD, and virtual services.
Prerequisite(s): MIS 525 or ISM 525

ISM 642 Cybersecurity and Networking 3 Credit Hours
This course delves into the critical interplay between cybersecurity and networking, offering a comprehensive exploration of IT security methodologies, techniques, and tools alongside essential networking principles. Students will gain a deep understanding of core cybersecurity concepts, including threat identification, risk management, and security planning, while also mastering the technical foundations necessary to implement effective network security measures. The curriculum covers network attacks, firewalls, intrusion detection systems, and VPNs, emphasizing the fundamental networking concepts crucial for understanding and deploying these security technologies. Additionally, students will explore modern networking topics such as cloud networking, green computing, mobile enterprise/BYOD, open-source app development, and virtual services, all within the context of aligning IT systems and security strategies with business objectives. By integrating these elements, the course prepares students to manage and secure contemporary enterprise networks, addressing both technical and managerial challenges in the dynamic field of cybersecurity and networking.
Prerequisite(s): MIS 525 or ISM 525

ISM 643 Info Tech Project & Chg Mgmt 3 Credit Hours
This course examines the management of information systems projects in business organizations as well as human and organizational reactions to the changes brought about by new information systems. Topics include project planning, change control, project controls, project reporting, information systems projects and organizational change, factors affecting project success and failure, and project management software.
Prerequisite(s): MIS 525* or ISM 525*

ISM 644 IT Strategies and Opportunities 3 Credit Hours
This course provides an overview and an understanding of the issues involved in the strategic management of the information technology (IT) and information systems (IS) of an organization and the development of organizational strategies and polices considering environmental constraints. A broad range of issues and problems associated with the information assets of the organization and their alignment with the strategic goals of the organization is examined. An example of topics covered might include: ethical, privacy, and social issues arising within the new information environment; current laws and currently proposed laws and their implications; competition and monopoly in software and hardware markets; and online content and access. Since the course focuses on current issues, the reading each week consists of basic text chapters as well as readings contributed by the professor and class. These readings will change to reflect the dynamic environment of IT/IS. The course prepares students for IT strategy and policy analysis and development. Coursework includes extensive reading, seminar participation, case analysis, research projects, and examinations.
Prerequisite(s): MIS 525* or ISM 525*

ISM 645 Global Outsource IS Activities 3 Credit Hours
This course provides an overview and an understanding of the issues involved in extensive outsourcing in the global environmental. There exists a growing relationship between globalization, outsourcing, and information technology and the technological and social issues that support or inhibit this relationship is the focus of this class. An example of topics covered might include: national culture, the global IT manager, managing a global IT project, cultural diversity, and ethical and social issues. Since the course focuses on current issues, the reading each week consists of basic text chapters as well as current academic and practical articles. These readings will change to reflect the dynamic environment of IT/IS. Coursework will include extensive reading, seminar participation, case analysis, research projects, and examinations.
Prerequisite(s): (MIS 525 or ISM 525) and (MIS 643 or ISM 643 or MIS 644 or ISM 644)

ISM 646 HCI Interface & Design 3 Credit Hours
This course introduces students to the fields of human computer interaction (HCI), interface design, and usability engineering. The cognitive aspects of HCI will be explored as well as several methods for usability evaluation/inspection. The course will include an examination of the emerging discipline of information architecture. Topics will include: HCI definitions, theories, and history; interface design principles and interaction methods; usability evaluation techniques; usability heuristics and design guidelines; perspectives of designers versus users; and user centered design.
Prerequisite(s): MIS 525 or ISM 525

ISM 647 Advanced Programming 3 Credit Hours
This course allows students to build on their programming skills learned in ISM 527. Students will be exposed to advanced programming topics, such as multi-threading, multimedia, exception handling, networks, database connections, component-based programming, Web-based applications, and non-technical issues in programming and application development. Students will be introduced to a computer-aided software environment and collaborate on building more complex applications based on business requirements.
Prerequisite(s): MIS 527 or ISM 527

ISM 648 Information Management II 3 Credit Hours
This course examines the processes and tools used to develop and administer database systems in business. Database systems used to support both transactions processing and decision-making in organizations are studied. A class project involving the development of a database using a client/server database management system is performed. Topics include database development, client/server databases, concurrency control, database security, administration of database privileges, and complex data retrieval commands.
Prerequisite(s): MIS 575 or ISM 575

ISM 649 Advanced Technologies in Business 3 Credit Hours
This course is designed to equip students with an in-depth understanding of how advanced technologies like Artificial Intelligence (AI) and Business Intelligence (BI) transform business landscapes. Students will explore the integration of advanced technologies to enhance decision-making processes, improve operational efficiencies, and drive strategic growth. The curriculum covers key topics such as AI algorithms, quantum computing, blockchain technology, cybersecurity, etc. Real-world case studies and industry projects are incorporated to illustrate the practical application of these technologies in various sectors. By engaging in hands-on projects and case studies, students will develop the skills necessary to leverage AI and BI tools effectively, preparing them to address real-world challenges and make informed decisions in a technology-driven landscape.
Prerequisite(s): ISM 580 and BA 530

ISM 650 Systems Development and Data Quality 3 Credit Hours
This course examines two related areas of study: (1) the concepts of information systems analysis and design in business organizations and (2) the management of information quality in organizations. Students will learn to plan and manage information systems projects, determine information requirements, model information process requirements, model system logic requirements, design user interfaces, and implement and maintain information systems. Students will also gain an understanding of the dimensions of information quality, the assessment and improvement of information quality in organizational settings, cognitive and behavioral aspects of information quality, and the effect of information quality on organizational decision making. The implications of information quality for systems analysis and design and applications of systems analysis and design methodologies for the management of information quality will be examined.
Prerequisite(s): MIS 525 or ISM 525

*An asterisk denotes that a course may be taken concurrently.

Frequency of Offering

The following abbreviations are used to denote the frequency of offering: (F) fall term; (W) winter term; (S) summer term; (F, W) fall and winter terms; (YR) once a year; (AY) alternating years; (OC) offered occasionally