Information Systems (IS)

IS 501 - CYBERSECURITY PRINCIPLES
Semester Hours: 3

This course is designed to provide a general overview of the concepts of information security to students, both from a management and a technology perspective. Students will be introduced to the complexity of the security issues facing today’s networked organizations. Practices and standards will be presented to assess and plan for risks and the security needs to minimize the risks both technically and managerially. The integration of security concerns within the entire organizational planning and implementation processes and practices will be explored.

IS 512 - SYSTEMS ANALYSIS & DESIGN
Semester Hours: 3

Identifying, analyzing, developing and acquiring information systems are central to the information systems discipline. The course has to do with identifying, conceptualizing and analyzing business opportunities where information systems applications can add value followed by design, development, and implementation of such applications. Planning for and management of this core IS activity is a critical organizational competence. Prerequisites: IS 601.

IS 520 - WEB PORTALS & APPLICATIONS
Semester Hours: 3

This course bridges the boundary between consumer of Web applications and the ability of enterprises to derive value from web technologies and platforms by developing portals that integrate disparate organizational silos and databases. The course explores concepts in digital content and communication, technology infrastructure and social media. Utilization of SAP tools to develop an enterprise portal front end to organizations’ back-end business systems.

IS 522 - SUPPLY CHAIN MANAGEMENT SYSTEMS
Semester Hours: 3

This course presents the main concepts of supply chain management systems and software including ERP, CRM, and SCM systems as well as the underlying technologies and managerial implications. It provides hands-on familiarity with SAP supply chain modules. Cross listed with IS 422. Prerequisite: Basic knowledge of information systems.

IS 540 - WEB PROGRAMMING AND DATABASE INTEGRATION
Semester Hours: 3

Prerequisite: IS 520.

IS 550 - CYBERSECURITY MANAGEMENT
Semester Hours: 3

Examines the management issues associated with the control and audit of information systems. Specific emphasis is on IT controls and their evaluation, computer-based auditing techniques, encryption, and security policies. Recent developments in IT, such as client-server systems and the internet and their impact on auditing control, and security, are also considered.

IS 560 - NETWORKING & IT INFRASTRUCTURE
Semester Hours: 3

An overview of the IT infrastructure in modern organizations. The course starts from basic networking concepts to digital platforms and ecosystems in the market.

IS 571 - BUSINESS ANALYTICS & AI
Semester Hours: 3

The course covers the use of data analytics to support decision-making in organizations and gain insights to support tactics and strategy. In addition to analytics, students will also be introduced to Artificial Intelligence (AI) techniques for analytics. Students will use many business analytics tools and gain experience in mining data. The course is designed to develop data-analytic thinking in the era of big data. Prerequisite: Basic skills in computer programming.

IS 577 - NETWORK DEFENSE & SECURITY
Semester Hours: 3

Provides an introduction to the area of network security. Addresses security issues and practical applications related to Network Address Translation, packet filtering, proxy servers and firewalls, and Virtual Private Networks. This course assumes familiarity with the internet and basic networking concepts such as TCP/IP, gateways, routers, and Ethernet. Prerequisites: IS 560.
IS 580 - SEMINAR IN MANAGEMENT INFORMATION SYSTEMS
Semester Hours: 3
Selected topics in Management Information Systems. Topics will reflect the contemporary issues and current technological advancements which impact the development, implementation and management of effective information systems in organizations.

IS 595 - INTERNSHIP IN INFORMATION SYSTEMS
Semester Hours: 1-3
Under the direction of a faculty advisor, student gains experience with information systems and technology professionals in industry.

IS 600 - INFORMATION SYSTEMS MANAGEMENT
Semester Hours: 3
Develops an understanding of how information technology (IT) can enable organizations to conduct business more effectively in a rapidly changing business environment. Includes strategies to manage and leverage the organization's IT capabilities to deploy digital business models and maintain efficient and profitable business operations. Students will use systems and business process thinking to create and analyze strategies for technology enabled organizational transformation. Students will also use enterprise systems like SAP and other technologies as part of the course to understand their integrative capabilities to meet the information needs of an organization.

IS 601 - MANAGEMENT OF INFORMATION TECHNOLOGY
Semester Hours: 3
This course is designed to provide an understanding of how information technology (IT) can enable organizations to conduct business more effectively in a rapidly changing business environment and to leverage the organization's IT capabilities to maintain efficient and profitable business operations.

IS 640 - DATA MANAGEMENT AND DATA MINING
Semester Hours: 3
Explores the theories, features, and capabilities of relational database management systems in a business environment. Examines how to read and interpret database design documents and how to query database driven business applications. Emphasizes the use of database management systems and data mining tools in real-world business settings and how these technologies can be applied effectively to solve business problems.

IS 650 - SELECTED RESEARCH TOPICS
Semester Hours: 3
Research in a particular topic relevant to management information systems by one student or a group of students. Each student's research paper must be an original contribution showing a research design and results that meet the highest standard of management information systems research.

IS 660 - CYBERSECURITY MANAGEMENT
Semester Hours: 3
Examines the management issues associated with the control and audit of information systems. Specific emphasis is on IT controls and their evaluation, computer-based auditing techniques, encryption, and security policies. Recent developments in IT, such as client-server systems and the internet and their impact on auditing control, and security, are also considered.

IS 663 - COMPUTER FORENSICS
Semester Hours: 3
This course covers most of the important topics in computer forensics. It examines the problems and concerns related to computer investigations. It introduces systematical problem-solving techniques and applies them to computing investigations. It implements a variety of computer forensic tools in real-life scenarios.

IS 670 - BUSINESS CONTINGENCY PLANNING
Semester Hours: 3
Introduces the theories and concepts of business contingency planning through risk analysis and disaster recovery planning. This course is designed to provide a greater understanding of the assessment and management of risk and disaster recovery within the organization. The course will emphasize the nature of risk, risk assessment, risk management, and disaster recovery and how these concepts can be addressed effectively through business contingency planning. Prerequisite: IS 601.

IS 680 - ENTERPRISE RESOURCE PLANNING SYSTEMS
Semester Hours: 3
This course examines the concepts, design, configuration and implementation of enterprise resource planning (ERP) systems with a view to integrate all aspects of an organization into one information system. Specific attention is given as to how ERP systems facilitate the flow of information supporting core business processes and the organization's supply chain. The course will emphasize the SAP configuration and strategic use of ERP systems to support the organizational structures and business processes of the particular company to efficiently and effectively manage a firm's business. Extensive use of SAP software is made in illustrating the configuration, implementation, and use of ERP systems in business and governmental organizations. Prerequisite: IS 601.
IS 691 - INFORMATION SYSTEMS STRATEGY & APPLICATIONS  
Semester Hours: 3

This capstone course emphasizes the integration of various principles, theories, and techniques for developing, implementing and using information systems strategies and applications in organizations. It aims at providing a holistic view of Information Systems and Technology (IS/T) function in an organization with a view to serve an organization’s mission and strategy throughout the value and supply chain. These skills will be placed in the context of business processes where they will be applied. Thus, in this course we will explore ways and means to help executives and managers make better decisions in the manufacturing and service sectors through a strategic use of IS/T. Normally taken during student’s last semester. Must be completed with a grade of B or better. Prerequisites (with concurrency): IS 512, IS 560, IS 571, IS 640, and IS 680.

IS 692 - CYBERSECURITY PRACTICUM  
Semester Hours: 3

A capstone course emphasizing the integration of various principles, theories, and techniques for developing, implementing and using cybersecurity tools and strategies and applications in organizations. Includes readings, lectures, situation analysis, cases, and the completion of a major practical project. Must be completed with a grade of B or better. Prerequisites: (IS 501 or CS 585 or CPE 549), (IS 550 or IS 660), and IS 663.

IS 699 - MASTER'S THESIS  
Semester Hours: 3

Required each semester a student is working and receiving direction on a masters thesis. A minimum of two terms is required but no more than six hours credit is allowed for the thesis. Credit awarded upon successful completion of thesis.