MANAGEMENT INFORMATION SYSTEMS (MIS)

MIS 5543 Computer Programming. The art and science of programming is the focus of this course. In particular, algorithm development and logical problem-solving are emphasized. Programming concepts are conveyed using a high-level structured programming language in a visual environment, for example, Visual C++. Individual programming assignments and course participation are required, as are several exams. Elective. 4 quarter credit hour/s.
Campus: LISLE

MIS 5545 Computer Organization and Architecture. (Formerly 545) The objectives of this course are to introduce the basic concepts of computer systems and computer architecture. Discussion includes data representation, processor technology, data storage technology, system integration and performance, data and network communication technology, computer networks, application development, operating systems, Internet and distributed application services, cloud computing, virtualization, as well as system administration. Several assignments and course participation are required, as are several exams. 4 quarter credit hour/s.
Campus: LISLE

MIS 5546 Systems Analysis and Design. (Formerly 546) Tools and techniques associated with the analysis and design of application systems are studied and evaluated. Traditional and state-of-the-art system development life-cycle methodologies are examined. Specific topics include construction and evaluation of user interviews, data flow diagrams, data dictionaries, decision tables and trees, and use of prototyping techniques and computer-aided software engineering tools. The course project requires a team analysis and design of a new application system. 4 quarter credit hour/s.
Campus: LISLE

MIS 6600 Independent Study. (Formerly 600) This course allows an opportunity for a student to concentrate on a specific topic related to an existing course or to explore a timely topic not covered in an existing course. A proposal is required, outlining the nature of the problem and scope of the investigation. A research paper or project is required, as appropriate to the problem under investigation. 1-4 quarter credit hour/s. Course Repeatable. Maximum number of units allowed: 12. Department Consent Required.
Campus: LISLE

MIS 6609 Computer Fraud. (Formerly 609) This course provides an understanding of how fraud is accomplished by the use of computers and the Internet. It discusses the types of computer fraud that can occur in organizations and how computer fraud can be prevented. Cross-listed as MSA 6609/MIS 6609. 4 quarter credit hour/s.
Campus: LISLE

MIS 6616 Information System Auditing. (Formerly 616) Since the introduction of the Sarbanes-Oxley Act of 2002, there has been an increasing focus on the strengths and weaknesses of a company's information system infrastructure. This course will introduce those students interested in auditing to the fundamentals of Information Systems (IS) auditing with an emphasis on understanding IS controls, the types of IS audits, and the concepts and techniques used in IS audits. Prerequisite: MSA 5513. Cross-listed as MSA 6616/MIS 6616. 4 quarter credit hour/s.
Campus: LISLE (Typically Offered: Annually)

MIS 6642 Financial Information Systems. (Formerly 642) The rise of business process analysis within many organizations and the trend toward decentralization has forced many functions to operate autonomously. Students will learn to analyze the role of accounting information systems within a company's operating systems; appreciate the wider view of accounting's role in an organization as an integrated and comprehensive database; and learn the connections between transaction cycles, internal controls, and computer security. Students will be expected to apply quantitative and qualitative techniques learned in previous financial management and information systems courses to analyze cases selected from a wide variety of financial and information technology problem areas. Prerequisite: MSA 6601. 2 quarter credit hour/s.
Campus: LISLE (Typically Offered: Fall Term)

MIS 6648 Information Management in Health Care. The objective of this course is to examine information technology applications in health care. Case studies are used to analyze systems currently in place and to explore systems on the horizon within health care organizations. Discussion includes the roles of providers and payers; it also includes issues of patient records and quality assurance and quality management as well as administrative and patient-related systems. Students are expected to propose a solution and implementation plan to an information management problem in a health care organization. Prerequisite: MPH 6002 and either MIS 5546 or MBA 6641. 2 quarter credit hour/s.
Campus: LISLE (Typically Offered: Spring Term)

MIS 6649 Advanced Topics in Health Information Systems Management. The objective of this course is to examine emerging technologies and new information technology applications in health care. Topics include information systems for an integrated local delivery system, issues in building clinical data warehouses, health care information system standards, telemedicine, as well as the implications of strategic information-based alliances among the managed care and hospital communities. Techniques include case analysis and review of current literature. A course project to select a technology direction and to evaluate its fit with the strategy of a health care organization is expected. Prerequisite: MIS 6648. 2 quarter credit hour/s.
Campus: LISLE (Typically Offered: Spring Term)

MIS 6650 Issues in Health Information Systems. Changes in information technology in the health care field are occurring at an increasing rate. Accelerated growth is expected as the focus of information technology uses shifts from operational or tactical uses to more strategic uses. A related challenge is to provide open, flexible technology solutions that effectively support the current organization demands and provide the foundation for growth around unknown, future business requirements. A course project examining strategic issues in information technology in the student's organization is expected. Prerequisite: MIS 6649. 2 quarter credit hour/s.
Campus: LISLE

MIS 6651 Client/Server Development. Client/server computing refers to a scenario where individual workstations are connected to a server that controls some operations and manages data via a local area network. Therefore, the application is divided into two parts: one part resides on the server and the other on the client workstation. This course emphasizes the development of applications, but also discusses implementation considerations such as organizational factors, information infrastructure, systems management, and management issues. A visual application development environment is used. Prerequisite: MIS 5543, MIS 5546. Elective. 2 quarter credit hour/s.
Campus: LISLE

MIS 6654 Enterprise-wide Information Systems. Application systems supporting business areas such as finance, sales and marketing, manufacturing, distribution and human resources are studied. Special features and information sharing issues within and across functional areas are analyzed and developed. Topics include appropriateness of an information system as a business solution, the unique aspects of each business functional area, special design and implementation considerations and integration issues with the enterprise model. Assignments include interviews with a user manager and a corresponding systems manager as well as a multiple application systems integration plan and design. Prerequisite: MIS 6674. 4 quarter credit hour/s.
Campus: LISLE

MIS 6655 Computer and Network Systems Security. (Formerly 655) Topics discussed include network infrastructure security issues, including perimeter security defense, firewalls, virtual private networks, intrusion detection systems, wireless security, network security auditing tools, honeypots, incident response, forensics, as well as ethical considerations. Also discussed is the development of an enterprise security policy. Prerequisite: MIS 5546. 4 quarter credit hour/s.
Campus: LISLE

MIS 6656 Information Systems Security. (Formerly 656) Information is a vital corporate resource. The integrity, accuracy, timeliness, confidentiality and physical security of this resource is essential to maintain its value to the organization. Topics discussed include security considerations as they apply to information systems analysis and design, vulnerability assessment, security audits and access controls. Also discussed are disaster recovery, business continuity, as well as legal and social issues. Prerequisite: MIS 5546. 4 quarter credit hour/s.
Campus: LISLE

MIS 6657 E-Commerce. (Formerly 334/657) This course presents the state-of-the-art in electronic commerce. Its focus is on the current and future impact of e-commerce. Students will learn how to create new business opportunities; identify new customers and additional value in existing customers; realign the organization for this new environment; address contemporary uncertainties such as government regulation, taxation, security, privacy and intellectual rights; create a market presence; measure success, return on investment and profitability; and sustaining the pace of change through appropriate staffing, hiring, outsourcing and partnering. Students examine recent successes and failures in e-commerce through case studies and other readings and will develop an e-commerce business plan for an organization. Prerequisite: MIS 5546 or MBA 6641. 4 quarter credit hour/s.
Campus: LISLE

MIS 6658 Management of IT Facilities. (Formerly 658) The support side of information systems is studied, focusing on physical needs and ongoing production support. Facilities issues, including requirements for physical space, voice and data, servers, networks, emergency equipment and special environmental needs, and green issues of energy efficiency, recyclability and sustainability are examined. Disaster recovery and business continuity issues are also considered. 2 quarter credit hour/s.
Campus: LISLE

MIS 6659 Business Analytics. (Formerly 659) Business analytics refers to the skills, technologies, applications and practices for continuous iterative exploration and investigation of past business performance to gain insight and drive business planning. Business analytics focuses on developing new insights and understanding of business performance based on data and statistical methods. It makes extensive use of data, statistical and quantitative analysis, explanatory and predictive modeling and fact-based management to drive decision-making. Analytics may be used as input for human decisions or may drive fully automated decisions. Deliverables include article reviews, case analyses, course project and presentations. Prerequisite: MBA 5541. Cross-listed as MSBA 6659/MIS 6659. 4 quarter credit hour/s.
Campus: LISLE

MIS 6669 Project Management. (Formerly 683) The art and science of project management as applied to a variety of business and technology settings. Discusses how to initiate, plan, execute and control, and close projects within budget and on schedule. Advanced topics may include critical chains, adaptive and agile project management, the project office, and portfolio management. A project planning software tool is utilized, usually MS Project. This course is appropriate for technology and non-technology managers alike. 4 quarter credit hour/s.
Campus: LISLE

MIS 6671 Strategic Management. (Formerly 671) This course requires students to use the disciplines and techniques learned in previous required courses. Strategy formulation and implementation concepts are discussed using cases and readings. This course is to be taken within two courses of completion of the required courses. Cross-listed as MBA 6671/MGMT 6671/MIS 6671. 4 quarter credit hour/s.
Campus: LISLE

MIS 6674 Database Management Systems. (Formerly 674) Database technology has evolved from simply being a better way to organize and access data to being an information systems keystone, required to effectively support the enterprise. This course introduces database technology, emphasizing effective database design. Specific topics include components, roles, and functions in a database environment; importance of data security; integrity and recovery; strengths and weaknesses of data models, focusing on the relational model. A course project requires the design of a personal computer-based database application. A research paper is also expected. Prerequisite: MIS 5546. Required. 4 quarter credit hour/s.
Campus: LISLE

MIS 6677 Decision Support and Knowledge-based Systems. (Formerly 677) This course introduces the use of knowledge-based systems, including decision support systems, group decision support systems, expert systems and executive information systems within the functional structure of the firm. Decision support and expert systems will be discussed in depth. Topics include analysis of decision criteria and modeling techniques, the system development process, business applications and evaluation of existing software. Deliverables include a course project and presentation. 4 quarter credit hour/s.
Campus: LISLE

MIS 6681 Network Planning. (Formerly 681) In this course, students are asked to describe and evaluate networks as part of an organization's strategic and tactical plans. Business needs are evaluated and students offer feasible network solutions meeting these needs. Students analyze network opportunities, considering competitive forces, strategic advantages, strengths and opportunities. Students evaluate network requirements and alternative solutions, selecting the most appropriate, given the current and projected business environment. Network management and security issues are reviewed and appropriate policies and procedures recommended. Students also investigate the future of enterprise-wide networks. Prerequisite: MIS 5545, MIS 5546. 2 quarter credit hour/s.
Campus: LISLE

MIS 6682 Network Design. (Formerly 682) In this course, students evaluate network topologies, protocols, network components, current technology standards and interoperability issues. Students design a physical network solution that includes current physical environment, growth requirements, network solution requirements and business constraints. Students design a logical network solution, which includes how the application will work across the physical network and how the data travels within and across networks. Distributed network models are also examined, looking at presentation, processing and data placement within the network structure. Tools for network management are reviewed, documentation standards are defined and network solutions provide production criteria for managing an implemented network solution. Prerequisite: MIS 6681. 2 quarter credit hour/s.
Campus: LISLE

MIS 6689 Strategic Information Technology Management. (Formerly 689) This course requires students to use all disciplines and techniques learned. Strategy formulation and implementation concepts focusing on information technology are discussed using cases and readings. This course should be taken within two courses of completion or with permission of the program director. 4 quarter credit hour/s.
Campus: LISLE

MIS 6690 Management Information Systems Internship. (Formerly 690) An internship offers practical work experience within which the student has the opportunity to apply and test theoretical learning while developing executive skills. The internship experience may be an apprenticeship in which a less experienced student learns about the organization, the business unit and a variety of information systems projects in which the supervisor is involved, or a project in which the student has major responsibility for a specific assignment and exposure to other areas of responsibility or interest. The Management Information Systems internship may be repeated in different settings. 1-6 quarter credit hour/s. Course Repeatable. Maximum number of units allowed: 12. Department Consent Required.
Campus: LISLE

MIS 6691 Management of Information Technology Lecture Series. (Formerly 691) Timely information technology topics are presented in the form of 1, 2, or 4-quarter credit hour courses. Keeping pace with information technology requires constant learning. These courses provide an opportunity to examine and assess information technology issues. There are no designated prerequisites, but graduate students are encouraged to have completed the 5000-level course sequence. Topics are announced in advance. 1-4 quarter credit hour/s. Course Repeatable. Maximum number of units allowed: 12. Department Consent Required.
Campus: LISLE

MIS 6692 Networking Projects. Networking Projects 2 quarter credit hour/s.
Campus: LISLE