# **INFORMATION SYSTEMS (INFO)**

# INFO 202. Introduction to Information Systems Development Technologies. 3 Hours.

Semester course; 3 lecture hours. 3 credits. This course is designed to provide students with a solid foundation in programming using JavaScript, a widely-used programming language that powers many business applications, making it an essential skill for future software developers and IT professionals. Students will receive instruction in essential programming skills, such as variables, data types, control flow and functions.

## INFO 250. Introduction to Programming. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: BUSN 171\*. Introduces students to writing, testing and debugging Java programs using simple logic and algorithms. Basic Java applets and the graphic user interface are covered. Cannot be used as an elective in the information systems major. \*Formerly MGMT 171, SCMA 171.

## INFO 291. Topics in Information Systems. 1-3 Hours.

Variable hours. Variable credit. Maximum of 3 credits per topic. Prerequisite: permission of instructor. An in-depth study of selected business topics. Graded as pass/fail at the option of the department.

#### INFO 292. Data Preparation for Al. 3 Hours.

Semester course; 3 lecture hours (delivered online). 3 credits. Data is an essential prerequisite to all forms of Al. This course covers the sourcing and preparation of data so that it can be used to build ethically correct Al systems. These basic skills provide the foundation for all aspects of intelligent or simulated intelligence systems.

### INFO 300. Information Technology Infrastructure. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Pre- or corequisite: INFO 202, CMSC 245 or CMSC 255. The course introduces principles of computer hardware and software architecture and organization. The focus is on surveying what is likely to be encountered in the IT legacy today, emerging technologies and introducing data structures and algorithms.

INFO 320. Artificial Intelligence for Business Intelligence. 3 Hours. Semester course; 3 lecture hours. 3 credits. Prerequisite: SCMA 301 or STAT 210 or STAT 212. Enrollment is restricted to junior-level students who have completed at least 54 credit hours. Embark on an exploration of artificial intelligence in business. The course covers foundational AI concepts, including large language models, machine learning, data wrangling and visualization, integrating these with business applications such as spreadsheet modeling and ethical decision-making. Students will engage in hands-on projects that showcase how AI can ethically transform business operations and decision-making processes.

#### INFO 350. Intermediate Programming. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 202, INFO 250, CMSC 245, CSMC 254 or CMSC 255; and MATH 211, both with a minimum grade of C. This course build on the programming fundamentals covered in introductory courses and provides students with the skills and knowledge necessary to build and deploy API-driven business applications. Students will learn how to use contemporary technologies such as HTML, JavaScript, Node.js and database management systems to develop sophisticated web applications.

#### INFO 360. Business Information Systems. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). Provides an understanding of the importance of computer-based information in the success of the firm. Emphasis is on the role of information systems within each of the functional areas of business. Major concepts include data management, decision support and management information systems.

#### INFO 361. Systems Analysis and Design. 3 Hours.

Semester course; 3 lecture hours. 3 credits. This course is restricted to students who have completed at least 54 credit hours (junior standing). Examines the concepts, tools and techniques used to develop and support computer-based information systems. Systems planning, analysis, design and implementation are covered. Behavioral and model building aspects of systems development are emphasized throughout.

#### INFO 364. Database Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 202, CMSC 245 or CMSC 255 with a minimum grade of C. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). Students will learn how to design, develop and use databases, including the use of Structured Query Language for querying and manipulating data.

#### INFO 370. Fundamentals of Data Communications. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: MATH 211 with a minimum grade of C; INFO 300. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). Computer networks and data communications. Provides an understanding of the underlying concepts of computer networking. Emphasis is placed on terminology, techniques and issues in networking systems.

## INFO 450. Programming for Business Analytics. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: BUSN 212 or MATH 200 with a minimum grade of C. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). This course will teach students how to use Python for data analytics and data science. Students will gain proficiency in manipulating, cleaning and analyzing large datasets; creating data visualizations; and developing statistical models. By the end of the course, students will have developed the ability to use Python for data analytics and data science projects, including the development of data-driven insights and predictive models.

## INFO 451. Advanced Technology for Web Development. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 350 and INFO 364 with minimum grades of C. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). This course teaches students to build interactive, data-driven websites using MongoDB, RESTful API and contemporary web technologies. Students will learn database design and management using MongoDB and how to use RESTful APIs to create scalable web applications. The course will cover modern web development tools such as Node.js, Angular, React.js and Vue.js. Throughout the course, students will work on handson coding exercises and projects, developing proficiency in server-side programming and client-side scripting. By the end of the course, students will have built interactive web applications that use data to generate dynamic content.

#### INFO 452. Al Services for Business. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 350 and INFO 364 both with a minimum grade of C. Enrollment is restricted to information systems majors who have completed 54 credit hours (junior standing) or with permission of the department. The course covers the development of business applications using artificial intelligence technologies. The class emphasizes the practical application of Al tools such as large learning models, to solve business challenges.

# INFO 461. Information Systems Planning and Project Management. 3

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 361. Concentrated study of planning methods and techniques required for defining, planning, integrating and implementing information technology projects consistent with the organizational strategic plan and mission.

### INFO 462. Design of AI Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Enrollment is restricted to information systems majors who have completed 54 credit hours (junior standing) or with permission of the department. This course is designed to provide immediately useful skills that can be applied everyday activities, and usefully, to the amounts of dollars invested in various technologies and especially in AI systems. It covers design and implementation of a range of technologies creating students who are valuable assets in any business environment and positioning students at the forefront of emerging business technologies. It surveys a range of methods, tools and techniques required to successfully create and field systems incorporating or largely based on AI, and fosters a deeper understanding of the strategic implications of AI in business.

## INFO 463. Business Process Engineering. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 361. This course is restricted to students who have completed at least 54 credit hours (junior standing). A survey of legacy system re-engineering technologies in which the student becomes familiar with a variety of tools used in practice and has the opportunity to develop applications using these tools under supervision. Selection of technologies is determined each semester.

#### INFO 465. Projects in Information Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 350, INFO 364 and INFO 370. Students will work in teams, using the Scrum methodology, to execute a semester-long application development project. Students will use the skills acquired from the prerequisites to take a project from a formal business proposal to a finished product. The finished product is delivered through multiple sprints.

## INFO 468. Information Engineering. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 361 and INFO 364. This course is restricted to students who have completed at least 54 credit hours (junior standing). A study of information engineering as a model-based, data-centric approach to integrating organizational strategic planning with enterprise information systems development. Involves readings, group discussion and case studies.

## INFO 472. Infrastructure Services. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 370. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). This course provides an overview of Local Area Network technology and underlying protocols, complemented with a hands-on introduction to LAN administration using network operating systems. Wired and wireless networking fundamentals, network administration security and administration in cloud environments are also covered.

#### INFO 474. Advanced Networking and Security. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 370. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). The course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features.

#### INFO 481. Information Technology Auditing. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Enrollment is restricted to information systems majors who have completed 54 credit hours (junior standing), or students may enroll with permission of the department. The course teaches the role and objectives of information technology audits and the processes that are necessary to properly conduct an IT audit. Case studies introduce students to the process of interpreting audit evidence.

# INFO 482. Introduction to Enterprise Resource Planning Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Enrollment is restricted to majors in the School of Business who have completed 54 credit hours (junior standing). This course allows students to develop an appreciation of the impact of enterprise resource planning systems on businesses and to understand the issues involved in the design, implementation and maintenance of these systems. Students also develop practical skills in the use of a commercial enterprise resource planning system.

## INFO 491. Topics in Information Systems. 1-3 Hours.

Semester course; 1-3 lecture hours. 1-3 credits. Maximum of 3 credits per course; maximum total of 6 credits for all topics courses. Enrollment restricted to students with junior standing. An in-depth study of a selected business topic, to be announced in advance.

# INFO 492. Independent Study in Information Systems. 1-3 Hours.

Semester course; 1-3 credits. Maximum total of 3 credits. Prerequisites: junior or senior standing as a major in a business curriculum and approval of adviser and department chair prior to course registration. Intensive study under supervision of a faculty member in an area not covered in-depth or contained in the regular curriculum.

#### INFO 493. Internship in Information Systems. 3 Hours.

Semester course; 3 field experience hours. 3 credits. Enrollment is restricted to students with permission of department chair prior to or during advance registration of the semester of credit. Students taking this course must have earned 12 hours of course credit in IS courses at the 300-level or above. Involves students in a meaningful work experience, typically 20 hours per week, in a setting appropriate to the information systems major.

#### INFO 511. Data Reengineering. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisites: INFO 361 and INFO 364. Reengineering data from one form structure to another – including big data technologies, network, hierarchical, relational and other types. This material exposes students to a range of methods, tools and techniques for understanding existing structures and using these as the basis for designing the next versions. Appropriate tools for data reengineering and a real-world project provide students with practical experience. Formerly INFO 611.

## INFO 520. Data Communications. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Computer network design, communication line control, and communication hardware and software. Formerly INFO 620.

#### INFO 530. Systems Development. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisites: INFO 361 and 364. Covers business process and data requirements modeling for information systems, using advanced methods and techniques. Students will gain hands-on experience developing specifications and a functional prototype application with current CASE and development tools. Formerly INFO 630.

#### INFO 532. Business Process Reengineering. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisites: INFO 361 and INFO 364. Critically reviews business process re-engineering methods and practices. Topics include strategy visioning, performance benchmarking, process modeling and analysis, and planning organizational change. State-of-the-art business engineering tool-sets are used to provide practical experience. Formerly INFO 632.

# INFO 535. Ethical, Social and Legal Issues in Computer and Information Systems Security. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Analyzing socio-political and ethical issues surrounding computer and information systems security. Topics include privacy laws, identity theft, information collection and retention policies, and enforcement. Formerly INFO 635.

# INFO 544. Principles of Computer and Information Systems Security. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Explores issues related to protecting information resources of a firm. Various tools and techniques useful for assessing CISS concerns in organizations are introduced. Principles and models for CISS and security management are presented and selected computer and CISS topics are introduced. Material is presented and discussed from a management frame of reference. Formerly INFO 644.

#### INFO 601. Database Management. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Focuses on relational databases for managing structured data and includes the entity relational diagram, transformation of ERD into relational schema, data normalization and structured guery language.

### INFO 602. Big Data Analytics with Cloud Platforms. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisites: INFO 364 or INFO 601; and INFO 350 or INFO 648. An in-depth, hands-on exploration of various cutting-edge information technologies used for big data analytics including the Hadoop environment, its architecture, MapReduce and its abstractions, and the Apache Spark software library. The course will also cover the importation of data from heterogeneous sources into big data platforms (extract-transform-load or ETL) using high-level scripting language and using big data analytics tools for data mining and text analytics. Students will use Java libraries for machine learning.

## INFO 609. Data-centric Analysis/Planning. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Teaches methods of monetizing or otherwise valuing intangible data practice improvement opportunities in the context of organizational strategy as part of (potentially) semester-long participation with regional organizations. Students use data-centric re-engineering-based business case development to gain practical experience. Sets of students will work closely with organizational leadership during the projects to articulate a specific business case. Teams will evaluate data-centric means of improving operational effectiveness and/or innovation opportunities and recommend specific approaches and estimated benefits.

#### INFO 610. Analysis and Design of Database Systems. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisite: INFO 364. Designed to prepare students for the development of data-driven information systems using advanced database management techniques. Included are topics related to advanced SQL statements, procedural SQL programs and NoSQL databases.

#### INFO 614. Data Mining. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisite: MGMT 302, SCMA 302, SCMA 524 or permission of the instructor. A data mining process has the goal of discovering nontrivial, interesting and actionable knowledge from data in databases. The course introduces important concepts, models and techniques of data mining for modern organizations. Students gain a deeper understanding of concepts and techniques covered in lectures by doing a practical term project that applies one or more of the data mining models and techniques. Students also are given the opportunity to gain knowledge on the features and functionalities of state-of-the-art data mining software through their preparation of a research report.

#### INFO 616. Data Warehousing. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisite: INFO 610. Covers important concepts and techniques in the design and implementation of a data warehouse. Topics include the data warehouse architecture, the logical and physical design issues in the data warehousing development process, technical factors (i.e., hardware, client/server technology, data warehousing and DBMS technologies) and implementation considerations (i.e., data extraction, clean-up and transformation tools). Introduces online analytical processing and data mining. Crosslisted as: CISS 616.

## INFO 617. Text Analytics. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisite: INFO 350 or INFO 648. Text analytics are the methods and techniques used to discover interesting patterns and extract valuable information from textual data to support the decision-making process. This course introduces the major techniques of text analytics with an emphasis on hands-on coverage of text mining and analytics using a programming language (e.g., Python).

# INFO 622. Internet Security Management. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Studies the principles of network security and secure operating systems. Included are topics relating to the use of intrusion detection, intrusion prevention and other related tools.

## INFO 636. Securing Cloud Infrastructure. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. This course provides hands-on comprehensive study of cloud concepts and capabilities across the various cloud service models (laaS, PaaS, SaaS), with mainstream cloud infrastructure services and related vendor solutions covered in detail. The cloud security model and its associated challenges are presented, focusing on performance, visualization, cloud mobility, security, usability and utility of the secure solutions.

#### INFO 640. Information Systems Management. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. A detailed study of the issues, principles, techniques and best practices in managing information systems and enterprise knowledge as organizational resources. Managing enterprise knowledge and information systems involves taking a disciplined approach to managing the infrastructures and harnessing the collective knowledge capital and brain-power of individuals and organizations. Topics include: IT operations, issues in strategic management, establishing standards and procedures, performance evaluation and benchmarking, hardware and software acquisition, physical environments and security issues, outsourcing and partnerships, personnel, knowledge ontology, metaknowledge and others.

#### INFO 641. Strategic Information Systems Planning. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisite: INFO 640 or INFO 661. Focuses on developing, implementing and evaluating strategic plans for corporate information systems. Assesses the role of information systems as a competitive tool. Methods and frameworks for strategic analysis are introduced. Mechanisms for establishing an information systems strategy are presented. Emphasis placed on understanding change management issues in IS planning for organizations.

#### INFO 642. Decision Support and Intelligent Systems. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisites: INFO 610 and 630. Focuses on the design and deployment of decision technology of two broad types: decision support systems, which are meant to be employed in an advisory capacity by their human users, and intelligent systems, which are generally designed as autonomous decision agents and so intended to displace human functionaries.

# INFO 643. Information Technology Project Management. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisite: INFO 640 or 661 or permission from the director of graduate studies in the School of Business. Provides a clear understanding of project management techniques. Covers aspects of planning, organizing, controlling and implementing IT projects. IT project management processes, project scheduling and links with information systems strategy and change management are explored.

## INFO 645. Prescriptive Analytics. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisite: BIOS 543, SCMA 301, SCMA 524 or STAT 543. Examines the formulation, analysis and solution of quantitative models for business problems. Applications relevant in diverse business disciplines will be investigated, and the models may include optimization, simulation and other advanced analytics-modeling paradigms. Current computer solution methods will be utilized. Formerly SCMA 645.

## INFO 646. Security Policy Formulation and Implementation. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Course covers aspects of policy formulation and implementation. A security policy is considered as a vehicle for executing good strategy. The course analyzes current problems with security strategy formulation and compliance. The content and context of security policies is evaluated to ensure effectiveness.

#### INFO 648. Business Data Analytics. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisite: BIOS 543, SCMA 302, SCMA 524, STAT 543 or ECON 501. Techniques and skills for leveraging real-world data to support decision-making using computational software. Topics include the analytics workflow, data preparation, visualization, cluster analysis, predictive modeling and learning-enabled optimization. Formerly SCMA 648.

#### INFO 654. Systems Interface Design. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 640 or 661. Analyzes factors important in designing the interface for business information systems. Includes designing and developing systems for the Internet. Requires students to work in teams to produce prototype interactive systems.

#### INFO 658. Securing the Internet of Things. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Prerequisite: INFO 661 or INFO 640. Overviews the emerging field of the Internet of Things with emphasis on how information infrastructure and networks will change the exchange of goods and services in a socially connected world. Specific topics include technological (including hardware/software) infrastructures, types of IoT applications, key IoT policy issues and future trends, IoT security, and privacy challenges in a socially connected world.

## INFO 661. Information Systems for Managers. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Provides an understanding of the importance and role of information systems in modern business decision making. Emphasizes choices about information technology and managing projects.

## INFO 664. Information Systems for Business Intelligence. 3 Hours.

Semester course; 3 lecture hours (delivered online, face-to-face or hybrid). 3 credits. Provides students with techniques and practices for modern decision-making in support of business/corporate performance. Includes hands-on experience with various information analysis, business intelligence and decision support techniques and tools with applications to various business-problem scenarios, such as portfolio analysis, project selection, market research and supply-chain optimization.

#### INFO 690. Research Seminar in Information Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: Approval of proposed work is required by graduate studies office in the School of Business. This course is designed to provide research experience for candidates not following the INFO 798-799 program.

# INFO 691. Topics in Information Systems. 1-3 Hours.

Semester course; 1-3 lecture hours. 1, 2 or 3 credits. Study of current topics. Topics may vary from semester to semester.

#### INFO 693. Field Project in Information Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: Approval of proposed work is required by graduate studies office in the School of Business. Students will work under the supervision of a faculty adviser in planning and carrying out a practical research project. A written report of the investigations is required. To be taken at the end of the program.

## INFO 697. Guided Study in Information Systems. 1-3 Hours.

Semester course; 3 lecture hours. 1, 2 or 3 credits. Prerequisite: Approval of proposed work is required by graduate studies office in the School of Business. Graduate students wishing to do research on problems in business administration or business education will submit a detailed outline of their problem. They will be assigned reading and will prepare a written report on the problem. To be taken at the end of the program.

#### INFO 700. Survey of Information Systems Research. 3 Hours.

Semester course; 3 lecture hours. 3 credits. This course is designed to provide incoming Ph.D. students with an introduction to information systems research. Students will survey various research streams in the field of information systems by familiarizing themselves with the research undertaken by faculty in the IS department. During the semester, students will learn about the various research areas in light of theories that support research and the primary research methods used in these areas. In addition, students will review literature to identify critical research issues in a specific topic area chosen for research and propose solutions to address those issues.

### INFO 701. Qualitative Research in Information Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Enrollment requires permission of instructor. The course is designed to cover qualitative research published in the information systems discipline and an array of qualitative research methods, including but not limited to grounded theory, positivist case studies, interpretive case studies, hermeneutics, ethnography, action research and interviewing methods. Students will be exposed to the published literature of qualitative research in the IS discipline, as well as to the principles that distinguish qualitative research from other types of IS research. The research methods and techniques will be discussed using published examples of such research. Including a project, the course will help students conduct their own qualitative research.

# INFO 702. Design Science Research and Methods in Information Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Enrollment requires permission of instructor. The course is designed to explore the theories and methods that are used in the various phases of design science research. Students will be exposed to the principles that distinguish design science research from other types of information Systems research. The research methods and techniques used in the various phases of design science research will be discussed using examples from IS analysis and design, database, IS security, decision support and intelligent systems, knowledge management, or other subfields.

## INFO 710. Database Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Explores advanced concepts related to management of modern organizations' data resources. Focuses on data administration and the technical aspects of database systems. Some of the database research issues covered include: data quality, design, security, metadata, XML databases and data warehousing. Prepares students for further research into aspects of database systems.

## INFO 720. Analysis and Design of Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Covers the philosophical and theoretical foundations of information systems development methodologies and their evolution. Provides an intellectual foundation for students wishing to write a doctoral dissertation in this subject matter. Students will be required to read and analyze articles considered fundamental to the current understanding of the subject.

## INFO 730. Information Systems Strategy. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Provides the basis for further Ph.D.-level work in information systems strategy. Covers the theoretical foundations of the subject area. In particular the economic, phychological, sociological and cultural aspects are considered. This focus helps students to identify different research orientations and helps develop an informed opinion on critical research areas.

#### INFO 740. Al-based Decision Support Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Provides the basis for further Ph.D.-level work in decision support and intelligent systems. Explores the theoretical and technical aspects of the subject area. This course will help students identify different research orientations with respect to the notion of intelligent systems and build an informed opinion on critical research areas. Explores issues around classes of decision predicates and decision situations. The course also helps students understand technical innovations in decision technologies as they relate to the study of decision support and intelligent systems.

## INFO 750. Information Systems Security. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Provides the basis for further Ph.D.-level work in information systems security. Covers the theoretical aspects of the subject area. It helps students identify different research orientations with respect to IS security and build an informed opinion on critical research areas. Explores issues around what IS security is (ontology) and how to acquire the relevant knowledge (epistemology). The course also helps students understand methods of social science research as they relate to IS security.

#### INFO 760. Knowledge Management. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Explores advanced concepts related to knowledge management and knowledge discovery in modern organizations. Material for the course is drawn from research papers and doctoral dissertations. Requires a high level of student participation, particularly in their critical reviews and presentation of relevant research materials.

#### INFO 790. Doctoral Seminar. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Open only to Ph.D. students in business. Analyzes and critiques general theories, practices and functions in a specialized area of information systems research.

# INFO 798. Thesis in Information Systems. 3 Hours.

Year course; 6 credits. Graduate students will work under supervision in outlining a graduate thesis and in carrying out the thesis.

## INFO 799. Thesis in Information Systems. 3 Hours.

Year course; 6 credits. Graduate students will work under supervision in outlining a graduate thesis and in carrying out the thesis.

## INFO 898. Dissertation Research in Information Systems. 1-12 Hours.

1-12 credits. Limited to Ph.D. in business candidates.