COMPUTER INFORMATION SYSTEMS (CIS)

CIS 24053   INTRODUCTION TO INFORMATION SYSTEMS AND DIGITAL TECHNOLOGIES   3 Credit Hours

(Equivalent to IT 11000) This foundational course introduces students to hands-on application of contemporary information systems and digital technologies. From personal devices to cloud infrastructure and traditional office applications to cloud and enterprise systems. Students learn important concepts and theories and begin building their inventory of technical skills to solve problems for immediate application, to earn industry-valued certifications and to prepare for advanced coursework.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Business

CIS 24065   WEB PROGRAMMING   3 Credit Hours

Principles of visual design as applied to Web site interface development. The course exposes students to the basics of programming and relational database and how to develop a Web-based database driven interactive information system.
Prerequisite: CIS 24053.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 24093   VARIABLE TITLE WORKSHOP IN MANAGEMENT AND INFORMATION SYSTEMS   1-6 Credit Hours

(Repeatable for credit) Special workshop in management and information systems. Credits depend on scope of project.
Prerequisite: Special approval.
Schedule Type: Workshop
Contact Hours: 1-6 other
Grade Mode: Satisfactory/Unsatisfactory

CIS 24167   CLOUD INFRASTRUCTURE AND APPLICATIONS   3 Credit Hours

Information systems is critical to the efficient operation of any organization today, such as in hiring employees, performing background checks, ordering/creating products, transacting businesses, and providing follow-up services, among others. These can be large "integrated systems" or ERPs or loose collection of "Apps." This class explores the various alternatives available today and the likely future of new products in the future. Different viewpoints and debates will be explored in the class with opportunities for students to discuss and present their thoughts.
Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 34032   DATA AND FILE TECHNOLOGY   3 Credit Hours

An introduction to file architecture and data base management systems. The application of these technologies is detailed.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 34034   BUSINESS MODELING AND AGILE DESIGN   3 Credit Hours

Introduction to innovative modeling and reengineering methods, tools, and techniques such as Agile and SCRUM methods to analyze real-world business problems and offer solutions using existing and emerging digital technologies such as artificial intelligence, smart devices (Internet of Things), cybersecurity and the metaverse/augmented reality/eXtensible reality.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 34045   SMALL SYSTEMS TECHNOLOGY   3 Credit Hours

An examination of the role of small computer systems within an organization's information systems environment.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 34054   USING INFORMATION SYSTEMS AND DIGITAL TECHNOLOGIES FOR SOLVING BUSINESS PROBLEMS   3 Credit Hours

Digital technologies are dramatically changing businesses and societies. Students will learn about how information systems (IS) are impacting various facets of business and society. Students will also learn about emerging digital technologies such as artificial intelligence, business data analytics, cryptocurrencies and FinTechs, smart devices, cybersecurity, and digital transformation with hands-on assignments related to building and delivering digital innovations for business and society.
Prerequisite: CIS 24053 or IT 11000; and minimum 2.000 overall GPA.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 34167   DESIGNING INNOVATIVE PROGRAMS AND APPS   3 Credit Hours

Course on front-end (client-side or user) design exposes students to the process of interface design, starting with the development of mobile-first interface prototypes using techniques such as wireframing and fun coding with HTML, CSS, JavaScript and JQuery. This course may offer certification opportunities.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 44008   MANAGING AGILE DIGITAL TRANSFORMATION PROJECTS   3 Credit Hours

(Slashed with CIS 54008) Drawn on the modern foundations of software development, this course will offer an overview and hands-on experience of the agile methodologies and techniques (e.g., Scrum, extreme programming) to support the agile implementation of digital transformation projects/strategies in organizations.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 44040   DESIGNING INNOVATIVE SERVER-SIDE SYSTEMS   3 Credit Hours
Course, on back-end (server-side) design, exposes students to the process of linking the front-end client interfaces to work with powerful servers that perform the magic in the background. Students will be exposed to topics such as server-side and serverless computing, and will use modern web languages such as but not limited to Python, NodeJS, Angular, React and Vue.
Prerequisite: CIS 34167.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 44041   MANAGING CYBERSECURITY   3 Credit Hours
(Slashed with CIS 54041) Course explores digital technologies and business issues related to cybersecurity management. It offers the foundations to understand the cybersecurity threats and privacy risks embedded in the implementation of emerging digital technologies (e.g., artificial intelligence, smart devices, collaborative tools) and the execution of digital transformation projects/strategies. The course will also facilitate the development of technological skills to design, implement, and evaluate cybersecurity policies in organizations. The course offers certification opportunities.
Prerequisite: CIS 24053 and CIS 34054 with a minimum C+ grade.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 44042   NETWORK THEORY AND APPLICATIONS   3 Credit Hours
Presentation of current and emerging network technologies and services in business applications and performance issues. Topics include transmission media, modulation and signaling schemes, switching and multiplexing techniques, local and wide area network protocols and standards, and internetworking devices.
Prerequisite: Minimum C+ grade in CIS 24053 and C grade in CIS 24065; and minimum overall 2.250 GPA.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 44043   DATABASE DESIGN AND DATA GOVERNANCE   3 Credit Hours
Databases provide the fundamental foundation for modern IT applications. Students will learn the basics of database design by working with relational SQL and NoSQL databases in a hands-on environment. Students will also learn to integrate data governance fundamentals into their database designs.
Prerequisite: CIS 34167.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 44046   HOW TO LEAD AND MANAGE DIGITAL TRANSFORMATION   3 Credit Hours
(Slashed with CIS 54046) Course will cover some of the latest trends and future predictions for business value creation from digital technology investments in companies. This course has two key objectives. First, it will provide students with the theoretical foundations and techie-savvy managerial skills to create business value from their digital technology investments. Second, it will examine the digital technology selection, usage, exploitation and growth for different purposes (e.g., transformation, innovation and getting a competitive advantage). The course offers certification opportunities.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 44048   BUILDING SOLUTIONS FOR BUSINESSES (ELR) (WIC)   3 Credit Hours
Just like in industry, students will learn to work together in teams composed of information systems (IS) managers and IS designers to develop fully workable innovative projects (using existing and emerging technologies such as AI, smart devices (IoTs), cybersecurity and XR (eXtensible reality) for a real client. Students will use their diverse knowledge and previous learning as well as articulate their IT-based business solutions for business via "writing-intensive" industry-white papers and client-facing presentations, with regular instructor guidance and feedback.
Prerequisite: Minimum 2.250 overall GPA.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement, Writing Intensive Course

CIS 44093   VARIABLE TITLE WORKSHOP IN MANAGEMENT AND INFORMATION SYSTEMS   1-6 Credit Hours
(Repeatable for credit) Variable title workshop courses offered under Computer Information Systems.
Prerequisite: Minimum 2.25 overall GPA.
Schedule Type: Workshop
Contact Hours: 1-6 other
Grade Mode: Satisfactory/Unsatisfactory

CIS 44095   SPECIAL TOPICS IN COMPUTER INFORMATION SYSTEMS   3 Credit Hours
(Repeatable for credit) Offered on a semester basis with different CIS topics and different faculty involved each time the course if offered.
Prerequisite: Minimum 2.250 overall GPA; and junior standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 44151   INNOVATING WITH DIGITAL TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE   3 Credit Hours
Students, in teams, will learn how to build agile and fast prototypes using "low-code, no-code" programming, artificial intelligence, Microsoft Power BI, and Microsoft Power Automate to digitally convert and create digital-first workflows and AI-based solutions with emphasis on requirements engineering and feasibility planning.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

CIS 44292   BUSINESS EXPERIENCE AND INTERNSHIP (ELR)   3 Credit Hours

(Repeatable for credit) Learning by experience and practice in an IT related company. The course exposes students to the various areas and activities related to the information systems profession in a cooperating organization.

Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.

Schedule Type: Practical Experience

Contact Hours: 9 other

Grade Mode: Standard Letter

Attributes: Experiential Learning Requirement

CIS 44293   WORKSHOP IN PROFESSIONAL INFORMATION SYSTEMS CERTIFICATION   3 Credit Hours

(Repeatable for Credit) Supervised workshop designed to help students pass at least one VMware, Microsoft or other vendors' professional certification credentials. The student chooses the exam to take, with the course providing a supported self-study opportunity to prepare for the exam.

Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.

Schedule Type: Workshop

Contact Hours: 3 other

Grade Mode: Standard Letter

CIS 44295   SPECIAL TOPICS IN INFORMATION SYSTEMS   3 Credit Hours

(Repeatable for credit) Special topics course on newest advances in information systems technology and how they support business activities. New and emerging topics in information systems are presented in an experimental way, with the content of the course changing from one offering to the other.

Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 54008   MANAGING AGILE DIGITAL TRANSFORMATION PROJECTS   3 Credit Hours

(Slashed with CIS 44008) Drawn on the modern foundations of software development, this course will offer an overview and hands-on experience of the agile methodologies and techniques (e.g., Scrum, extreme programming) to support the agile implementation of digital transformation projects/strategies in organizations.

Prerequisite: Graduate standing; or special approval of instructor.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 54041   MANAGING CYBERSECURITY   3 Credit Hours

(Slashed with CIS 44041) Course explores digital technologies and business issues related to cybersecurity management. It offers the foundations to understand the cybersecurity threats and privacy risks embedded in the implementation of emerging digital technologies (e.g., artificial intelligence, smart devices, collaborative tools) and the execution of digital transformation projects/strategies. The course will also facilitate the development of technological skills to design, implement, and evaluate cybersecurity policies in organizations. The course offers certification opportunities.

Prerequisite: Admission to MBA or MSBA program; and graduate standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 54046   HOW TO LEAD AND MANAGE DIGITAL TRANSFORMATION   3 Credit Hours

Course will cover some of the latest trends and future predictions for business value creation from digital technology investments in companies. This course has two key objectives. First, it will provide students with the theoretical foundations and techie-savvy managerial skills to create business value from their digital technology investments. Second, it will examine the digital technology selection, usage, exploitation and growth for different purposes (e.g., transformation, innovation, and getting a competitive advantage). The course offers certification opportunities.

Prerequisite: Graduate standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 64042   GLOBALIZATION AND TECHNOLOGY STRATEGY   2 Credit Hours

This course is designed for anyone dealing with technology in a globalized economy. Technology is pervasive in today's globalized world. Given that technology is central to every business operation, learning to manage technology in a global context is crucial. This course uses technology management as the central cog that impacts multiple business and social facets, including digital transformation, cybersecurity, international operations, sustainability, marketing, finance, culture, human capital and the political economy.

Prerequisite: Graduate standing.

Schedule Type: Lecture

Contact Hours: 2 lecture

Grade Mode: Standard Letter

CIS 74042   GLOBALIZATION AND TECHNOLOGY STRATEGY   3 Credit Hours

Focus is on the strategic issues around how a firm should manage its technology in a global market. Strategic issues include understanding the technological and competitive landscape, innovations, competitive advantages in the high-tech marketplace, outsourcing and information ethics. The core emphasis in on integrated decision-making in the age of globalization.

Prerequisite: Doctoral standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

**CIS 74080	EMERGING HARDWARE AND SOFTWARE TECHNOLOGIES	3 Credit Hours**
(Slashed with CIS 64080) Investigation of selected emerging hardware and software technologies such as parallel processing systems, computer languages and operation systems, artificial intelligence, neural networks and chaos theory.
Prerequisite: Doctoral standing; and special approval of instructor.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

**CIS 74081	DATA COMMUNICATIONS AND NETWORKING IN BUSINESS	3 Credit Hours**
An introduction to telecommunications and computer networks. Topics include telecommunications technologies and services, communication standards and protocols, local area networks and network management.
Prerequisite: Doctoral standing; and special approval of instructor.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

**CIS 84007	PHILOSOPHY OF SCIENCE AND BUSINESS MODELS	3 Credit Hours**
Introductory seminar for understanding the forms and the process of business research. Its major objective is to help seminar participants understand the various philosophies that drive business research in an academic community, and introductory methods of social science research. Additionally, the seminar seeks to develop participant motivation to become a contributor to the organizational sciences communities by examining the research process, methodologies and strategies, research paradigms, modes and contexts of Inquiry, the nature of organizational sciences research, the major streams of business research, understanding ontological choice of constructs and defining epistemic relationships between constructs, building hypotheses and socio-technical models, research design, data requirements and collection techniques and ethics and philosophies.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

**CIS 84045	SOCIAL ISSUES IN INFORMATION SYSTEMS	3 Credit Hours**
Social issues in information systems arise at the interface between information systems and individuals, groups and society. The course will begin with a broad exposure to current social issues, moving to an examination of specific issues in detail with issues chosen by student interest and instructor consent.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

**CIS 84080	INNOVATION, ADOPTION, DIFFUSION	3 Credit Hours**
Provides students with theoretical foundations of adoption and diffusion of technological innovations in organizations and society. Topics include: determinants of organizational innovation by acquisition, individual- and organizational-level technology adoption, diffusion of technologies through social systems and the infusion and assimilation of technologies in organizations.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

**CIS 84081	INFORMATION SYSTEMS STRATEGY AND INNOVATION	3 Credit Hours**
This course explores the basis of strategy, deployment and competition in high- technology industries. It introduces conceptual frameworks based on cutting-edge research in economics and strategy. The frameworks may seem abstract at first, but we will focus on mastering them will gain an in-depth understanding of how high-technology industries work and how to develop strategies for managing firms in such industries. Students will learn how to develop and apply such frameworks in their research.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

**CIS 84082	DATABASE MANAGEMENT SYSTEMS	3 Credit Hours**
In-depth investigation of intelligent database management systems in support of business decision- making. An understanding of relational databases is assumed. Object-orientation and other advanced database concepts will be explored.
Prerequisite: Doctoral standing.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

**CIS 84095	SPECIAL TOPICS IN INFORMATION SYSTEMS RESEARCH	3 Credit Hours**
(Repeatable for credit) Variable content of relevance to IS research. Exact topics will be announced when scheduled.
Prerequisite: Doctoral standing.
Schedule Type: Colloquium, Seminar
Contact Hours: 3 lecture
Grade Mode: Standard Letter