COMPUTER INFORMATION SYSTEMS (CIS)

CIS 1150 - Concepts & Applications of Technology
3 Credits
This course prepares students to function successfully in today's knowledge society. It engages students through hands-on experiences with many emerging technologies used in online, interactive, and media-rich environments. It covers software applications, social and business networking platforms, content and learning management tools, web conferencing, immersive environments, and other technologies. Critical thinking is emphasized in solving organizational problems through the choice and application of appropriate technological solutions.
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 1375 - Information Systems and Technology
3 Credits
This course introduces how information systems and computer technology interrelate to collect, manipulate, and disseminate data and information within the context of business and industry. Students examine the main concepts of computer hardware and software, the survey of methodologies employed by business firms to harness the power of information technology for strategic purposes, the fundamental information systems design and development processes, and the impact of information systems on the individual, organization, and society.
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only, UUC:Natural & Applied Science

CIS 1600 - Introduction to Programming
3 Credits
This course introduces students to the foundational concepts of computer programming. Students learn the steps involved in creating computer programs using the Java programming language and its associated tools. Through exercises, assignments and exams, students are guided in learning the key programming concepts that are drawn primarily from the object-oriented programming paradigm.
Prerequisite(s): (CIS 1300 or CIS 1375)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 2300 - Data-Driven Decision Making
3 Credits
Data-Driven Decision Making introduces students to the role that data analytics plays within an organization. Students will be introduced to a framework for conducting decision making using spreadsheet tools. Upon completing the course, students will be able to apply more deliberate, valid, and ethical evidence-based decision-making strategies appropriate to a given situation.
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

CIS 2750 - Healthcare Information Systems Terminology
3 Credits
Information technology professionals working in a healthcare setting utilize specialized terminology for effective communication. The goal of this course is to teach basic language related to medical science and allied health professions; word analysis, construction, pronunciation, spelling, definition, and use of terms pertaining to anatomy, pathology, abbreviations, and medical procedures.
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 2775 - Discrete Methods and Models
3 Credits
After successfully completing this course the student will be able to:Examine the practical aspects of using discrete methods for understanding, modeling, and interpreting data within industry. Topics presented in this course are directed toward employing statistical and discrete methods for problem solving.
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only, UUC:Quantitative Reasoning

CIS 2875 - Principles of Data Analysis
3 Credits
This course examines the concepts, techniques and methods used in the description and analysis of data and in statistical inference. Topics presented in this course are directed towards the analysis of experimental and survey data. Microsoft Excel software will be used as a tool to collect, organize, and process data.
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only, UUC:Quantitative Reasoning

CIS 2930 - Special Topics
1-3 Credits (Repeatable for credit)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 2980 - Independent Study
1-3 Credits (Repeatable for credit)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 3000 - System Analysis and Design
3 Credits
This course provides a business-oriented approach to the analysis and design of computer information systems. Exercises in the analysis, design, implementation, testing and maintenance of a modular application will provide the student with the foundation knowledge needed in today's computer technology field. Topics include software engineering goals, software design methodologies, human interface design, and organizational issues.
Prerequisite(s): CIS 1600; (CIS 2700 or CIS 2750)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 3100 - Principles of Object Oriented Programming
3 Credits
This course builds on foundational principals of object-oriented programming students learn in CIS 160. The course emphasizes good software engineering principals and programming skills in the context of a language that supports the object-oriented paradigm. Topics include abstraction, objects, classes, methods, parameter passing, encapsulation, inheritance, polymorphism, and object-oriented considerations for software design and reuse.
Prerequisite(s): CIS 1600; (CIS 2700 or CIS 2750)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 3150 - Workplace Ethics
3 Credits
An interdisciplinary examination of basic ethical theories and value systems and how they impact society. The course will analyze a variety of ethical dilemmas that prevail in today's workplace and how to mediate them for making workplace decisions. An emphasis will be placed on the roles and responsibilities that professionals have in directing organizations and emerging technologies. Offered occasionally.
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 3250 - Cybersecurity Principles
3 Credits
Cybersecurity Principles provides an overview of the field of Cybersecurity. Students will explore the key concepts of data and technology that frame and define cybersecurity. Upon completing the course, students will be able to apply security concepts involved in maintaining a secure computer networking environment.
Prerequisite(s): CIS 1600; (CIS 2700 or CIS 2750)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

CIS 3300 - Database Analysis and Design
3 Credits
A detailed overview of the fundamental concepts of database analysis, design, and implementation with emphasis on the relational model. The course will cover databases used in today's networked client-server applications. Topics include ANNSI SQL, data normalization, tables, queries, reports, forms, security, replication, data layout, and backup/recovery.
Prerequisite(s): CIS 1600; (MATH 1200 or SLU Math Placement with a minimum score of 1400)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 3600 - Networking and Telecommunications I
3 Credits
A survey of computer networks and telecommunications for today's computer information technology professional. This course will cover basic network terminology, the different types of networks, and the components that comprise a network. Specific topics include the OSI model, network protocols, network operating system, network hardware, and network topologies. Additionally, this course will examine telecommunications and the role it plays in information exchange.
Prerequisite(s): CIS 1600; (MATH 1200 or SLU Math Placement with a minimum score of 1400)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 3700 - Web Application Development
3 Credits
This course presents the structure, implementation, and theoretical underpinnings of web development and the applications that have been enabled by that technology. This course will include topics in principles of web technologies and web engineering, support tools for web-site creation and web, management, database-driven web sites, web security issues, and enterprise-wide web-based applications.
Prerequisite(s): (CIS 1300 or CIS 1375); CIS 1600
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 3850 - Analytics and Visualizations
3 Credits
Analytics and Visualizations is a project based course designed to develop a student's analytics knowledge applying statistics to decision making. Students will learn modeling techniques to organize, manage and present data in formats appropriate for multiple audiences. Upon completing the course, students will be able to apply analytics and modeling in a deliberate and valid evidence-based decision-making process.
Prerequisite(s): CIS 1600; (CIS 2875 or CIS 2850)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

CIS 3900 - Information Organization and Representation
3 Credits
A project based course that provides the opportunity for students to apply information technologies used to collect, organize, analyze, present, and manage data used in decision making processes. Students will learn to join together the technical aspects of application development with human dimensions to aid an organization in answering complex questions.
Prerequisite(s): CIS 3300
Restrictions:
Enrollment limited to students with a classification of Senior.

Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 3930 - Special Topics
3 Credits (Repeatable for credit)

CIS 3980 - Independent Study
1 or 3 Credits (Repeatable for credit)

CIS 4050 - Project Management
3 Credits
This course introduces students to the processes involved with managing a corporate computer/information technology project from its initial beginning through implementation and ongoing maintenance. The course will cover current project management methodologies and process which include plan assessment, strategy formulation, implementation, quality control, and administration. In addition, the student will develop and review action plans for re-engineering the computer/information technology project with the goal of building, sustaining, and expanding a competitive advantage within the business industry.
Restrictions:
Enrollment limited to students with a classification of Senior.

Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4100 - Technology Strategy and Decision Making
3 Credits
The alignment of business and IT technology is key in supporting the strategic plan of an organization. This course explores the analysis, design, implementation, evaluation, and management of enterprise IT solutions to support the organizational objectives within a competitive context. Topics include functional modeling, physical architecture design, security planning and recovery issues, project management, emerging technologies, and financial and global considerations.
Prerequisite(s): CIS 3000
Restrictions:
Enrollment limited to students with a classification of Senior.

Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4150 - Data Governance
3 Credits
Data governance considers data as enterprise asset. This course issues related to data storage and governance in an organizational context. Topics will include the policies, standards, processes, and regulations that are associated with management of data.
Prerequisite(s): CIS 2950; CIS 3300; CIS 3600
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4250 - Survey of Machine Learning
3 Credits
Machine Learning surveys the theory and application of statistical machine learning, examining computational methods for both supervised and unsupervised analysis. Students will explore machine learning solutions on various datasets and selected real-world problems. The course will present a broad section of models and algorithms for machine learning in business and industry.
Prerequisite(s): CIS 1600; (CIS 2875 or CIS 2850)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

CIS 4300 - The Fundamentals of Computer Forensics
3 Credits
The course offers computer forensics theory and methodology. The course explores how to find traces of illegal or illicit activities left on a disk with computer forensic tools and manual techniques. The student will learn about the elements of an effective computer crime policy. It is a study of the investigations of computer crime from both a legal and technical perspective.
Prerequisite(s): CIS 3150; CIS 3300
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4400 - Information Systems in Healthcare Organizations
3 Credits
Modern day healthcare organizations rely heavily on information systems for their day-to-day operations. This course will first provide an overview of the organizational structures, types of governance, administration, and facilities used in the delivery of health care. Secondly, it will examine the applications of information systems specifically used to support and drive the health care industry.
Prerequisite(s): CIS 3300
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4550 - Social and Organizational Computing
3 Credits
Social and organizational computing is the use of online communication for collaboration. This course will examine how organizations can leverage social computing through the use of blogs, wikis, social networking, crowd-sourcing, and other related technology-enabled processes for achieving organizational goals.
Prerequisite(s): CIS 3700
Restrictions:

Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4600 - Cyber Threats and Defense
3 Credits
Cyber Threats and Defense reviews security principles, controls, and monitoring technologies from both a network defense and offensive perspective. The course will develop a student's competencies related to detecting and analyzing network vulnerabilities and threats. At the completion of the course, students will be able to design and implement a systematic plan for defending domestic and organizational networks from internal and external threats.
Prerequisite(s): CIS 3250
Restrictions:

Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4610 - Development of Mobile Applications
3 Credits
Students learn how to design and implement applications (apps) that run on mobile devices. Principles related to design of user-interfaces and handling events from multiple sensors will be covered, along with the use of mobile APIs in creating apps that are robust, user-friendly, and secure.
Prerequisite(s): CIS 3100
Attributes: Prof. Studies Students Only

CIS 4700 - Advanced Database Systems
3 Credits
This course provides advanced study in how to develop and implement a business oriented, data-driven information system. Students will design, construct, test, and install a database system using fourth generation event-driven languages and/or other data access tools.
Prerequisite(s): CIS 3300
Restrictions:

Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4720 - Enterprise Application Development
3 Credits
Enterprise Application Development focuses on applying object-oriented techniques in the design and development of software systems for enterprise applications. The emphasis of the course will be on developing real-world business and scientific applications that are effective, reliable, scalable, and secure.
Prerequisite(s): CIS 3100
Restrictions:

Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4750 - Data Mining
3 Credits
Data mining is the process of turning a large amount of data into useful information. This course presents the concepts, techniques, and applications of data mining in an organizational context. Topics covered will include data selection and cleansing, predictive analytics, classification, associative rule mining, clustering, and visualization.
Prerequisite(s): CIS 3300
Restrictions:

Enrollment limited to students with a classification of Senior.

Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4800 - Computer Information Systems Capstone Experience
3 Credits (Repeatable for credit)
The capstone experience course provides students with a service-learning opportunity where they work with an organization of their choice to identify and define a problem that is of importance to the organization, design and implement a solution that is deemed satisfactory by the organization, within the various constraints of associated with the implementation. Students are required to have one faculty member and one member of the sponsoring organization as supervisors and guides who help them in completing their project successfully. During this course, students are expected to demonstrate a synthesis and application of the knowledge and Jesuit ideals learned during.
Prerequisite(s): CORE 1500[*]; (CORE 1000 or UUC Ignite Seminar Waiver with a minimum score of S)

[*] Concurrent enrollment allowed.
Restrictions:
Enrollment limited to students with a classification of Senior.

Enrollment limited to students in the Schl for Professional Studies college.

Attributes: UUC:Reflection-in-Action

CIS 4930 - Special Topics
1-3 Credits (Repeatable for credit)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only

CIS 4980 - Advanced Independent Study in Computer Information Systems
1-3 Credits (Repeatable for credit)
Restrictions:
Enrollment limited to students in the Schl for Professional Studies college.

Attributes: Prof. Studies Students Only