

COMPUTER INFORMATION SYSTEMS (CIS)

CIS 270. Info Sys/Tech Fundamentals. (3 Units)

Provides an introduction to information technology, systems concepts, and application software. Covers system components and relationships, cost/value and quality of information, and package software solutions. Includes basic skills related to operating systems, word processing, spreadsheet software, and the Internet.

CIS 272. Business Programming I. (3 Units)

Prerequisite: CIS 270 or CSC 111 or CSC 121 may be taken concurrently. Provides an understanding of algorithm development, programming, computer concepts and the design and application of data and file structure. Topics include file processing, data analysis, form design, and report generation.

CIS 275. Internet Literacy. (3 Units)

Digital skills and concepts needed for success in the Internet era as a student, professional, and lifelong learner. Concepts pertaining to Internet technology and applications, their implications for key relationships of humankind to the social and physical environment. Skills using and developing Internet applications in everyday life.

CIS 276. Personal Product with IS Tech. (3 Units)

Prerequisite: CIS 270. Enables student to improve their skills as knowledge workers through effective and efficient use of productivity software. Covers advanced features of word processing, spreadsheet, presentation, database, and groupware, including applications development.

CIS 370. Info Sys Theory and Practice. (3 Units)

Prerequisite: CIS 270 or CSC 111 or CSC 121. Provides an introduction to organizational systems, planning, and decision process, and how information is used for decision support in organization. Covers the concepts of information systems for competitive advantage, data as a resource, quality control and reengineering, management and development of systems, and end-user computing.

CIS 371. Business Programming II. (3 Units)

Prerequisite: CIS 272. Analysis, design, and development of business applications using object-oriented programming languages. Topics include GUI interface, application optimization, client/server applications, ad hoc queries, and dynamic link libraries.

CIS 372. Systems Analysis and Design. (3 Units)

Prerequisite: CIS 370 may be taken concurrently. Business computing systems, with emphasis on system analysis; tools and techniques of systems study; problem definition, data requirements and analytical approaches.

CIS 373. Database Systems. (3 Units)

Prerequisites: CIS 370. CIS 272 is recommended. Concepts of data structures and data base processing; major approaches to design and implementation of data base applications; discussion of commercial systems.

CIS 375. Data Communications. (3 Units)

Prerequisite: CIS 370. History and trends of hardware/software for telecommunications; asynchronous and synchronous protocols; codes; case studies of current commercial applications; distributed processing; carriers, services and regulatory agencies; standards; error management; reliability; design and tuning of networks; security.

CIS 378. Info Security Theories & Pract. (3 Units)

Prerequisites: CIS 272 or CIS 275, and CIS 370. Covers security policies, models, and mechanisms for privacy, integrity, and availability. The business impact of security is also discussed along with countermeasures and best practices used to prevent or mitigate the effects of attacks and malicious code. Various IT security threats and foundation of an overall information security program needed to combat these threats are described.

CIS 380. Introduction to Programming for Data Analysis. (3 Units)

Prerequisites: CIS 370 and CJA 341 or PUB 305 or OMG 321 are required. CIS 373 is recommended. Introduces students to basic programming skills, using one or more programming languages which are widely applicable to data analysis and visualization, that would enable them to be productive in the field of data analytics.

CIS 471. Adv Network Based Applications. (3 Units)

Prerequisites: CIS 275. Covers network-based applications in commerce and cooperative work. Internet publishing and commerce, Internet Protocol servers, database connectivity, computer support of cooperative work.

CIS 474. Project Management Fundamentals. (3 Units)

Prerequisite: CIS 370 is required. Focuses on basic tools, techniques, and concepts for guiding a scientific project from inception to successful completion. Demonstrates how complexity can be managed in a manner that increases the probability of project success. Students will gain a working knowledge of the major areas of the Project Management Body of Knowledge (PMBOK as defined by the Project Management Institute)

CIS 476. Adv Concepts Bus Systems. (3 Units)

Prerequisite: CIS 370. Special topics from modern computing developments. Special emphasis will be given to topics not included in other course offerings (e.g., decision support systems, videotex, etc.). Repeatable course.

CIS 477. Adv Data Communications. (3 Units)

Prerequisite: CIS 370 and CIS 375. Covers advanced topics required to design, implement, and maintain networks, including the advanced aspects of protocol models, IP addressing, routing, subnetting, and the configuration and operation of network devices.

CIS 478. Firewall and Computer Network Security. (3 Units)

Prerequisites: CIS 275 or CIS 375. Provides an introduction to firewalls and other network security components and elements that can work together to create an in-depth defensive perimeter around an LAN. These include packet filtering, authentication, proxy, servers, encryption bastion, virtual private networks, long file maintenance, and intrusion detection systems. Practical topics in network security include policy and mechanism, malicious code; intrusion detection, prevention, response; cryptographic protocols for privacy and integrity are also covered.

CIS 480. Data Mining and Business Intelligence. (3 Units)

Prerequisite: CIS 373 is required. Data mining concepts such as data pattern recognition, data cleansing, data transformation, and data extraction. Also, typical processes, tools, and applications for better business decisions.

CIS 482. Databases & Web Security. (3 Units)

Prerequisites: CIS 473 and CIS 478. This course introduces methods of protecting data: discretionary and mandatory access controls, secure database design, data integrity, secure architectures, secure transaction processing, information flow controls, inference controls, and auditing. Security models for relational and object-oriented databases, methods to develop the overall security program necessary to protect data and react to threats as they occur, and security problems raised by data warehousing and data mining are discussed. Furthermore the course covers Web security including SSL/TLS protocols, HTTPS as it relates to SSL, the most common uses of Instant Messaging application, and the variety of mainstream web tools such as JavaScript, Buffer Overflow, ActiveX, Cookies, Applets, and SMTP that are commonly exploited by attackers on the internet.

CIS 488. Mgt of Information Security. (3 Units)

Prerequisites: CIS 482 or may be taken concurrently. This course provides a management overview of information security and a thorough treatment of the administration of the information security. Issues based on the management functions of Planning, Policy, People, Project Management, Risk Management, and Risk Protection are discussed. The course also discusses practical methods for 1) developing practical risk assessment procedures that link security to business needs, 2) involving business managers in risk assessment, and 3) managing risk on a continuing basis.

CIS 494. Ind Study In Comp Info Systems. (3 Units)

Prerequisites: CIS 372, minimum GPA 3.0, and upper division standing. Independent research or special project under the direction of a full-time faculty member in the Computer Information Systems Department. CR/NC grading.

CIS 496. Internship In CIS. (3 Units)

Prerequisites: Minimum GPA 3.0. A project-type course in computer information systems carried out on an independent basis, with the cooperation of an industrial or governmental concern that is active in the CIS field. Professional report describing project is required. CR/NC grading.

CIS 502. Adv Topics in Info Systems. (3 Units)

Prerequisite: CIS 270. Covers issues of concern to managers in areas such as information processing applications and technology, management of the information processing function, impacts of information technology on the firm and on society, global information systems and the information superhighway.

CIS 503. IT in International Business. (3 Units)

Prerequisite: CIS 502 may be taken concurrently. Applying information technology in international business. Topics include traditional and Web-based EDI (electronic data interchange), ebXML, global telecommunications, collaborative technology, supply chain management, strategic management of international information systems, legal and cultural challenges to implementing international information systems.

CIS 520. Network-based Applications. (3 Units)

Prerequisite: CIS 502 may be taken concurrently. This course focuses on the applications and implications of networks for individuals, organizations and society. It covers the historical aspects of networks and their applications, the emerging network applications, and the impact of network applications on individuals, organizations and society.

CIS 530. Enterprise Resource Planning. (3 Units)

Prerequisite: CIS 502 may be taken concurrently. A theoretical and practical study on enterprise resource planning (ERP) systems, including the architecture and differentiation among major commercial ERP software, ERP relationship to various functional business areas, issues of implementing ERP, and the security and confidentiality issues in ERP.

CIS 540. Data Warehousing & Mining. (3 Units)

Prerequisite: CIS 502 may be taken concurrently. This course covers topics in (1) data warehousing, e.g. extracting, cleaning, and organizing data from transactional databases, (2) data mining, e.g. extracting patterns and relationships from the data warehouse, and (3) decision making based on the patterns from the data mining process.

CIS 550. Project Management. (3 Units)

Prerequisite: CIS 502 may be taken concurrently. This course addresses how IT projects should be managed. Topics include human resources management, communications management, scope management, quality management, scheduling/time management, cost and resource management, risk management, contract/procurement management, and project integration.

CIS 560. Info Security for Management. (3 Units)

Prerequisite: CIS 502 may be taken concurrently. Topics on information security include the legislation and standards, law and ethics, planning for security and contingencies, policies and procedures, security management, network vulnerabilities, firewall, viruses and other malicious code, risk management, protection mechanisms and current problems in system security.

CIS 575. SAP Supply Chain. (3 Units)

Prerequisite: CIS 530 and OMG 510. This course will teach the student how to use SAP software to structure and implement solutions to various aspects of supply chain operations. Among the topics to be covered will be demand and supply planning, procurement, manufacturing, warehousing, order fulfillment, and transportation.

CIS 580. IT Mgt. Capstone Project. (3 Units)

Prerequisite: CIS 502 and completion of at least 3 electives. In this course, students tackle real life IT management projects. Emphases are on applying theoretical frameworks to align enterprise IT and business strategies, and on integrating and applying knowledge and skills that they have acquired from the previous course work.

CIS 594. Independent Study. (1-3 Units)

Prerequisites: Consent of the instructor and MBA program coordinator. Independent research or other study under the direction of a full-time faculty member of the Computer Information Systems Department. CR/NC grading. Repeatable course.

CIS 595. Sel Topi in Comp Info Systems. (3 Units)

Prerequisites: Graduate Standing and CIS 502. Intensive study of a specialized area of Computer Information Systems on a selected topic of particular interest to faculty and students. Three hours of seminar per week. Specific topic listed in class schedule. Repeatable course.