DEPARTMENT OF COMPUTER INFORMATION SYSTEMS

Courses
Computer Information Systems (CIS)

CIS 120 Business Programming Fundamentals Credits: 3 (3-0-0)
Course Description: File and operating systems for business application development. Business program development using a high-level programming language.
Prerequisite: None.
Registration Information: Credit not allowed for both CIS 120 and CIS 210.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 200 Business Information Systems Credits: 3 (3-0-0)
Course Description: An introduction to information systems (IS) in business and society, focusing on the management and use of IS by diverse individuals, groups, and organizations.
Prerequisite: None.
Registration Information: Sections may be offered: Face-to-Face, Mixed Face-to-Face, or Online.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 210 Information Technology in Business Credits: 3 (3-0-0)
Prerequisite: CIS 200, may be taken concurrently.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 240 Application Design and Development Credits: 3 (3-0-0)
Course Description: Software engineering methods including design, implementation, and testing using structured and event-driven techniques, logic, and data structures.
Prerequisite: CIS 200.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 301 End User Computing Credits: 3 (3-0-0)
Course Description: End user applications in a Graphical User Interface environment including spreadsheet, word processing, and presentation graphics; Internet concepts.
Prerequisite: None.
Registration Information: Sections may be offered: Online.
Terms Offered: Fall, Spring, Summer.
Grade Modes: S/U within Student Option, Trad within Student Option.
Special Course Fee: No.

CIS 310 Data Preparation for Business Analytics Credits: 3 (3-0-0)
Course Description: Focus on the knowledge and skills used for identifying, collecting, transforming, refining, integrating, and structuring data for performing analytics.
Prerequisite: CIS 200 or STAT 158.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 320 Project Management for Information Systems Credits: 3 (3-0-0)
Course Description: Project management concepts including work breakdown structure, estimating, scheduling, tools, and reports.
Prerequisite: CIS 200 or CS 165.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 340 Advanced Application Design and Development Credits: 3 (3-0-0)
Course Description: Design and construction of business applications using object-orientation and advanced data structures.
Prerequisite: CIS 240.
Registration Information: Credit not allowed for both CIS 340 and CIS 220.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 350 Operating Systems and Networks Credits: 3 (3-0-0)
Course Description: Multiuser and network operating systems; basic networking concepts including security, transmission, performance, and topologies.
Prerequisite: CIS 240.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 355 Business Database Systems Credits: 3 (3-0-0)
Course Description: Physical and logical design, implementation, and administration of databases.
Prerequisite: CIS 200 or CIS 310.
Registration Information: Sections may be offered: Online.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 360 Systems Analysis and Design Credits: 3 (3-0-0)
Course Description: Introduction to the systems development life cycle and related methodologies. Emphasis on analysis and design activities, such as business process analysis, system requirements determination and specification, user interface design, and implementation alternative evaluation (e.g., custom in-house development, outsourcing, and cloud-based solutions).
Prerequisite: CIS 240 or CS 253.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 370 Business Analytics Credits: 3 (3-0-0)
Course Description: Concepts, processes, techniques, and tools to extract, cleanse, organize, transform, store, analyze, and visualize data to support business decision making.
Prerequisite: CIS 200 and STAT 204.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 410 Web Application Development Credits: 3 (3-0-0)
Prerequisite: CIS 355 and CIS 240.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 411 Enterprise Resource Planning Systems Credits: 3 (3-0-0)
Course Description: Introduction to enterprise resource planning (ERP) systems concepts, business processes impacted by ERP, systems and software integration.
Prerequisite: ACT 220 and CIS 200.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 413 Advanced Networking and Security Credits: 3 (3-0-0)
Course Description: Modern communication standards, protocol systems; network security, security policies, attack and protection mechanisms, legal and ethical issues.
Prerequisite: CIS 350.
Registration Information: Sections may be offered: Online.
Term Offered: Fall.
Grade Modes: S/U within Student Option, Trad within Student Option.
Special Course Fee: No.

CIS 455 Advanced Database Management Credits: 3 (3-0-0)
Course Description: Advanced data management topics including performance tuning, concurrency control, security, object-oriented databases, and data warehousing.
Prerequisite: CIS 355.
Term Offered: Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 487 Internship Credits: 3 (0-9-0)
Course Description: Supervised and planned work experience paralleling concentration in industry.
Prerequisite: CIS 355 and CIS 360.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 492 Seminar Credits: 3 (3-0-0)
Course Description: Current topics in computer-based information systems.
Prerequisite: None.
Term Offered: Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 495 Independent Study Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 496B Group Study: Small Business Information Systems Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 496C Group Study: Communications and Distributed Systems Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 496D Group Study: Information Systems Performance Measurement Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 496E Group Study: Current Issues in Business Computing Systems Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 498 Research Credits: Var[1-3] (0-0-0)
Prerequisite: None.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 505 Database Concepts Credit: 1 (1-0-0)
Course Description: An introduction to business database systems for non-CIS majors. Covers introductory database concepts, terminology, structures, relationships, and querying with SQL.
Prerequisite: None.
Restriction: Must be a: Graduate.
Registration Information: Graduate standing. This is a partial semester course. Offered as an online course only.
Term Offered: Summer.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 563 Information Assurance and Security Credits: 3 (3-0-0)
Course Description: Examine information assurance and security from an enterprise risk management perspective. Enterprise risk management provides a framework for identifying, evaluating, prioritizing, and mitigating IT-related risks based on the organization's objectives, strategy, risk appetite, and culture. Information assurance is the practice of managing information-related risks to ensure that (only) authorized parties have access to the "right" information at the "right" time.
Prerequisite: None.
Registration Information: Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 570 Business Intelligence Credits: 3 (3-0-0)
Course Description: Harnessing vast data stores to solve problems, enhance decision-making, discover new business opportunities, and to derive additional benefits.
Prerequisite: None.
Registration Information: Admission to the MACC, MBA, or the MCIS program. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 575 Applied Data Mining and Analytics in Business Credits: 3 (3-0-0)
Course Description: Data mining is a process of selecting, exploring and modeling large amounts of data to identify patterns and relationships among key variables.
Prerequisite: STAT 204.
Registration Information: Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 576 Business Data Visualization Credits: 3 (3-0-0)
Course Description: Methods to solve data visualization problems; critique and evaluate current systems; develop skills in the construction of data visualization.
Prerequisite: None.
Registration Information: Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 600A Project Management: Information Technology Credits: 3 (3-0-0)
Course Description: Strategic role in and management of information technology and software development projects.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Sections may be offered: Online. Credit not allowed for both CIS 600A and CIS 600B.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 600B Project Management: Impact Enterprise Credits: 2 (2-0-0)
Course Description: Fundamentals of managing projects in impactful enterprises including coverage of common tools and techniques such as work breakdown structures, project networks, cost estimating and risk planning.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: This is a partial semester course. Sections may be offered: Online. Credit not allowed for both CIS 600A and CIS 600B.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 601 Enterprise Computing and Systems Integration Credits: 3 (3-0-0)
Also Offered As: MGT 601.
Course Description: Integrated extended enterprise planning and execution systems concepts including ERP, CRM, SCM, MRP II, business processes, front/back office systems.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the MACC or MCIS program. Sections may be offered: Online. Credit not allowed for both CIS 601 and MGT 601.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 605 Business Visual Application Development Credits: 3 (3-0-0)
Course Description: Design, construction, and testing of business application systems including leading-edge visual, E-commerce languages, and tools.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 606 Application Software Infrastructure Credits: 3 (3-0-0)
Course Description: Design, construction, and testing of business application software infrastructure including hardware, operating software, and communications network.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 610 Software Development Methodology Credits: 3 (3-0-0)
Course Description: Methods for all phases of software development focusing upon the establishment of economical software that is reliable and cross platform.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the MCIS or ME program. Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 611 Object-Oriented Systems Credits: 3 (3-0-0)
Course Description: Object-oriented and web-based software; object model describing classes; relationships to other objects, attributes, and operations.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the MCIS or ME program. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 620 IT Communications Infrastructure Credits: 3 (3-0-0)
Course Description: Technical aspects of information communications, business considerations; wireless technology, architecture, and applications.
Prerequisite: CIS 606, may be taken concurrently.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the MCIS program. Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 623 Cybersecurity Credits: 3 (3-0-0)
Course Description: Detailed examination of modern security topics, blending coverage of many of the domains of the CISSP with those of the CEH: Access Control, Network Security, Risk Management, Software Development Security, Cryptography, Architecture, Operations, Business Continuity, Legal/Ethical issues, as well as attack, defense and counter-measure mechanisms.
Prerequisite: CIS 620.
Restriction: Must be a: Graduate, Professional.
Registration Information: Graduate standing. Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 655 Business Database Systems Credits: 3 (3-0-0)
Course Description: Database analysis, design, administration; data modeling; data sublanguages, query facilities; distributed database systems.
Prerequisite: CIS 605 or CIS 611.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the MCIS program. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 665 E-Business Application Technologies Credits: 3 (3-0-0)
Course Description: Developing E-business (B2B and B2C) through construction and deployment.
Prerequisite: CIS 610 and CIS 655, may be taken concurrently.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the MAS, MBA, or MCIS program. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 670 Advanced IT Project Management Credits: 3 (3-0-0)
Course Description: Advanced tools, techniques and skills for advanced risk management, change movement, and performance/control measures in cross-functional projects.
Prerequisite: CIS 600 or CIS 600A.
Restriction: Must be a: Graduate, Professional.
Registration Information: Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 675 Agile Management and Product Development Credits: 3 (3-0-0)
Course Description: Business model process optimization; managing rapid product development; incorporating constituent feedback throughout the product life cycle.
Prerequisite: CIS 600A or CIS 600.
Restriction: Must be a: Graduate, Professional.
Registration Information: Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 676 Information Technology Management Credits: 3 (3-0-0)
Course Description: Strategic information technology management of business, technical, system and information services.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to graduate program in business. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 695 Independent Study Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 696 Group Study Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 699 Thesis Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.