

COMPUTER INFORMATION SYSTEMS

CIS 205. MICROCOMPUTER APPLICATIONS. Introduction to microcomputer applications; emphasis on word processing, spreadsheet, database, and graphics software. Prerequisite: Keyboarding skills. 3 credit hours

CIS 210. COMPUTER PROGRAMMING FUNDAMENTALS. Introduction to design and construction of programs; emphasis on syntax, structured techniques, problem solving, and logic development. May be repeated for credit in different languages. (a) JavaScript (b) Visual Basic (c) Java (d) C/C++. Prerequisites: CIS 205, 100-level Mathematics course. 3 credit hours

CIS 235. MICROCOMPUTER APPLICATIONS II. Development of advanced skills in the use of microcomputer spreadsheet and database software; introduction to multimedia software; making effective use of microcomputer operating system commands and user interfaces. Prerequisite: CIS 205. 3 credit hours

CIS 250. INTRODUCTION TO SPATIAL SCIENCE AND GEOGRAPHIC INFOR-

MATION SYSTEMS. This course provides students with an introduction to the theory and practice of spatial science. This course will meet for 3 credit hours of lecture and 1 credit hour (3 hours of contact time) of lab each week. Prerequisites: MAT 104 and 105 or equivalents.

CIS 300. MANAGEMENT INFORMATION SYSTEMS. The role of computer systems in the management, control, and operation of organizations; components, benefits, development, and use of management information systems. Prerequisite: CIS 205. 3 credit hours

CIS 305. ADVANCED MICROCOMPUTER APPLICATIONS. Advanced techniques in microcomputer applications software; making effective use of the operating system; using the Internet; selected computing topics. Prerequisite: Permission of instructor. 3 credit hours

CIS 309. COMPUTERS IN PROFESSIONAL EDUCATION. Pedagogical uses of computers in training curricula and at the elementary, secondary, and postsecondary levels; evaluation of training and educational software. Prerequisite: CIS 205. 3 credit hours

CIS 310. COMPUTER PROGRAMMING--VISUAL BASIC. Design and construction of programs in Visual Basic; concepts of object-oriented, event-driven programming. Prerequisite: CIS 210. 3 credit hours

CIS 311. APPLICATIONS DEVELOPMENT. Design and development of business applications using a modern or emerging programming language; advanced programming concepts such as advanced data structures, interface design, object-orientation, event-driven programming, and parallel programming. May be repeated for credit in different languages. (a) Visual Basic (b) C# (c) Java (d) Python (e) Perl (f) Shell scripting (g) ASP.Net. Prerequisite: CIS 210. 3 credit hours

CIS 331. SYSTEMS ANALYSIS AND DESIGN. Overview of system development life cycle; techniques of systems analysis and design; prototyping. Prerequisites: CIS 210, 351. 3 credit hours

CIS 335. DECISION SUPPORT SYSTEMS. Analysis, design, development, tracking, and modification of information systems for business decision making; advanced techniques in microcomputer-based spreadsheets and database software. Prerequisites: CIS 205. 3 credit hours

CIS 341. AS/400 PROGRAMMING. Design and construction of programs for the AS/400; introduction to CL. Prerequisite: CIS 210. 3 credit hours

CIS 345. INFORMATION TECHNOLOGY HARDWARE AND SOFTWARE. In-depth coverage of the history and development of operating systems of personal computers, microcomputers, mainframes, and network servers.

Overview of computer hardware and system software components, developing skills in selecting, installing, configuring, modifying, and maintaining hardware and software; emphasis on diagnosing and solving microcomputer system problems. Prerequisite: CIS 205. 3 credit hours

CIS 351. PROJECT MANAGEMENT. Application of system development concepts, principles, and practices to a comprehensive system development project; team project involving analysis, design, development, implementation, and formal presentation to end user. Prerequisites: CIS 205. 3 credit hours

CIS 360. ADVANCED GEOGRAPHIC INFORMATION SYSTEMS. Students will gain advanced concepts about GIS techniques and the underlying spatial data structures used by geographic information systems (GIS). Prerequisite: GIS 200 or 201 or equivalent.

CIS 361 DATA COMMUNICATIONS AND NETWORKING. Overview of communication concepts with emphasis on architecture and protocols, including the evaluation of equipment, design, and network management and a review of current technology and certification requirements. 3 credit hours

CIS 375. PRINCIPLES OF INFORMATION SECURITY AND ASSURANCE. Overview of computer information security including external and internal attacks upon the data, physical security of the data, software security of the data, and information security policy. Prerequisite: CIS 361. 3 credit hours

CIS 455. DATABASE PROJECT. Discussion and application of microcomputer database management systems; system development projects using database management and other software packages. Prerequisite: CIS 335. 3 credit hours

CIS 467. LOCAL AREA NETWORK ADMINISTRATION. Concepts and applications of local area networks; Advanced coverage of LANs, operation systems with emphasis on design, installation, server performance, and advanced administration features. Provides adequate training for professional certification examinations.

Prerequisites: CIS 331, 345. 3 credit hours

CIS 475. E-COMMERCE APPLICATION DEVELOPMENT. Advanced development of database driven websites for e-commerce including the application of scripting languages, cascading style sheets, online payment processing, security procedures, accessibility design, and ethics. Prerequisites: CIS 300, 331. 3

CIS 480. PROGRAMMING GIS WITH VISUAL BASIC AND PYTHON. This course is intended as an in-depth look at the programming within Geographic Information Systems. The focus will be on GIS programming and methodology, utilizing practical GIS software skills and basic scientific computing skills. A laboratory component to the course will utilize ArcGIS, ArcObjects, and Visual Basic to demonstrate the concepts presented in lecture.

Prerequisite: GIS 300 or equivalent. 3 credit hours

CIS 481. GIS FOR THE INTERNET AND SPATIAL DATABASES. The purpose of this course is to provide students with an understanding of how Internet GIS and spatial databases work and to help them develop the skills requisite for success in this field. Prerequisite: GIS 300 or equivalent. 3 credit hours

CIS 485. COMPUTER INFORMATION SYSTEMS INTERNSHIP. Practical experience in the computer department of cooperating organizations under direct supervision of a qualified professional and general supervision of a Computer Information Systems faculty member; campus seminars at conclusion of work; 200 work hours required for each three hours of credit. Prerequisite: Permission of instructor. 3-6 credit hours

CIS 490. GIS CAPSTONE PROJECT. Two semesters of this course are required for the minor/certificate program. Students will learn how to give a technical presentation, manage GIS projects, and perform deadline-sensitive work through a GIS project in partnership with the Center and local/national businesses/government.

Prerequisite: GIS 300 or equivalent. 1 (maximum 2 semesters)

CIS 491. MANAGEMENT INFORMATION SYSTEMS SEMINAR. The role of computing systems in the management, control, and operation of organizations from the perspective of information systems professionals; review and analysis of strategic and technological issues affecting management information systems. Prerequisites: CIS 300, 331. 3 credit hours

CIS 492. SPECIAL TOPICS IN COMPUTER INFORMATION SYSTEMS. Current developments in Computer Information Systems. Prerequisite: Permission of instructor. 1-6 credit hours

CIS 495. SOFTWARE TOPICS. Selected topics relating to the development, use, or implementation of computing software. Prerequisite: Permission of instructor. 3 credit hours