Courses in Computer Information Systems (CIS)

1323 (BCIS 1305, COSC 1301) Introduction to Microcomputer Applications. (3-0) This course develops advanced information technology skills, focusing on office productivity software. Primary emphasis is placed on spreadsheet, database, and presentation software. Advanced techniques are presented for use in data analysis and decision-making. Students will be expected to demonstrate mastery of these techniques in a hands-on environment.

2324 (BCIS 2316) Visual Programming I. (3-0) An introduction to application program development to include requirement analysis, design, implementation, and testing. A blend of structured and object-oriented concepts is used to form solutions to business problems using a visual programming language. Prerequisite: CIS 1323.

3317 E-Business. (3-0) Explores the constantly changing world of e-Business from an international perspective. This course will emphasize e-Business challenges and opportunities in the worldwide marketplace, while focusing on global issues of management, implementation, and integration of IT resources. Does not count for CIS advanced elective credit. (MC/MP)

3325 Visual Programming II. (3-0) An advanced visual programming course covering topics related to the design and implementation of user interface, business logic and data access in a tiered architecture. The emphasis is on techniques that take advantage of a development framework through the use of forms, classes, and objects. Prerequisite: CIS 2324.

3360 e-Business Applications Design and Development. (3-0) The course focuses on designing effective e-business applications to support the e-business strategy of a company. It covers e-business models, business solution delivery strategy, web required architectures, and development and deployment of dynamic, multi-tiered, transaction-oriented, e-business applications in a business–to–business environment. Prerequisite: CIS 3325 and ACC 2362.

3374 System Analysis & Design. (3-0) The analysis and general design phases of the system development life cycle are reviewed. Emphasis on techniques and tools for determining systems requirements that lead to the development of logical design models using structured and object-oriented methodologies. (WI)

3375 Enterprise Computing Skills using COBOL. (3-0) Basic features of the COBOL language. Emphasis is on structured program development and file processing. Topics include file processing, sort feature, and subprograms. Prerequisite: CIS 3325.

3380 Enterprise Information Technology and Business Intelligence. (3-0) Students will extend their ability to effectively use integrated software applications to identify and provide access to various information sources. The course will focus on applying information and Internet Technologies that span normal business functions for the development and implementation of solutions to managerial problems. Prerequisites: CIS 1323, MATH 1329, and QMST 2333. (MC).

3382 Computer Data Base Systems. (3-0) Concepts and methodology of planning, design, development, and management of the computerized data base. The emphasis is on logical database design and a study of relational implementation. A relational DBMS with a relational query language is used for the development of a business application system. Prerequisites: CIS 3374 and completion of or concurrent enrollment in CIS 3380.

3389 Business Application Programming III. (3-0) This course will continue the study of business-oriented software development using an object-oriented programming language. Topics covered will include client/server object relationships, inheritance, polymorphism, encapsulation, inner classes, threads, GUI design, and the use of event models. Prerequisite: CIS 3325.

3390 Project Management for Business Professionals. (3-0) An introduction to project management body of knowledge as applied to Information Technology with emphasis on the management of scope, costs, schedules, quality and risks. Program management, system methodologies, material procurement, human, and international issues will be examined from the perspective of their impact on functional disciplines in the organization.
4318 **Enterprise System Development and Application Security.** (3-0) Advanced use of information technology in the design and implementation of business applications to support electronic commerce. Concepts, methodology, and toolsets for designing, implementing, and management of applications in Business-to-Business paradigm. Prerequisites: CIS 3382 and CIS 3325 or 3389.

4319 **Mobile Application Development for Windows.** (3-0) This course introduces the concepts, methodology, and toolset for designing business applications. Students will learn the MVC development framework and .Net programming environment for Windows to create interactive business applications. Prerequisite: CIS 3325.

4320 **Mobile Application Development for Apple-iOS.** (3-0) This course introduces the concepts, methodologies, and toolset for designing business applications for mobile devices such as iPhone and iPad. Students will learn the MVC development framework and Objective-C programming environment for Apple-iOS to create interactive business applications. Prerequisite: CIS 3325.

4321 **Mobile Application Development for Android.** (3-0) This course introduces the concepts, methodology, and toolset for designing business applications for mobile devices. Students will learn the MVC development framework and Java programming environment for Android to create interactive business applications. Prerequisite: CIS 3325.

4322 **Computer System Development and Design.** (3-0) A course that integrates systems development with analysis, design, project management, and the systems development life cycle. Object-oriented methods and UML models will be used to develop a project for a client. Students will select methodology, platform, and development technology based on client requirements. Prerequisites: CIS 3325 and 3382.

4332 **Enterprise Resource Planning Systems.** (3-0) The use of advanced information technology for integrating business functions in an enterprise through distributed databases is emphasized. Methodology and tools for the selection and implementation of Enterprise Resource Planning (ERP) systems are discussed. Students will use available ERP software to create, track and communicate enterprise information. Prerequisite: CIS 3380.

4348 **Fundamentals of Data Communications.** (3-0) A course oriented to the technical concepts of data communications and network designs and how they relate to contemporary computer end-user environments. It incorporates the systems approach for understanding, designing, managing, securing, and implementing data communication networks. Students will analyze and design data communication networks for various business situations.

4349 **Advanced Database Management Systems.** (3-0) This course introduces advanced concepts and database processes to support applications for Business Intelligence. Multi-dimensional modeling along with database, reporting, and analysis capabilities of a modern database environment will be used to design and develop stored procedures, views, user-defined functions, reports and multi-dimensional information cubes. Prerequisite: CIS 3382.

4350 **Information Systems Security.** (3-0) This course focuses on the technology and managerial issues related to information systems security. Topics include: Attack methods, access control, authentication, firewalls, incident and disaster response, disaster recovery, security function management, and cryptography. Prerequisite: CIS 4348.

4358 **Network Administration.** (3-0) This course provides students with an understanding of the responsibilities assigned to network administrators. Students will acquire a working knowledge of these responsibilities and skills using tools and technologies for administering enterprise networks via network operating systems commonly used in modern business enterprises. Prerequisite: CIS 4348.

4360 **Developing Business Solutions for the Enterprise.** (3-0) An introduction to the concepts, methodology, and toolsets for the architecture, design, implementation, and deployment of business solutions for the enterprise in a services-oriented computing environment. Topics include services-oriented architecture, “Software as a Service” framework, n-tier development of business and data services, and application security. Prerequisites: CIS 3325 and 3382.
4373 Special Topics in Computer Information Systems. (3-0) The study of advanced concepts and techniques of computer information systems. Content will vary according to the needs and interests of the students, and according to the latest state-of-the-art in computing. Prerequisite: Consent of the chair of the department.

4395 Independent Study in Computer Information Systems. (3-0) An in-depth study of a single topic or related problem solved through computer information systems research. May be repeated once for credit with a different emphasis. Prerequisite: Consent of instructor and department chair.

4399 Computer Information Systems Internship. (0-15) A one-semester course involving an internship in business information systems. Emphasis is on the application of computer information systems theory to business problems in the area of computer based management information systems. Prerequisite: Specified by employer with consent of instructor and department chair; Junior or senior standing.

Courses in Quantitative Methods (QMST)

2333 Business Statistics. (3-0) A basic introductory course covering descriptive and inferential statistical techniques for business and economic decision making. Topics include measures of central tendency and dispersion, probability distributions, sampling distributions, confidence intervals, hypothesis testing, simple linear regression, and correlation analysis. Prerequisites: CIS 1323; MATH 1329. (MC)

3334 Statistical Modeling. (3-0) Students will learn to apply a broad range of statistical analysis techniques using statistical software in business decision-making. Topics include applied modeling techniques, such as regression modeling, time-series modeling and analysis of variance; non-parametric methods; quality control; and simulation. Prerequisite: QMST 2333.

4373 Special Topics in Quantitative Methods. (3-0) This course studies the advanced concepts and techniques of quantitative methods. Content will vary according to the needs and interests of the students, and according to the latest applicable mathematical concepts. Prerequisite: Consent of instructor and department chair.

4373A Applied Time Series. (3-0) This course will teach the fundamentals of time series methods to be applied on real-life data. The course focuses on application, however the methodology behind the models will also be discussed. Students will learn how to pick the appropriate method for the time series of interest. Prerequisites: Consent of instructor and department chair.

4373B Advanced Data Mining Topics. (3-0) This course will teach advanced techniques of data mining such as fuzzy approaches, memory-based reasoning, vector machines and genetic algorithms. Techniques will be applied to data sets expected in the business environment. Prerequisites: Consent of instructor and department chair.