COMPUTER INFORMATION SYSTEMS (CIS)

CIS 011 Basic Computer Skills (1 credit)
This course is designed to develop the basic computer skills needed as preparation for college courses requiring facility with basic computer applications. The course focuses on computer navigation skills, word processing and file management skills, email, and Internet navigation. May not be used to meet graduation requirements.

CIS 102 Introduction to Information Sciences (GI) (3 credits)
This is a survey course of the characteristics, functions and applications of computers. It includes the concepts and principles of problem solving and computer programming. Emphasis is placed on microcomputers and application software packages, such as word processors, spreadsheets, and graphics. Course fee.

CIS 104 Computer Operating Systems (3 credits)
This course examines the importance of computer operating systems. Discussion includes how basic computer concepts relate to an operating system and what functions the systems perform. Operating systems for PCs and UNIX-based systems are discussed. Course fee.

Prerequisite(s): CIS 102

CIS 106 Microsoft Office Applications (3 credits)
This course presents the principles of a family of application software. The student examines and uses Microsoft word processing, spreadsheet, presentation, and data base software to design and implement solutions to business problems. Although the course introduces a basic introduction to the applications, advanced skills are presented throughout the course. Course fee.

CIS 110 Introduction to UNIX/Linux (4 credits)
This is an introductory course designed for users of UNIX. It is taught using the Linux operating system. The student learns to create, remove, edit and rename files, directories and subdirectories; compose, send, receive and print electronic messages; and compose, edit and format short text files using the UNIX editors. The UNIX shell, kernel and utility programs are covered. Shell programming is introduced. Only offered in the spring semester. Course fee.

CIS 111 Programming I: C/C++ (4 credits)
This is an introductory course taught in the C/C++ language. Students learn to define, solve, code, enter, test, debug and document solutions to programming problems. The imperative/procedural programming standard is used for software design in the course. This course has a fee.

CIS 113 Introduction to PowerPoint (3 credits)
This course presents the fundamentals of designing, creating, modifying and enhancing computerized presentations using Microsoft PowerPoint. The student examines the various applications for computerized presentations and employs advanced techniques including links to other applications and multimedia elements. Course fee.

Prerequisite(s): CIS 102

CIS 114 Introduction to Computer User Support (3 credits)
This course introduces the responsibilities of a computer user support specialist and emphasizes PC troubleshooting. Students examine how to support, communicate with, and train non-computer professionals to use computers effectively. Students develop problem-solving skills and install, configure and troubleshoot microcomputers. Course fee.

Prerequisite(s): CIS 102

CIS 115 Fundamentals of Programming (3 credits)
This course is designed to develop problem-solving skills in relation to designing computer programs. The student examines and uses program development techniques by developing hierarchy charts, flowcharts and pseudocode to solve common programming problems. This course is a co-requisite for programming languages classes. It is strongly recommended that students complete CIS 115 prior to taking a programming language.

CIS 116 Microsoft Project: Basic (1 credit)
This course introduces students to the basic fundamentals of Microsoft Project software. Addressed are the basic systematic applications and techniques used to manage projects efficiently, including planning, scheduling, and controlling organizational activities; task management, resource management, and cost estimation. Course fee.

Prerequisite(s): CIS 102

CIS 117 Microsoft Project: Advanced (1 credit)
This course covers advanced procedures involved in the use of Microsoft Project software, including applications that are used to manage projects efficiently with respect to schedules, resources, time and cost constraints, and controls. Fundamentals of managing multiple projects, formatting, printing, and customizing projects are introduced. Course fee.

Prerequisite(s): CIS 116

CIS 118 Introduction to Microsoft Access (3 credits)
This course provides an introduction to databases, including database design, creation, joining, tables, forms, reports, labels and queries. The student solves a variety of business problems using database products to design and create database files, locate and edit data, organize and display data, and modify and expand a database. Course fee.

Prerequisite(s): CIS 102

CIS 119 Programming I: Java (4 credits)
This is an introductory programming course taught in the popular language Java. Students learn basic program logic, design, testing, and debugging skills, as well as the specifics of program implementation in the Java language. Object Orientation is used throughout the course. Course fee.

Prerequisite(s): (CIS 102)

CIS 125 Document Processing: MS Word (3 credits)
Students use word processing software as a tool to prepare various business letters, memos, tables and reports. Decision-making skills are used to evaluate document formats and mailability. Course projects emphasize both the application of written communication skills and the ability to produce quality documents efficiently. Course fee.

Prerequisite(s): (CIS 102)

CIS 134 Fundamentals of Cloud Administration (4 credits)
Students will gain knowledge and develop hands-on experience solving real-world problems in the area of cloud administration. This includes the process to provision, orchestrate, scale, manage and monitor cloud services across compute, storage, networking, and security using various cloud interfaces. All projects utilize existing public cloud infrastructure, tools, and services. Specifically, students will be exposed to real-world scenarios, infrastructure, and data. Course includes 45 lecture hours and 30 lab hours per semester. Course fee.

CIS 135 Introduction to Networks (3 credits)
This course presents the principles of data communications and computer networks. The student examines network hardware, topologies, communications protocols and network operating systems, emphasizing TCP/IP networks for the microcomputer environment. The course provides a foundation for those preparing for the Computing Technology Industry Association's (CompTIA) Network+ Certification exam.

Prerequisite(s): CIS 102

CIS 136 Introduction to Internet Technologies (3 credits)
This course presents the applications and technologies of the Internet. The student examines the history, current issues and functions of the Internet and examines and uses Internet technologies including Web browsers, XHTML, FTP, HTML, TCP/IP, CSS and Java-script. The student explores strategies for successful Web site development and designs and creates Web sites. One semester. Course fee.

Prerequisite(s): CIS 102

CIS 145 Introduction to Microsoft Excel (3 credits)
This course presents an introduction to Microsoft Excel, including designing structured spreadsheets, building formulas and functions, using spreadsheet publishing techniques, creating charts and a spreadsheet database. Also examined are advanced topics such as integrating Excel with other products and macros. Emphasis is placed on designing structured spreadsheets and developing spreadsheet solutions for a variety of business problems. Course fee.

CIS 161 Introduction to Health Information Systems (3 credits)
This course familiarizes students with healthcare information systems including an introduction to the organizational structure, function and issues related to the healthcare environment. It emphasizes the structure and use of health information, health record data tools, data sources, storage and retrieval. It also includes system implementation and support, as well as security requirements for health information systems. Course fee.

CIS 162 Database Management in Healthcare (3 credits)
This course introduces students to the analysis of data and information generated by health services and public health organizations. While focusing broadly on database design, development, and management of database systems, students will concentrate on healthcare application. Students will also be introduced to the use and structure of data elements, data sets, data standards, their relationships to primary and secondary record systems and examples of applications in health information processing.

Prerequisite(s): CIS 161

CIS 184 Special Topics: Introduction to C#.NET Programming (4 credits)
Special Topics: Introduction to C#.NET Programming This programming course introduces students to programming and graphical user interface design using C#.NET. Students learn procedural structures and graphical design layouts. In addition, students learn about generating software requirements and the software life cycle ranging from understanding the problem to deploying the solution.

Prerequisite(s): (CIS 111) or (CSI 131)

CIS 201 Assembly Programming Language (4 credits)
This course covers the characteristics and functions of the Assembly programming language. The student learns how to solve application problems using the Assembly language. Students code and debug Assembly programs during computer laboratory activities. Course fee.

Prerequisite(s): (CIS 111 (may be taken concurrently)) or (CIS 119 (may be taken concurrently)) or (CSI 131 (may be taken concurrently))

CIS 203 Computer Systems and Procedures (3 credits)
This course presents the principles of the Systems Development Life Cycle (SDLC): systems planning, analysis, design, implementation, and operation/support. Students apply systems analysis skills, techniques, and concepts by analyzing case studies. The role of the systems analyst in developing IT (Information Technology) projects such as a payroll system, a student information database system, or a health care system is discussed. COURSE NOTE: Eligibility includes the completion of nine (9) credits in CIS elective, including a progamming language, as well as the prerequired coursework as indicated.

Prerequisite(s): (CIS 102 and CIS 115)

CIS 205 Introduction to Visual Basic.NET Programming (4 credits)
This course is an introduction to application programming using Visual Basic.NET. The students learn the fundamentals of object-oriented technology and learn to define, solve, code, enter, test, and document programs. Topics include Graphical User Interface (GUI) controls and design concepts, calculations, decisions, menus, sub procedures, object-oriented programming, lists and loops and arrays. Requires successful completion of CIS 102 or permission of the instructor. CIS 115 may be taken at the same time. Course fee.

Prerequisite(s): (CIS 102 and CIS 115 (may be taken concurrently))

CIS 207 Advanced Visual Basic.NET Programming (4 credits)
This course provides the student with an advanced set of tools for programming with Visual Basic.Net. The student studies advanced object-oriented programming design and development techniques using Multitier programs, Web Forms, Web services, databases, and collections. Course fee.

Prerequisite(s): CIS 205

CIS 210 Fundamentals of Network Security (3 credits)
This course offers in-depth coverage of the current risks and threats to an organization's data as well as the strategies for safeguarding critical electronic assets. The course provides a foundation for those responsible for protecting network services, devices, traffic, and data. Additionally, Fundamentals of Network Security prepares students for further study in more specialized security fields. The course provides a foundation for those preparing for the Computing Technology Industry Association's (CompTIA) Security+ Certification exam. Only offered in the spring semester. Course fee.

Prerequisite(s): (CIS 135)

CIS 211 MS Windows Server Operating System (3 credits)
This course provides an in-depth presentation of the capabilities of MS Windows Server Operating System. Topics include protocol configuration, name resolution, network services, remote access, routing, and security. The course provides a foundation that maybe useful for Microsoft Certification, but is not keyed to a particular Microsoft Exam. Course fee.

Prerequisite(s): CIS 102

CIS 214 Programming II: Java (4 credits)
This is a second-semester programming course in the Java language. Students learn to design, create, and test Java programs using Object Orientation and other sophisticated programming strategies. Course fee.

Prerequisite(s): (CIS 119) or (CIS 111) or (CIS 205) or (CSI 131)

CIS 215 Advanced Java Programming (4 credits)
This course develops advanced concepts in the Java programming language. The student studies programming design and development techniques in object-oriented technology using graphics, exception handling, multithreading and input/output streams. Course fee.

Prerequisite(s): CIS 214

CIS 217 Introduction to Web Programming (3 credits)
This course is an introduction to the development of programs for the web. Students study good programming design and development techniques for the web using advanced HTML, DHTML, JavaScript, and Perl. Prerequisites CIS 111 or CIS 119 or CSI 131 or have instructor permission before enrolling. Course fee.

Prerequisite(s): (CIS 111) or (CIS 119) or (CSI 131)

CIS 219 Server-Side Web Programming   (4 credits)
This course introduces the basic principles of developing Server-Side Web programs. Students learn to design, develop, test and debug Web applications using Server-Side technologies. Course fee.

Prerequisite(s): CIS 217

CIS 221 Programming II: C/C++ (4 credits)
This course in computer programming uses the C++ language. The student learns the fundamentals of object-oriented technology and learns to define, solve, code, enter, test and document programming problems. This course has a fee. Course fee.

Prerequisite(s): (CIS 111 (may be taken concurrently)) or (CIS 119 (may be taken concurrently)) or (CSI 131 (may be taken concurrently))

CIS 225 Introduction to Shell Programming (4 credits)
An introductory course designed for those knowledgeable in the UNIX operating system. Students create Shell programs as an interpreted programming language and write programs using UNIX commands. In addition, students modify and debug programs using shell variables, commands, arguments, filter, looping, positional parameters, nesting and debugging procedures. Course fee.

Prerequisite(s): (CIS 110 and CIS 115 (may be taken concurrently))

CIS 229 Python Programming Language (4 credits)
This course in computer programming uses the Python language, which is a general purpose, object-oriented programming language, ideal for rapid prototype development, scripting, and cross-language software development. The student learns how to define, solve, code, test, and document programming problems using Python. Course fee.

CIS 254 Advanced Microsoft Office (3 credits)
This course presents advanced concepts and techniques of Microsoft Office, including MS Word, MS Excel, MS Access and MS PowerPoint. Integration between software packages is emphasized and the role of the Internet is examined. Students solve a variety of advanced business problems. Course fee.

Prerequisite(s): (CIS 102 and CIS 106)

CIS 263 Special Topics (3 credits)

CIS 264 Special Topics: Python Programming Language (4 credits)
Python is a "light-weight", general purpose, object-oriented programming language ideal for rapid prototype development, scripting, and cross-language software development. In this course, the student will learn how to define, solve, code, test, and document programming problems using Python. Course fee.

Prerequisite(s): CIS 102

CIS 271 Cooperative Education: Computer Information Systems (1 credit)
Cooperative Education experiences are work-based learning experiences with an employer for a specific period of time. The experience may be paid and must be related to the career and specific curriculum in which the student is enrolled. It is an opportunity for the student to supplement/integrate classroom learning with learning from a related work setting. A student registers for one to four credits of Cooperative Education in the curriculum in which he/she is enrolled. Students must have completed 12 credits prior to co-op, and have a GPA of 2.0 or higher. Please see the Coordinator for Career Services in Advising, Career & Transfer Services for approval.

CIS 272 Cooperative Education: Computer Information Systems (2 credits)
Cooperative Education experiences are work-based learning experiences with an employer for a specific period of time. The experience may be paid and must be related to the career and specific curriculum in which the student is enrolled. It is an opportunity for the student to supplement/integrate classroom learning with learning from a related work setting. A student registers for one to four credits of Cooperative Education in the curriculum in which he/she is enrolled. Students must have completed 12 credits prior to co-op, and have a GPA of 2.0 or higher. Please see the Coordinator for Career Services in Advising, Career & Transfer Services for approval.

CIS 273 Cooperative Education: Computer Information Systems (3 credits)
Cooperative Education experiences are work-based learning experiences with an employer for a specific period of time. The experience may be paid and must be related to the career and specific curriculum in which the student is enrolled. It is an opportunity for the student to supplement/integrate classroom learning with learning from a related work setting. A student registers for one to four credits of Cooperative Education in the curriculum in which he/she is enrolled. Students must have completed 12 credits prior to co-op, and have a GPA of 2.0 or higher. Please see the Coordinator for Career Services in Advising, Career & Transfer Services for approval.

CIS 274 Cooperative Education: Computer Information Systems (4 credits)

Cooperative Education experiences are work-based learning experiences with an employer for a specific period of time. The experiences may be paid and must be related to the career and specific curriculum in which the student is enrolled. It is an opportunity for the student to supplement/ integrate classroom learning with learning from a related work setting. A student registers for one to four credits of Cooperative Education in the curriculum in which he/she is enrolled. Students must have completed 12 credits prior to co-op, and have a GPA of 2.0 or higher. Please see the Coordinator for Career Services in Advising, Career & Transfer Services for approval.