CIST – Computer Information Systems

CIST 1001 - Computer Concepts
4.000 Credits 6.000 Contact Hours
Provides an overview of information systems, computers and technology. Topics include information systems and technology terminology, computer history, data representation, data storage concepts, fundamentals of information processing, fundamentals of information security, information technology ethics, fundamentals of hardware operation, fundamentals of networking, fundamentals of the internet, fundamentals of software design concepts, fundamentals of software, (system and application), system development methodology, computer number systems conversion (binary and hexadecimal), mobile computing.

CIST 1122 - Hardware Installation and Maintenance
4.000 Credits 7.000 Contact Hours
Prerequisites: Regular Status
Provides students with the knowledge of the fundamentals of hardware operation, fundamentals of networking, fundamentals of the internet, fundamentals of software design concepts, fundamentals of software, (system and application), system development methodology, computer number systems conversion (binary and hexadecimal), mobile computing.

CIST 1130 - Operating Systems Concepts
3.000 Credits 5.000 Contact Hours
 Provides an overview of modern operating systems and their use in home and small business environments. Activities will utilize the graphical user interface (GUI) and command line environment (CLI). This will include operating system fundamentals; installing, configuring, and upgrading operating systems; managing storage, file systems, hardware and system resources; troubleshooting, diagnostics, and maintenance of operating systems; and networking.

CIST 1210 - Introduction to Oracle Databases
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 1001
Introduces the Oracle database management system platform and Structured Query Language (SQL). Topics include database vocabulary, normalization, Oracle DML and DDL statements, SQL Statements, views and constraints.

CIST 1220 - Structured Query Language
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 1001; CIST 1305; COMP 1000
Includes basic database design concepts and solving database retrieval and modification problems using the SQL language. Topics include database vocabulary, relational database design, data retrieval using SQL, data modification using SQL, developing and using SQL procedures.

CIST 1305 - Program Design and Development
3.000 Credits 4.000 Contact Hours
An introductory course that provides problem solving and programming concepts for those that develop user applications. An emphasis is placed on developing logic, troubleshooting, and using tools to develop solutions. Topics include problem solving and programming concepts, structured programming, the three logic structures, file processing concepts, and arrays.

CIST 1401 - Computer Networking Fundamentals
4.000 Credits 6.000 Contact Hours
Prerequisites: Regular Status
Introduces networking technologies and prepares students to take the CompTIA’s broad-based, vendor independent networking certification exam, Network +. This course covers a wide range of material about networking, including local area networks, wide area networks, protocols, topologies, transmission media, and security. Focuses on operating network management systems, and implementing the installation of networks. It reviews cabling connection schemes, the fundamentals of the LAN and WAN technologies, TCP/IP configuration and troubleshooting, remote connectivity, and network maintenance and troubleshooting. Topics include basic knowledge of networking technology, network media and topologies, network devices, network management, network tools and network security.

CIST 1510 - Web Development I
3.000 Credits 4.000 Contact Hours
Explores the concepts of Hypertext Markup Language (HTML), Cascading Style Sheets (CSS) and XML following the current standards set by the World Wide Web Consortium (W3C) for developing inter-linking web pages that include graphical elements, hyperlinks, tables, forms, and image maps.

CIST 1520 - Scripting Technologies
3.000 Credits 4.000 Contact Hours
Prerequisites: CIS 1510
Students learn how to use the features and structure of a client side scripting language and develop professional web applications that include special effects, interactive, dynamic, validated, and secure forms.

CIST 1530 - Web Graphics I
3.000 Credits 4.000 Contact Hours
Prerequisites: Regular Status
Students will explore how to use industry standard or open source graphics software programs to create Web ready images and Web pages. Topics include advanced image correction techniques and adjustments, typography and interpolation as well as conditional scripting statements and arrays. The course includes a final project that allows students to develop a Web page/site using the chosen software.

CIST 1540 - Web Animation I
3.000 Credits 4.000 Contact Hours
Prerequisites: Regular Status
In this course, students will use scripting and the latest industry standard or open source software to cover the creation and manipulation of images and animations. Topics include graphic types, organizational methods, drawing tools, beginning to complex object modeling and an introduction to scripting.

CIST 1601 - Information Security Fundamentals
3.000 Credits 4.000 Contact Hours
Provides a broad overview of information security. It covers terminology, history, security systems development and implementation. Student will also cover the legal, ethical, and professional issues in information security.
CIST 2120 - Supporting Application Software
4.000 Credits 7.000 Contact Hours
Prerequisites: COMP 1000
Provides students with knowledge in the following areas: word processing, spreadsheets, and presentation software. Word processing topics include creating, customizing, and organizing documents by using formatting and visual content that is appropriate for the information presented. Spreadsheet topics include creating and manipulating data, formatting data and content, creating and modifying formulas, presenting data visually, and collaborating on and securing data. Presentation topics include creating and formatting presentation masters and templates, creating and formatting slide content, working with dynamic visual content, and collaborating on and delivering presentations. This course is designed to help prepare students for the Microsoft Certification tests in Word, Excel and PowerPoint.

CIST 2128 - Comprehensive Spreadsheet Techniques
3.000 Credits 5.000 Contact Hours
Provides students with knowledge in spreadsheet and database software and applications. Topics include creating and manipulating data, formatting data and content, creating and modifying formulas, comparing and interpreting data, presenting data visually, and collaborating on and securing data. Presentation topics include creating and formatting presentation masters and templates, creating and formatting slide content, working with dynamic visual content, and collaborating on and delivering presentations. This course is designed to help prepare students for the Microsoft Certification tests in Word, Excel and PowerPoint.

CIST 2130 - Desktop Support Concepts
3.000 Credits 5.000 Contact Hours
Provides an overview to desktop support management.

CIST 2311 - Visual Basic I
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 1305
Introduces event-driven programming. Common elements of Windows applications will be discussed created and manipulated using Microsoft's Visual Studio development environment. Topics include numeric data types and variables, decision making structures, arrays, validating input with strings and functions, repetition and multiple forms, test files, lists and common dialog controls.

CIST 2312 - Visual Basic II
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 1305; CIST 2311
Teaches client-server systems, n-tier development environments, relational databases, use of SQL to access data, and use of ADO.NET objects, methods, and properties to access and update relational and XML databases. Advanced features of Visual Basic are explored.

CIST 2313 - Visual Basic III
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 2311; CIST 2312
Provides a look at advanced Web Programming techniques using Microsoft Visual Basic. Topics include class and object creation, advanced data access, communicating with server side programs, security, and advanced topics.

CIST 2341 - C# Programming I
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 1305

CIST 2342 - C# Programming II
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 2341
Intermediate C#.Net programming. It is assumed that the student knows the C#.NET syntax as well as basic object oriented concepts. Teaches client-server systems, n-tier development environments, relational databases, use of SQL to access data, and use of ADO.NET objects, methods, and properties to access and update relational databases. Advanced features of C# windows programming are explored.

CIST 2343- C# Programming III
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 2342
Advanced C#.NET programming. It is assumed that the student is fairly familiar with the C#.NET programming language. The goal of this course is to help students understand how to use C# to build industry level dynamic Web-based applications. Covers in detail how to use C# to develop an Enterprise level Web application. Students will learn how to use HTML to build the client-side and how to use C# for the server-side processing of data and talking to databases.

CIST 2351- PHP Programming I
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 1305; CIST 1510
Teaches how to create dynamic websites. Topics include PHP and basic web programming concepts, installing PHP, embedding PHP in HTML, variables and constants, operators, forms, conditional statements, looping, arrays, and text files.

CIST 2352- PHP Programming II
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 2351
Reinforces and extends the concepts learned in PHP Programming I. Topics include database retrieval and updating, multiple form handling, regular expressions, and advanced array processing.

CIST 2361 - C++ Programming I
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 1305
Provides opportunity to gain a working knowledge of C++ programming. Includes creating, editing, executing, and debugging C++ programs of moderate difficulty. Topics include basic C++ concepts, simple I/O and expressions, I/O and control statements, arrays, pointers, structures, managing data and developing programs.

CIST 2362- C++ Programming II
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 2361
Develops skills for the programmer to write programs using the language of C++. Emphasis is placed on utilizing the added features of C++, which will be added to the skills mastered in Introduction to C++ Programming. Topics include objects, classes, inheritance, overloading, polymorphism, streams, containers, and exceptions.
CIST 2371 - Java Programming I
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 1305
Teaches the basic concepts and methods of object-oriented design and Java programming. Uses practical problems to illustrate Java application building techniques and concepts. Develops an understanding of Java vocabulary. Creates an understanding of where Java fits in the application development landscape. Creates an understanding of the Java Development Kit and how to develop, debug, and run Java applications using the JSDK. Continues to develop student's programming logic skills. Topics include Java language history, Java variable definitions, Java control structures, Java methods, Java classes, Java objects, and Java graphics.

CIST 2372 - Java Programming II
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 2371
Intermediate Java Programming. It is assumed that the student knows the Java syntax, as well as basic object oriented concepts. Uses classes and objects provided by the core Java API to accomplish tasks such as database access, file access, exception handling, running threads, using sockets to talk across a network, and remotely calling methods using RMI techniques.

CIST 2373 - Java Programming III
4.000 Credits 7.000 Contact Hours
Prerequisites: CIST 2372
Building Web Applications using Java Enterprise Edition (JEE). It is assumed that the student knows Java Standard Edition as the concepts and techniques build on that foundation. The student will install Web, application, and database servers and learn to build Web applications using JEE technologies, such as Servlets, Java Server Pages and Enterprise JavaBeans.

CIST 2381 - Mobile Application Development
4.000 Credits 6.000 Contact Hours
Prerequisites: CIST 1305
Explores mobile guidelines, standards, and techniques. Includes design and development techniques for multiple mobile devices, platforms, and operating systems. Students will develop mobile applications using state of practice development tools, languages, and devices.

CIST 2411 - Microsoft Client
4.000 Credits 6.000 Contact Hours
Prerequisites: Regular Status
Provides the ability to implement, administer, and troubleshoot Windows Professional Client as a desktop operating system in any network environment.

CIST 2412 - Microsoft Server Directory Services
4.000 Credits 6.000 Contact Hours
Prerequisites: Regular Status
Provides students with knowledge and skills necessary to install, configure, manage, support, and administer Microsoft Directory Services.

CIST 2413 - Microsoft Server Infrastructure
4.000 Credits 6.000 Contact Hours
Prerequisites: Regular Status
Provides students with knowledge and skills necessary to install, configure, manage, support, and administer Microsoft Network Infrastructure.

CIST 2414 - Microsoft Server Administrator
4.000 Credits 6.000 Contact Hours
Prerequisites: Regular Status
Provides students with knowledge and skills necessary to install, configure, manage, support, and administer a Windows Server. Topics include server deployment, server management, monitoring and maintaining servers, application and data provisioning, and business continuity and high availability.

CIST 2431 - UNIX/Linux Introduction
4.000 Credits 6.000 Contact Hours
Prerequisites: Regular Status
Introduces the UNIX/Linux operating system skills necessary to perform entry-level user functions. Topics include history of UNIX/Linux, login and logout, the user environment, user password change, the file system, hierarchy tree, editors, file system commands as they relate to navigating the file system tree, UNIX/Linux manual help pages, using the UNIX/Linux graphical desktop, and command options. In addition, the student must be able to perform directory and file displaying, creation, deletion, redirection, copying, moving, linking files, wildcards, determining present working directory and changing directory locations.

CIST 2510 - Web Technologies
3.000 Credits 4.000 Contact Hours
Prerequisites: Regular Status
Students will investigate one or more software packages that help automate Web content creation. Students will explore and utilize various features of software packages such as CSS, multimedia incorporation, scripting technologies, form creation, search functionality, advanced image techniques and database connectivity.

CIST 2531 - Web Graphics II
3.000 Credits 4.000 Contact Hours
Prerequisites: CIST 1530
Students will further explore how to use and industry standard or open source graphics software program to create Web-ready images and Web pages. Topics include advanced image correction techniques and adjustments, typography, and interpolation as well as conditional scripting statements and arrays.

CIST 2550 - Web Development II
3.000 Credits 4.000 Contact Hours
Prerequisites: CIST 1220; CIST 1510; CIST 1520
Web Development II teaches students how to manipulate data in a database using the Open Database Connectivity (ODBC) model. Students will learn to retrieve, update, and display database information with a web application. Database access may be accomplished using a web programming language (such as PHP, Microsoft VB, Microsoft C#, or Sun Java). Topics include manipulating data in a database, working with a relational database via Open Database Connectivity (ODBC), working with different database systems, developing forms and applications to interact with a database server(s), modifying data in a database, and controls and validation.

CIST 2581 - Interactive and Social Apps Integration
4.000 Credits 6.000 Contact Hours
Prerequisites: CIST 1305
Explores social and interactive web application technology and its effect on the business model. Topics include interactive and social web business model, interactive and social business web requirements, and successful interactive and social integration.
CIST 2710 - 2D Computer Animation
3.000 Credits 4.000 Contact Hours
Covers the fundamental ideas and principles of 2-dimensional form and animation. Emphasis on basic design concepts, pictorial composition, color theory, vocabulary, media and processes that allow for the creation of 2D animations that are specifically Web ready. Topics covered include principles and techniques of motion graphics, graphic files types, frame-by frame animation, tweened animation and if the software used permits, combining a scripting language with animation.

CIST 2730 - Introduction to 3D Animation
4.000 Credits 6.000 Contact Hours
Introduces the creation and manipulation of 3D objects. Topics include 3D types and tools, 3D objects, and inverse kinematics.

CIST 2733 - 3D Graphics for Gaming I
4.000 Credits 6.000 Contact Hours
Covers the creation and manipulation of 3D objects and animations in an actual 3D game engine using the latest in industry standard or open source software. Topics covered include graphic types, organizational methods, drawing tools, object modeling, character rigging, bones, nurb manipulation and normal mapping.

CIST 2750 - Game Design
3.000 Credits 4.000 Contact Hours
Covers the history of the Video Game Industry and gives a hands-on approach to the design methodologies used to create an interactive 2D and 3D video game. Topics include story and script development, storyboarding, character analysis and creation, interface and sound design and game documentation.

CIST 2751 - Game Development I
3.000 Credits 4.000 Contact Hours
Covers the design and creation of a 2D interactive game using the latest in industry standard. Topics include game development and concepts, sprite creation using .png and .giff formats, object placement and orientation, event-driven programming, pseudocode, and level and class design.

CIST 2752 - Game Development II
3.000 Credits 4.000 Contact Hours
Covers the design, creation and implementation of 2D and 3D elements as well as programming concepts into an interactive application. Topics include interface design, 3D object creation, game flow and scripting.

CIST 2759 - Math for Game Developers
3.000 Credits 4.000 Contact Hours
Prerequisites: MATH 0090 or MATH 1013 with a minimum grade of C or diploma program admission level algebra competency
Emphasizes the math skills needed in 2D game design. These skills include trigonometric properties, vectors, and motion in one dimension.

CIST 2921 - IT Analysis Design and Project Management
4.000 Credits 7.000 Contact Hours
Provides a review and application of systems life cycle development methodologies and project management. Topics include systems planning, systems analysis, systems design, systems implementation, evaluation, and project management.

COMP 1000 - Introduction to Computers
3.000 Credits 5.000 Contact Hours
Introduces the fundamental concepts, terminology, and operations necessary to use computers. Emphasis is placed on familiarity with basic computer functions and computer use; the role of information technology in business decision-making; and the legal, ethical, and privacy issues related to computer use in the business environment. Topics include an introduction to computer terminology, the Windows environment, cloud computing, data security, Internet and email, word processing software, spreadsheet software, database software, and presentation software.