COMPUTER AND INFORMATION TECHNOLOGY

Certificate

- Computer Programming - Certificate of Achievement

CIT 010 Computer and Information Technology 3 Units
This course is an examination of information systems in business. Students will focus on information systems, database management systems, networking, e-commerce, ethics and security, computer systems hardware and software components. Application of these concepts and methods will be through hands-on projects developing computer-based solutions to business problems. (C-ID BUS 140; ITIS 120)

Lecture Hours: 3 Lab Hours: 1 Repeatable: No Grading: L
Advisory Level: Read: 3 Write: 3 Math: 2
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: None IGETC: None District GE: None

CIT 020 Program Design and Development 3 Units
This course is an introduction to computer programming and the fundamentals of application development. The focus is on problem solving and program design, including analysis, data structures, programming logic, and fundamental design techniques for event-driven programs. Students will code their designs in a modern programming language and development platform. Debugging and testing will be treated as extensions of the coding task.

Lecture Hours: 2 Lab Hours: 3 Repeatable: No Grading: L
Prerequisite: MATH 013 with C or better.
Advisory Level: Read: 3 Write: 3 Math: None
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: None IGETC: None District GE: None

CIT 040 Web Design I: Internet Publishing 3 Units
This course teaches basic skills in HTML and design/layout concepts. These techniques will be used to design, develop and maintain professional Web sites.

Lecture Hours: 2.5 Lab Hours: 1.5 Repeatable: No Grading: L
Recommended: Knowledge of Internet, equivalent to material taught in CIT 010. Familiarity with file manager; ability to use a simple text editor such as Notepad
Advisory Level: Read: 3 Write: 3 Math: None
Transfer Status: CSU Degree Applicable: AA/AS
CSU GE: None IGETC: None District GE: None

CIT 041J Javascript/Dynamic HTML 3 Units
This course is intended for students with some knowledge of programming. Students learn to use JavaScript language to dynamically modify nearly all aspects of a web page, including images, links, text, and styles. Students also use JavaScript to validate forms, create data that persists across pages, and handle user input, including mouse and keyboard events. The course also introduces the standard Document Object Model that is used to represent web pages, and is also used by other technologies such as XML. Students study debugging techniques and best practices for writing code.

Lecture Hours: 2.5 Lab Hours: 1.5 Repeatable: No Grading: L
Recommended: Knowledge of programming equivalent to that gained in CIT 020 (Program Design and Development). This includes but is not limited to knowledge of variables, control structures, loops, and arrays.
Advisory Level: Read: 3 Write: 3 Math: 2
Transfer Status: CSU Degree Applicable: AA/AS
CSU GE: None IGETC: None District GE: None

CIT 043A PHP and MySQL 3 Units
This course will introduce students to PHP and MySQL. This course will cover installation, configuration, and administration of PHP and MySQL. Students will use PHP for server-side processing of their dynamic web pages. Students will use SQL to build MySQL databases and tables, to access, insert, delete, and modify database content, and to administer user accounts. This course will use PHP to interact with MySQL database for simple Web-based applications.

Lecture Hours: 2 Lab Hours: 3 Repeatable: No Grading: L
Recommended: Knowledge of computer programming equivalent to that provided in CIT 020. Knowledge of HTML and CSS equivalent to that provided in CIT 040
Advisory Level: Read: 3 Write: 3 Math: None
Transfer Status: CSU Degree Applicable: AA/AS
CSU GE: None IGETC: None District GE: None

CIT 044 Java Programming 3 Units
This course is intended for students with some knowledge of programming who want to develop Java applets and stand-alone applications. Java interfaces, class inheritance, and exceptions will be covered. Applications covering I/O and graphics will also be addressed.

Lecture Hours: 2.5 Lab Hours: 1.5 Repeatable: No Grading: L
Recommended: Knowledge of programming equivalent to that taught in either CIT 020, CIT 042, CIT 024, or COMSC 075
Advisory Level: Read: 3 Write: 3 Math: 2
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: None IGETC: None District GE: None

CIT 050 Introduction to UNIX/Linux 3 Units
This is an introductory course in the UNIX/Linux operating system. It covers a basic editor, file and directory manipulation, processes, standard files, access permission, mail, write and talk. The course also addresses the Bash Shell, including the shell command line, setup, customizing the shell environment, the alias mechanism, pipes, filters, and I/O redirection. Additionally, document formatting packages and system administration are briefly introduced.

Lecture Hours: 2.5 Lab Hours: 1.5 Repeatable: No Grading: L
Recommended: Computer Literacy
Advisory Level: Read: 3 Write: 3 Math: None
Transfer Status: CSU Degree Applicable: AA/AS
CSU GE: None IGETC: None District GE: None

CIT 054 UNIX/Linux System Administration 3 Units
This course includes a review of basic UNIX/Linux commands and also covers: using administration tools, mounting and unmounting the file systems, adding and removing users from the system, and backing up and restoring the file system. Students learn to utilize UNIX/Linux tools to administer user accounts and groups and administer devices, printers and networking services. Also included are planning, setting up and administering log files, basic network file system setup, use of UNIX/Linux tools to administer hardware, and troubleshooting file access problems.

Lecture Hours: 2.5 Lab Hours: 1.5 Repeatable: No Grading: L
Recommended: Basic computer literacy; knowledge of Linux equivalent to that taught in CIT 050
Advisory Level: Read: 3 Write: 3 Math: None
Transfer Status: CSU Degree Applicable: AA/AS
CSU GE: None IGETC: None District GE: None

CIT 101 Storing and Retrieving Big Data 4 Units
This course prepares students to manage large-scale collections of data as objects to be stored, searched, selected, and transformed for use. Students examine both the background theory and practical application of information retrieval, database design and management, data extraction, transformation and loading for data warehouses, and operational applications. In addition, traditional methods of information retrieval and database management as well as new approaches that use massively parallel computation (MapReduce/Hadoop) will be examined. Through readings, discussion, and hands-on experimentation, students will be prepared to discuss, plan, and implement storage, search and retrieval systems for large-scale structured and unstructured information systems using a variety of software tools. They will also be able to evaluate large-scale information storage and retrieval systems in terms of both efficiency and effectiveness in providing timely, accurate, and reliable access to needed information.

Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L
Advisory Level: Read: 2 Write: 2 Math: 3
Transfer Status: None Degree Applicable: NAA
CSU GE: None IGETC: None District GE: None
Credit by Exam: Yes

CIT 130A Introduction to Programming Concepts and Methodologies in C++ 4 Units
This course is an introduction to the systematic approach to design, construction, and management of computer programs, emphasizing program documentation, testing, debugging, maintenance and reuse. The course will include C++ features such as data types, control structures, I/O, functions, classes & objects, pointers, inheritance and polymorphism.

Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L
Advisory Level: Read 3 Write: 3 Math: 3
Transfer Status: None Degree Applicable: AS
CSU GE: None IGETC: None District GE: None
Credit by Exam: Yes

CIT 134A Programming in Python 4 Units
Systematic introduction to fundamental concepts of programming through the study of the Python programming language. Topics include control structures, functions, classes, string processing, lists, tuples, dictionaries, working with files, elementary graphics, recursion, data abstraction, problem solving strategies, code style, documentation, debugging techniques and testing.

Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L
Advisory Level: Read: 3 Write: 3 Math: None
Transfer Status: None Degree Applicable: AS
CSU GE: None IGETC: None District GE: None
Credit by Exam: Yes