

**CAP 092A INTRODUCTION TO CLOUD TECHNOLOGIES AND SOCIAL MEDIA 2.0 UNITS***Total Lecture: 36 hours**Advisory: CAP 010A**Acceptable for credit: California State University*

This course is designed for anyone who wants to learn more about Web 2.0 and cloud technologies. This course provides an introduction to Web 2.0 applications, such as social networking sites (SNS), video-sharing sites, wikis, blogs and mashups. Students utilize Web 2.0 applications to facilitate interactive information sharing and collaboration via the Internet. This course may be offered via distance learning. *Pass/No Pass Option.*

**CAP 092B GOOGLE APPS FOR PERSONAL PRODUCTIVITY 2.0 UNITS***Total Lecture: 36 hours**Advisory: CAP 010A or CAP 037A**Acceptable for credit: California State University*

This course introduces students to Google Drive and Google applications. Students learn to use Gmail, Google Calendar, Document, Spreadsheet, Chrome and Presenter to achieve personal and professional productivity goals. Students also identify opportunities to utilize Google apps to communicate and collaborate within a virtual-social network. This course may also be offered via distance learning. *Pass/No Pass Option.*

**CAP 097A CREATING WEB PAGES - COURSE I 1.0 UNIT***Total Lecture: 18 hours**Advisory: CAP 010A, CAP 070 and CAP 120**Acceptable for credit: California State University*

This course provides the first step in creating a web page for personal and professional use. Students acquire basic HTML formatting skills and learn to add color, graphics, lists, and tables to their website. The final project is the creation and publication of a personal or business web page using HTML and/or content management systems. This course may also be offered via distance learning. *Pass/No Pass Option.*

## COMPUTER INFORMATION SYSTEMS (CIS)

NOTE: Maximum credit that can be transferred to UC is a total of six CIS courses.

**CIS 007 PYTHON PROGRAMMING 4.0 UNITS***Total Lecture: 54 hours, Total Lab: 54 hours**Acceptable for credit: University of California, California State University*

This is an introductory course in programming using Python. No prior programming experience required. Students learn to design, code, and execute programs using the Python programming language. This class covers basic programming skills such as data types, control structure, algorithm development, and program design with functions. It also includes lists, object-oriented programming and GUI programming concepts and topics. This course may also be offered via distance learning. *Pass/No Pass Option. C-ID # COMP 152.*

**CIS 008 ADVANCED PYTHON PROGRAMMING 4.0 UNITS***Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 007**Acceptable for credit: University of California, California State University*

This is an advanced course in Python programming that covers features of the language and its libraries. Students learn about parallel programming using threads and processes, network programming (client-side and server-side), database programming and persistence, text processing and regular expressions, and HTML and XML parsing. This course may also be offered via distance learning. *Pass/No Pass Option.*

**CIS 033 ROBOTICS AND EMBEDDED SYSTEMS 4.00 UNITS***Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 037A and CIS 039**Acceptable for Credit: California State University*

This course is an introduction to microcontrollers and interfacing. It covers the basic hardware components such as LEDs, switches, motors and sensors needed to build a robot and introduce the components needed for the drone hardware. In addition, it includes programming of the microcontroller. This course may also be offered via distance learning. *Pass/No Pass Option.*

**CIS 037A INTRODUCTION TO C PROGRAMMING 4.0 UNITS***Total Lecture: 54 hours, Total Lab: 54 hours**Acceptable for credit: University of California, California State University.*

This course is an introduction to the concepts and methods of computer programming using C language. The course covers data types, expressions, control structures, functions, sequential files, arrays, pointers, strings, string library and ADTs. It also covers low level programming elements such as memory manipulations, pass-by reference pointers, structs and bit level manipulation. This course may also be offered via distance learning. *Pass/No Pass Option.*

**CIS 039 INTRODUCTION TO COMPUTER SYSTEMS 3.0 UNITS***Total Lecture: 45 hours, Total Lab: 27 hours**Acceptable for credit: University of California, California State University.*

This course provides a solid introduction to computer systems and machine language programming. Students learn the inner working of computer systems, instruction sets, assembly language programming, and data representation. Students also learn how to understand the code that a compiler generates, the memory layout and hierarchy, and the details of linking and loading. This course may also be offered via distance learning. *Pass/No Pass Option. C-ID # COMP 142.*

**CIS 040 C++ PROGRAMMING 4.0 UNITS***Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 037A, Eligibility for ENG 001A and REA 054**Acceptable for credit: University of California, California State University*

This is an introductory course in programming using Visual C++. Students learn to design, code, and execute programs using the Visual C++ programming language in a Microsoft Visual Studio development environment. This class includes object-oriented programming concepts and topics. This course may be offered via distance learning. *Pass/No Pass Option.*

**CIS 043 SOFTWARE DEVELOPMENT WITH JAVA 4.0 UNITS***Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 037A**Acceptable for credit: University of California, California State University*

This course is an introduction to the concepts and methods of computer programming with an emphasis on OOP, (Object-Oriented Programming). Java programming language concepts include introduction to objects and classes, designing classes, data types, iterations, loops, testing and debugging techniques. This course also includes applets, GUI (graphical user interface), arrays lists, arrays, streams and exception handling. This course may be offered via distance learning. *Pass/No Pass Option. C-ID # COMP 122.*

**CIS 044 INTRODUCTION TO DATA STRUCTURES USING JAVA 4.0 UNITS***Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 043 and MAT 003A, Eligibility for ENG 001A and REA 054**Acceptable for credit: University of California, California State University*

This course is an advanced course in Java Programming Language. It covers basic data structures such as stacks, lists, dynamic arrays, trees, and the algorithms of their implementation. Other topics introduced are the definition and terminology of graphs, internal and external sorting, merging, searching, Hashing, Big-O notation, and Standard collection of Classes. This course may be offered via distance learning. *Pass/No Pass Option.*

<p><b>CIS 045 LINUX ESSENTIALS I</b> <b>3.0 UNITS</b></p> <p><i>Total Lecture: 45 hours, Total Lab: 27</i>  <i>Acceptable for credit: California State University</i>            This is an introductory course in the Linux operating system. Students learn the basic Linux commands and utilities, including files, editors and shell scripting. This course may be offered via distance learning. <i>Pass/No Pass Option.</i></p>	<p><b>CIS 060 MOBILE APPS PROGRAMMING - IPHONE</b> <b>4.0 UNITS</b></p> <p><i>Total Lecture: 54 hours, Total Lab: 54 hours</i>  <i>Advisory: CIS 007, CIS 043</i>  <i>Acceptable for credit: California State University,</i>            This course is an introduction to programming iPhone and iPad applications in Cocoa using an object-oriented paradigm. Students learn to develop simple to more advanced applications using Swift, Model-View-Control framework, graphical-user interface, classes, methods, and messages. This course may also be offered via distance learning. <i>Pass/No Pass Option.</i></p>
<p><b>CIS 046 LINUX ESSENTIALS II (SHELL PROGRAMMING)</b> <b>3.0 UNITS</b></p> <p><i>Total Lecture: 45 hours, Total Lab: 27 hours</i>  <i>Advisory: CIS 045</i>  <i>Acceptable for credit: California State University</i>            This course builds upon CIS 045, Linux Essentials I, to cover shell and scripting in depth. Students learn to program in Bourne Again Shell, including variables, expressions, control structure, files and subroutines. This course also includes networking and internet scripting. This course may be offered via distance learning. <i>Pass/No Pass Option.</i></p>	<p><b>CIS 063 MOBILE APPS PROGRAMMING - ANDROID</b> <b>4.0 UNITS</b></p> <p><i>Total Lecture: 54 hours, Total Lab: 54 hours</i>  <i>Advisory: Eligibility for ENG 001A and REA 054, CIS 043</i>  <i>Acceptable for credit: California State University</i>            This course is an introduction to programming applications for the Android operating system. Students learn to develop simple to more advanced applications using the latest Java technologies and the Android SDK. This course may also be offered via distance learning. <i>Pass/No Pass Option.</i></p>
<p><b>CIS 047 LINUX SYSTEM ADMINISTRATION I</b> <b>4.0 UNITS</b></p> <p><i>Total Lecture: 54 hours, Total Lab: 54 hours</i>  <i>Advisory: CIS 045, Eligibility for ENG 001A and REA 054</i>  <i>Acceptable for credit: California State University</i>            This is an introductory course in Linux system administration. Students learn hands-on skills for Linux administration, including system initialization, file system management, user and services administration, and network configuration. This course may be offered via distance learning. <i>Pass/No Pass Option. C-ID# ITIS 155.</i></p>	<p><b>CIS 064 ADVANCED ANDROID APPS DEVELOPMENT</b> <b>3.0 UNITS</b></p> <p><i>Total Lecture: 36 hours, Total Lab: 54 hours</i>  <i>Advisory: CIS 063</i>  <i>Acceptable for credit: California State University</i>            This is an advanced course on Android application development that builds upon CIS 063, Mobile Apps Programming-Android. Topics include broadcast, services, custom views, widgets, SMS, and device hardware features. This course may be offered via distance learning. <i>Pass/No Pass Option.</i></p>
<p><b>CIS 048 ADVANCED LINUX SYSTEM ADMINISTRATION</b> <b>3.0 UNITS</b></p> <p><i>Total Lecture: 36 hours, Total Lab: 54 hours</i>  <i>Advisory: CIS 047</i>  <i>Acceptable for credit: California State University</i>            This is an advanced course in the Linux system administration series. Students learn to set-up and configure Linux based servers and networks. The course covers file systems, file sharing, mail server, LDAP, DNS, firewall, web server and network security. This course may be offered via distance learning. <i>Pass/No Pass Option.</i></p>	<p><b>CIS 082 RUBY AND RUBY ON RAILS</b> <b>4.0 UNITS</b></p> <p><i>Total Lecture: 54 hours, Total Lab: 54 hours</i>  <i>Advisory: CAP 097A and CAP 088A</i>  <i>Acceptable for credit: California State University</i>            This is a web programming course on agile web development using Ruby on Rails. It covers Ruby on Rails framework, Ruby programming language, Model-View-Controller (MVC) framework, site layouts, data models, authentication, validations, updates, user management and application deployment. This course may be offered via distance learning. <i>Pass/No Pass Option.</i></p>
<p><b>CIS 055 INTRODUCTION TO DATABASE AND SQL</b> <b>3.0 UNITS</b></p> <p><i>Total Lecture: 45 hours, Total Lab: 27 hours</i>  <i>Advisory: CAP 070</i>  <i>Acceptable for credit: California State University</i>            This course covers the concepts of relational databases and SQL query language. Students learn to create tables, insert data, update data and retrieve records in a database. This course introduces students to widely used database systems such as Oracle, Microsoft SQL server, and MySQL. This course may also be offered via distance learning. <i>Pass/No Pass Option.</i></p>	<p><b>CIS 086 WEB DEVELOPMENT WITH PHP AND MYSQL</b> <b>3.0 UNITS</b></p> <p><i>Total Lecture: 36 hours, Total Lab: 54 hours</i>  <i>Advisory: CAP 097A, CIS 037A</i>  <i>Acceptable for credit: California State University</i>            This is an introductory course on web server side programming using PHP and MySQL. This course covers basic PHP programming elements including variables, strings, arrays, files and forms processing. It covers MySQL database basics and how to create a database driven web application. This course may be offered via distance learning. <i>Pass/No Pass Option.</i></p>
<p><b>CIS 056 DATABASE ESSENTIALS - PL/SQL</b> <b>3.0 UNITS</b></p> <p><i>Total Lecture: 45 hours, Total Lab: 27 hours</i>  <i>Advisory: CAP 084A</i>  <i>Acceptable for credit: California State University</i>            This course is an introduction to PL/SQL language. It builds upon the basic SQL course to cover PL/SQL language, stored procedures, functions, packages, and database triggers. . This course may be offered via distance learning. <i>Pass/No Pass Option.</i></p>	<p><b>CIS 088 ADVANCED JAVASCRIPT FOR WEB DEVELOPERS</b> <b>4.0 UNITS</b></p> <p><i>Total Lecture: 54 hours, Total Lab: 54 hours</i>  <i>Advisory: CAP 088B, CAP 097A or GDS 045</i>  <i>Acceptable for credit: California State University</i>            This is an advanced course on JavaScript. It covers the following advanced topics: IIFEs, Regular expressions, JSON, XML, REST, HTML5 Canvas, jQuery, MVC, single page applications, Angular, client-server interaction, Node.js and Ajax. This course may also be offered via distance learning. <i>Pass/No Pass Option.</i></p>