

CAP 062B AN INTRODUCTION TO MICROSOFT EXCEL 1.0 UNIT*Total Lecture: 18 hours**Advisory: CAP 070**Acceptable for credit: California State University*

This is an introduction to Microsoft Excel. The course covers basic formulas, functions, charts, and formatting. Students create 3-D charts, use loan amortization functions, enhance worksheets, utilize functions, and modify print options. *Pass/No Pass Option.*

CAP 063B INTERMEDIATE MICROSOFT EXCEL 2.0 UNITS*Total Lecture: 36 hours**Advisory: CAP 062B**Acceptable for credit: California State University*

This course is the second in a series of Microsoft Excel courses designed to help students learn Excel features that are used in business decisions. Students apply What-IF Analysis such as scenario tables, goal seek, and solver. Students also utilize advanced functions such as VLOOKUP, Nested IF's, Pivot tables and Pivot charts, macros and more. This course is designed for students who are computer literate and have a previous working knowledge of Excel formulas, functions, and charts. *Pass/No Pass Option.*

CAP 070 USING MS WINDOWS 1.0 UNIT*Total Lecture: 18 hours**Acceptable for credit: California State University*

This course introduces students to the current version of the Windows operating system and helps students acquire fundamental Windows skills including file management, Internet connectivity, network file sharing, hardware management, troubleshooting and customizing settings. *Pass/No Pass Option.*

CAP 071E MICROSOFT OUTLOOK 1.0 UNIT*Total Lecture: 18 hours**Advisory: CAP 070*

Students learn the most important features of Microsoft Outlook. Students learn how to manage email with rules and folders, enter appointments and events, create, and manage a daily, weekly, or monthly schedule, track tasks, and manage contacts and contact groups. Computer literacy and keyboarding skills are recommended. *Pass/No Pass Option.*

CAP 081B INTRODUCTION TO MICROSOFT ACCESS 1.0 UNIT*Total Lecture: 18 hours**Advisory: CAP 070**Acceptable for credit: California State University*

Microsoft Access is part of the Microsoft Office suite of products and is a powerful relational database. Learn to create database tables and enter data, organize, and retrieve data from the tables. Create simple forms to enter data into a database and format reports from the data in the database. This course is for students who are computer literate and who would like to start working with a database. *Pass/No Pass Option.*

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. *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. *Pass/No Pass Option.*

CAP 100 LEARNING THE KEYBOARD NONCREDIT*Total: 54 hours*

This noncredit course is designed for anyone who wants to learn the "touch" system of keyboarding on the computer. Proper techniques of keyboarding are emphasized to develop speed and accuracy. Satisfactory Progress.

CAP 101 COMPUTERS SIMPLIFIED FOR BEGINNING LEARNERS NONCREDIT*Total: 18 hours*

This noncredit course takes students through the basics of using a computer to perform essential tasks for workforce and academic survival. Highlights of the course include: operating system basics, applications software, e-mail basics, computer peripherals, and Internet basics. Satisfactory Progress.

CAP 111 COLLABORATE AND INTEGRATE WITH SHAREPOINT AND MS OFFICE 365 3.0 UNITS*Total Lecture: 45 hours, Total Lab: 27 hours**Advisory: BUS 021L or CAP 062B**Acceptable for credit: California State University*

This course provides students with the fundamental knowledge and skills required to collaborate with business teams using Microsoft SharePoint and Office 365 web apps and office software. Students create, edit and maintain collaboration sites, including webpages, user communities, wikis, calendars, and blogs in office environments that require multi-user access. This course is designed for students majoring in Business, Computer Applications, or Computer Information Systems as well as for business professionals seeking to update their technology skills. *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 001 INTRODUCTION TO COMPUTER SCIENCE AND TECHNOLOGY 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 of computer science and information technology. It covers computer architecture, the Internet and networking, and basic programming and data manipulation. Students develop a practical, realistic understanding of computer science and information technology. This course is recommended for students in any major who want to learn about computers and programming. *Pass/No Pass Option.*

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. *Pass/No Pass Option. C-ID # COMP 112.*

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 advanced data structures such as linked lists, binary search trees, hash tables and directed and undirected graphs and design patterns in Python. *Pass/No Pass Option.*

CIS 033 ROBOTICS AND EMBEDDED SYSTEMS 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 037A**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. *Pass/No Pass Option.*

CIS 034 INTERMEDIATE ROBOTICS AND EMBEDDED SYSTEM DESIGN 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 033**Acceptable for Credit: California State University*

This is an intermediate course in Robotics and embedded systems. This course covers Raspberry PI and Python programs to control the robot camera, get sensor information and send control signals to the robot. It covers remote communication using Zigbee, graphical LCD, locating robot using GPS, interfacing I2C and SPI devices. Robot Operating System (ROS) and artificial intelligence applied to robots is introduced. *Pass/No Pass Option.*

CIS 035 INTRODUCTION TO DRONES AND UNMANNED AERIAL VEHICLES 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 033 and CIS 039**Acceptable for credit: California State University*

This course is an introduction to unmanned aerial vehicles (UAV). It covers the basic rules and regulations of flying a commercial drone and its applications. It also covers the components of a drone system, maintenance, applications, simulations, and hands-on training on how to fly and control a drone in different environments. *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 the 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. *Pass/No Pass Option.*

CIS 039 INTRODUCTION TO COMPUTER SYSTEMS AND ASSEMBLY LANGUAGE 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 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. *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**Acceptable for credit: University of California, California State University*

This is an introductory course in programming using C++. Students learn to design, code, and execute programs using the C++ programming language. This class includes control structures, functions, object-oriented programming concepts and topics. *Pass/No Pass Option.*

CIS 043 SOFTWARE DEVELOPMENT WITH JAVA 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 007 or 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 data types, selection, loops, arrays objects and classes. This course also includes GUI (graphical user interface), Graphics, files and exception handling. *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**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. *Pass/No Pass Option.*

CIS 045 LINUX ESSENTIALS I 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Acceptable for credit: California State University*

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. *Pass/No Pass Option.*

CIS 047 LINUX SYSTEM ADMINISTRATION 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 045**Acceptable for credit: University of California, California State University*

This is a 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. It covers file systems, file sharing, mail server, LDAP, DNS, fire wall, web server and network security. *Pass/No Pass Option. C-ID # ITIS 155.*

CIS 051 INTRODUCTION TO DATA ANALYSIS 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 007**Acceptable for credit: California State University*

This is an introductory course on data analysis. It provides a foundation for understanding data analysis principles, tools and applications. Topics include data loading and storage, data manipulation, data cleaning and preparation, data wrangling, plotting, visualization and analysis. Students will use Python programming language and Python libraries such as NumPy, Pandas, Matplotlib in the course. *Pass/No Pass Option.*

CIS 052 DATA VISUALIZATION 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Acceptable for credit: California State University*

In this course students will learn how to become a master at communicating business-relevant implications of data analyses. After finishing this course, students will be able to effectively import data, clean and transform it and convey the results of the analysis to the stakeholders. Students will learn how to best convey the story behind the data using the most effective visuals as well as using Tableau to make effective and interactive dashboards. *Pass/No Pass Option..*

CIS 053 INTRODUCTION TO MACHINE LEARNING 3.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 051**Acceptable for credit: California State University*

This course is an introductory course in machine learning and predictive analytics. Students will learn the fundamentals of developing models with cleaned and prepared data. They will gain an understanding of the algorithms of machine learning and learn to build predictive models using Python. Topics included-supervised learning, forecasting numeric values with multiple linear regression, decision trees and unsupervised learning. Students will use machine learning Python libraries such as scikit-learn to implement machine learning algorithms. *Pass/No Pass Option.*

CIS 055 DATABASE MANAGEMENT SYSTEMS I 3.0 UNITS*Total Lecture: 45 hours, Total Lab: 27 hours**Advisory: CIS 001**Acceptable for credit: California State University*

This course is the first of two courses that covers the current, classical database systems, database design, and architecture. Entity-relationship and enhanced entity models. Relational model, normalization techniques, emerging standard of SQL query language, XML, embedded, and dynamic SQL. Introduces students to widely used database systems such as Oracle, Microsoft SQL server, and MySQL. Students will work in groups to implement and design a commercial database application project. *Pass/No Pass Option.*

CIS 056 DATABASE MANAGEMENT SYSTEMS II 3.0 UNITS*Total Lecture: 45 hours, Total Lab: 27 hours**Advisory: CIS 055**Acceptable for credit: California State University*

This course is the second of two courses that covers database management and SQL programming, stored procedures, functions, packages, and database triggers, relational database systems, object-oriented data model, database trends, web database topics, architectures, introduction to interface languages. Students will work in groups to implement a commercial database application project. *Pass/No Pass Option.*

CIS 060 MOBILE APPS PROGRAMMING - IOS 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 040 or CIS 043**Acceptable for credit: California State University,*

This course is an introduction to programming iOS applications 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. *Pass/No Pass Option.*

CIS 063 MOBILE APPS PROGRAMMING - ANDROID 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Advisory: CIS 043**Acceptable for credit: California State University*

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. *Pass/No Pass Option.*

COMPUTER INFORMATION TECHNOLOGY (CIT)

CIT 011 INTRODUCTION TO COMPUTER HARDWARE AND SOFTWARE (A+) 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Acceptable for credit: California State University*

This course covers the fundamentals of computer hardware and software and advanced concepts such as security, networking, mobile devices such as tablets and smartphones, client-side virtualization, and the responsibilities of an IT professional. It helps students prepare for entry-level career opportunities in ICT and the CompTIA A+ certification. It also provides a learning pathway to Cisco CCNA. Hands-on lab activities are an essential element of the course. The Virtual Laptop and Virtual Desktop are stand-alone tools designed to supplement classroom learning and provide an interactive "hands-on" experience in learning environments with limited physical equipment. The use of Packet Tracer supports alignment with the new CompTIA A+ certification objectives. *Pass/No Pass Option. C-ID # ITIS 110*

CIT 012 INTRODUCTION TO NETWORKING 4.0 UNITS*Total Lecture: 54 hours, Total Lab: 54 hours**Acceptable for credit: California State University*

This course introduces the fundamental building blocks that form the modern network, such as protocols, media, topologies and hardware. It then provides in-depth coverage of the most important concepts in contemporary networking, such as TCP/IP, Ethernet, wireless transmission, virtual networks, security and troubleshooting. This course helps students prepare for entry-level career opportunities in ICT and the CompTIA Network+ certification. It also provides a learning pathway to Cisco CCNA. *Pass/No Pass Option. C-ID # ITIS 150.*

CIT 013 AWS 1 CLOUD PRACTITIONER - FOUNDATIONAL 3.0 UNITS*Total Lecture: 45 hours, Total Lab: 27 hours**Prerequisite: CIT 021**Acceptable for credit: California State University*

This introductory course provides an overall understanding of cloud computing concepts, AWS core services, security, architecture, storage, networking, pricing, and support. *Pass/No Pass Option.*