

# COMPUTER INFORMATION TECHNOLOGY

(CIT)

## CIT 011 INTRODUCTION TO COMPUTER HARDWARE AND SOFTWARE (A+) 4.0 UNITS

Total Lecture: 54 hours, Total Lab: 54 hours

Advisory: MAT 903

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. This course may also be offered via distance learning. *Pass/No Pass Option.*

## CIT 012 INTRODUCTION TO NETWORKING (NETWORK+) 4.0 UNITS

Total Lecture: 54 hours, Total Lab: 54 hours

Advisory: Eligibility for ENG 001A and REA 05

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. This course may also be offered via distance learning. *Pass/No Pass Option.*

## CIT 016 CYBERSECURITY AND ETHICAL HACKING 4.0 UNITS

Total Lecture: 54 hours, Total Lab: 54 hours

Advisory: Eligibility for ENG 001A and REA 054

Acceptable for credit: California State University

This course is an introduction to IT security and ethical hacking using the latest operating systems, security techniques, and wireless standards. It also covers the fundamentals of system security, network infrastructure, access control, assessments and audits, cryptography, and organizational security. Students gain hands-on experience with various ethical hacking methods and techniques. This course may also be offered via distance learning. *Pass/No Pass Option.*

## CIT 021 INTRODUCTION TO CISCO NETWORKS (CISCO-1) 4.0 UNITS

Total Lecture: 54 hours, Total Lab: 54 hours

Acceptable for credit: California State University

This course is the first of four courses leading to the Cisco Certified Network Associate Routing and Switching (CCNA Routing and Switching) designation. This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP/IP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing in IPv4 and IPv6 environments, and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. Labs use a "model Internet" to allow students to analyze real data without affecting production networks. Packet Tracer (PT) activities help students analyze protocol and network operation and build small networks in a simulated environment. At the end of the course, students build simple LAN Topologies by applying basic principles of cabling, performing basic configurations of network devices, including routers and switches,

and implementing IP addressing schemes. This course may also be offered via distance learning. *Pass/No Pass Option.*

## CIT 022 ROUTING AND SWITCHING ESSENTIALS (CISCO-2) 4.0 UNITS

Total Lecture: 54 hours, Total Lab: 54 hours

Prerequisite: CIT 021

Acceptable for credit: California State University

This course is the second of four courses leading to the Cisco Certified Network Associate Routing and Switching (CCNA Routing and Switching) designation. It describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students are able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. Students participate in procedural labs, and then present basic configuration, implementation, and troubleshooting. Packet Tracer (PT) activities reinforce new concepts and allow students to model and analyze routing processes that may be difficult to visualize or understand. This course may be offered via distance learning. *Pass/No Pass Option.*

## CIT 023 SCALING NETWORKS (CISCO-3) 4.0 UNITS

Total Lecture: 54 hours, Total Lab: 54 hours

Prerequisite: CIT 022

Acceptable for credit: California State University

This course is the third of four courses leading to the Cisco Certified Network Associate Routing and Switching (CCNA Routing and Switching) designation. It describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students are able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, and STP in both IPv4 and IPv6 networks. Students also develop the knowledge and skills necessary to implement a WLAN in a small-to-medium network. This course may be offered via distance learning. *Pass/No Pass Option.*

## CIT 024 CONNECTING NETWORKS (CISCO-4) 4.0 UNITS

Total Lecture: 54 hours, Total Lab: 54 hours

Prerequisite: CIT 023

Acceptable for credit: California State University

This course is the fourth of four courses leading to the CCNA Routing and Switching designation. This course discusses the WAN technologies and network services required by converged applications in Enterprise networks. The course uses the Cisco Network Architecture to introduce integrated network services and explains how to select the appropriate devices and technologies to meet network requirements. Students learn how to implement and configure common data link protocols. Students also develop the knowledge and skills needed to implement IPsec and virtual private network (VPN) operations in a complex network. This course may be offered via distance learning. *Pass/No Pass Option.*

## CIT 078 MICROSOFT SERVER ESSENTIALS 1 4.0 UNITS

Total Lecture: 54 hours, Total Lab: 54 hours

Advisory: CIT 011

Acceptable for credit: California State University

This is the first of three courses leading to the Microsoft Certified Server certificate. The goal of this course is to provide individuals who are new to the latest Microsoft Windows Server platform the necessary knowledge to design and manage different tasks involved in supporting the MS server based networks. This course provides knowledge of user management, group management, group policy management, security management, Active Directory concepts, DHCP, DNS, and Web services. This course may be offered via distance learning. This course may be offered via distance learning. *Pass/No Pass Option. C-ID # ITIS 155.*