Lecture Contact Hours: 48-54; Homework Hours: 96-108; Total Student Learning Hours: 144-162
Laboratory Contact Hours: 48-54; Homework Hours: 0; Total Student Learning Hours: 48-54

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

COMPUTER AND INFORMATION SCIENCE 210 – CISCO NETWORKING ACADEMY–VOICE

3 hours lecture, 3 hours laboratory, 4 units

Catalog Description
The Cisco Networking Academy–Voice course covers the topics aligned to the Introducing Cisco Voice and Unified Communications Administration (ICOMM v8.0) 640-461 professional certification exam. This course introduces students to the architecture, components, functionalities, and features related to Cisco Unified Communications. This is a lab-intensive course providing students with the hands-on experience necessary to perform tasks related to system monitoring, moves, additions and changes on Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, Cisco Unity Connection, and Cisco Unified Presence.

Prerequisite
"C" grade or higher or "Pass" in CIS 203 or equivalent or Cisco Networking Academy CCNA1, 2, 3; or possess current CCNA certification

Entrance Skills
Without the following skills, competencies and/or knowledge, students entering this course will be highly unlikely to succeed. Using the Command Line Interface and Cisco Security Device Manager, students must be capable of independently:
1) Designing, constructing and configuring a WAN/LAN consisting of switches, routers, cable modems, DSL modems, and workstations using the Cisco Command Line Interface and Cisco Configuration Professional GUI.
2) Configuring essential router security requirements.

Course Content
1) Voice Perspectives
2) Cisco Unified Communications Manager Express
3) Cisco Unified Communications Manager
4) Voice Network Management and Troubleshooting

Course Objectives
Students will be able to:
1) Describe the architecture, components, functionalities, and features of Cisco Unified Communications solutions.
2) Implement and configure system monitoring, moves, additions and changes on Cisco Unified Communications Manager (CUCM), Cisco Unified Communications Manager Express (CUCME), Cisco Unity Connection (CUC), and Cisco Unified Presence (CUP) systems.

Method of Evaluation
A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in subject matter determined by multiple measurements for evaluation, one of which must be essay exams, skills demonstration or, where appropriate, the symbol system.
1) Midterm exams that measure each student's ability to define and appropriately use networking technology concepts and terminology to describe networking processes, protocols, functions and features.

2) Comprehensive final exam that measures each student's ability to synthesize and apply course concepts to a variety of networking scenarios.
3) Comprehensive skills exam that measures each student's ability to practically apply network, design, configuration and hardware connectivity techniques to LAN/WAN environments.
4) Lab exercises that require students to apply course concepts and skills in order to implement LAN/WAN solutions, compute IPv4 network addressing to network problems defined by the instructor, and connect and configure LAN/WAN devices.

Special Materials Required of Student
USB flash drive

Minimum Instructional Facilities
Computer lab with appropriate software that will permit connection to a network and the Internet; equipment racks populated with cross-connect patch panels, Cisco Access routers and switches, Voice over Internet Protocol (VoIP) phones; interconnecting CAT 5E and Serial cabling

Method of Instruction
1) Textbook reading assignments
2) Instructor and individual student mentoring
3) Practical application assignments
4) Topic-focused mini-lectures for small groups of students

Out-of-Class Assignments
Reading assignments

Texts and References
1) Required (representative examples): Jason Ball, CCNP and CCIE Collaboration Core CLCOR 350-801 Official Cert Guide, 2021,1st edition, ISBN-10: 0-13-641259-9 , ISBN-13: 978-0-13-641259-5.
2) Supplemental: None

Student Learning Outcomes
Upon successful completion of this course and given a VoIP conversion requirement, students will be able to:
1) Define the requirements, design and implement a basic VoIP network topology.
2) Install and configure the basic network components needed to operate a VoIP topology.
3) Install and configure CISCO Unified Communications Manager and Manager Express.