SYLLABUS

DIVISION: Business and Engineering Technology   **REVISED:** SPRING 2014

CURRICULA IN WHICH COURSE IS TAUGHT: IST, Information Systems Technology

COURSE NUMBER AND TITLE: **ITN 209 – Cisco IP Telephony**

CREDIT HOURS: 3 **HOURS/WK LEC:** 3 **HOURS/WK LAB:** 0 **LEC/LAB COMB:** 3

I.   CATALOG DESCRIPTION: ITN 209 - Provides hands-on exercises in the utilization of voice over IP equipment including digital phones, Cisco Call Manager Express, Cisco Unity Express, and Plain Old Telephone Systems (POTS). This course also examines VOIP Quality of Service (QOS) and various other telephony services.

II.   RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES: ITN 209 will address the following Information Technology Outcomes:
- Implement Information Technology skills required by software applications.
- Apply methodologies to stay current in IT offerings, trends and certifications.
- Apply analytical and problem solving skills for computer system design, planning and support.
- Design, code, test, debug, and document software needed for computer system implementation and maintenance.
- Apply current IT industry standards, protocols, and techniques.
- Use instructional applications and material which could lead towards industry certification.

Please Note: The overall Learner Outcomes from all of the course requirements for the A.A.S. Degrees in IT are more in-depth than those of the Career Studies Certificates. However, the IT courses that are the same in both the A.A.S. Degrees and the Certificate Programs carry the same Learner Outcomes and are identical in content. Please review the DCC Catalog or visit the DCC Web Site for more details.

III.   REQUIRED BACKGROUND: ITN-156

IV.   COURSE CONTENT:
- Traditional Phone and IP Telephony
- Router, Integrated Switch, and IP Phone Basic Configuration
- Managing and Configuring Cisco VoIP Devices
- Dial Plans and Dial Peers
- VoIP Quality of Service and Security
- Managing and Configuring VoIP Ports
- Unity Express
- Configuring Cisco IP Communicator

V.   THE FOLLOWING GENERAL EDUCATION OBJECTIVES WILL BE ADDRESSED IN THIS COURSE.   STUDENTS WILL:

X	Communication
X	Critical Thinking
	Cultural and Social Understanding Information Literacy
X	Personal Development
X	Quantitative Reasoning
X	Scientific Reasoning

VI. LEARNER OUTCOMES

VII. EVALUATION

Upon conclusion of this course the student will be able to define, discuss, and demonstrate knowledge in the following concepts.	
Defining Traditional Phone and IP Telephony	Lab exercises and written test - Define the Traditional Phone Network. Define VoIP Ports and compare with traditional. Identify IP Telephony Terms and understand Basic and Digital Phone Technologies.
Identifying Router, Integrated Switch, and IP Phone Basic Configuration	Lab exercises and written test - Determine the basic requirements for VoIP. Connect the IP Phone to a Switch. Utilize IP Addressing with IP Telephony Services and required configurations. Connect all necessary cables to router and configure with the appropriate settings to allow for Digital and Analog phone capabilities.
Managing and Configuring Cisco VoIP Devices	Lab exercises and written test - Identify and configure all necessary IP Addresses. Configure VoIP using the telephony-service setup command. Manually Configure a CME Router for VoIP Phones. Connect a Second IP Phone using the auto assign command. Use the Quick Configuration Tool to setup Cisco CME. Utilize the Cisco Network Assistant
Creating Dial Plans and Dial Peers	Lab exercises and written test - Identify the types of Dial Peers. Create Destination Patterns. Define Ports and Session Targets. Create Single and Dual Router Dial Peers.
Configuring VoIP QOS and Security	Lab exercises and written test - Configure AutoQOS on a Cisco capable Router. Configure AutoQOS on Cisco capable Switch (3550). Identify and Configure VoIP Security including Restrictions and Activity Monitoring.
Managing and Configuring VoIP Ports	Lab exercises and written test - Configure FXS Connectivity. Configure FXO Connectivity. Configure T1/PRI Connectivity.
Managing Unity Express	Lab exercises and written test - Access Unity Express and verify all necessary files are available on the Router. Configure Unity Express from a Web Interface. Configure Unity Express Business Hours and Night Service Bell Features.
Configuring Cisco IP Communicator	Lab exercises and written test - Install and Configure IP Communicator on a PC and install all necessary drivers. Configure IP Address on PC to allow connectivity with the network.