

Inver Hills Community College

ITC 2720: Fundamentals of Voice over IP (CCNA Voice)

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites:

ITC 2520 - Switching, Routing, and Wireless Essentials (CCNA 2) (Minimum grade: 2.0 GPA equivalent); OR

CNT 2520 - Routing Protocols and Concepts (CCNA 2) (Minimum grade: 2.0 GPA equivalent); OR

ITC 2515 - Introduction to Networks and Routing and Switching Essentials (CCNA 1/2)

Corequisites: None

MnTC Goals: None

Introduces features and implementation of Voice over IP (VoIP) and Unified Communications (UC) technologies. Concepts covered include knowledge of administrator and end-user interfaces, telephony and mobility features, and Cisco UC solutions maintenance. This course helps students prepare for the first exam of the CCNA Collaboration industry certification.

B. COURSE EFFECTIVE DATES: 08/26/2013 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Traditional telephony - 5%
2. VoIP technology, devices and terminology - 5%
3. Signalling and encoding protocols for VoIP - 10%
4. VoIP applications and services - 10%
5. Quality of Service for VoIP - 25%
6. Dial plans, call processing and switching - 25%
7. Security for VoIP - 10%
8. Phone, switch and router configuration - 10%

D. LEARNING OUTCOMES (General)

1. Apply the core principles of voice and data technology as they integrate with VoIP architecture
2. Demonstrate an understanding of basic analog and digital voice technologies
3. Implement basic configurations of IP phones, switches and routers to support VoIP
4. Configure VoIP dial plans and call processing
5. Configure intra-site and inter-site VoIP calling
6. Configure VoIP to PSTN gateways
7. Demonstrate an understanding of VoIP principles sufficient for a small to medium-sized business
8. Provision end users and associated devices in the CME and CUCM environments
9. Configure voice messaging and presence in the CUC, CUPS and CUCM environments
10. Maintain Cisco Unified Communications systems
11. Provide end user VoIP support
12. Students will practice business soft skills including written, active listening, and oral presentation. Students will document evidence of business skill practice in an electronic portfolio.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted