HIBBING COMMUNITY COLLEGE
COURSE OUTLINE

COURSE NUMBER & TITLE: CNT1040: Advanced Networking and Management

CREDITS: 3 (2 Lec / 1 Lab)

PREREQUISITES: CNT1030: Advanced Routing and Switching

CATALOG DESCRIPTION:
Advanced Networking and Management discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirement. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement virtual private network (VPN) operations in a complex network.

OUTLINE OF MAJOR CONTENT AREAS:
1. Hierarchical Network Design
2. Connecting to the WAN
3. Point-to-Point Connections
4. Frame Relay
5. Network Address Translation for IPv4
6. Broadband Solutions
7. Securing Site-to-Site Connectivity
8. Monitoring the Network
9. Troubleshooting the Network

COURSE GOALS/OBJECTIVES/OUTCOMES:
1. Students will understand and configure different WAN technologies.
2. Students will monitor and troubleshoot network operations using syslog, SNMP, and NetFlow.
3. Students will design a small multi-site business network.
4. Students will configure a serial interface to enable WAN communication.
5. Students will configure an Ethernet interface to enable broadband communication given service provider requirements.
6. Students will implement remote access and site-to-site VPNs.
7. Students will explain how quality of service (QoS) mechanism supports network communication requirements.

MNTC GOALS AND COMPETENCIES MET:
N/A
HCC COMPETENCIES MET:
Communicating Clearly and Effectively
Working Productively and Cooperatively

STUDENT CONTRIBUTIONS:
The student is expected to prepare for class, attend all lectures and labs, participate in all class activities, complete everything on time, and request assistance if needed.

STUDENT ASSESSMENT SHALL TAKE PLACE USING INSTRUMENTS SELECTED/DEVELOPED BY THE COURSE INSTRUCTOR.

Curriculum Committee Approval Date: April 3, 2018

AASC APPROVAL DATE: April 18, 2018
REVIEW DATE: April 2023