MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

DEPT. CST **COURSE NUMBER: 1410**

NUMBER OF CREDITS: 3 **Lecture: 2 Lab: 1 OJT: 0**

Course Title:
Broadband Technology

Catalog Description:
Broadband Technology provides students with basic knowledge and skills. The student develops an understanding the need for transmitting more than one type of signal simultaneously by way of divided channel. Emphasis is placed on the exploration of the technology of voice and data integration, frame relay, Synchronous Optical Network (SONET), Asynchronous Transfer Mode (ATM)/cell relay, Switched Multi-megabit Digital Service (SMDS), Broadband Integrated Services Digital Network (BISDN), Digital Subscriber Line (DSL), and Virtual Private Network (VPN). This course presents and explains the many and varied techniques, solutions, principles, and challenges both carriers and end users utilize, experience, and overcome in implementing broadband and voice-over IP services.

Prerequisites or Necessary Entry Skills/Knowledge:
None

FULFILLS MN TRANSFER CURRICULUM AREA(S) ***(Leave blank if not applicable)***

☐Goal 1: Communication: By meeting the following competencies:
☐Goal 2: Critical Thinking: By meeting the following competencies:
☐Goal 3: Natural Sciences: By meeting the following competencies:
☐Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
☐Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
☐Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
☐Goal 7: Human Diversity: By meeting the following competencies:
☐Goal 8: Global Perspective: By meeting the following competencies:
☐Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
☐Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered
Fundamentals of Broadband Technology
Voice communication systems
Data communication systems
Broadband Network Infrastructure

Broadband network services
Video and Multimedia networking
Voice over IP

Student Learning Outcomes
Describe SIP and SIP Applications.
Set up Internet-based services.
Describe importance of Internet transparency.
Identify relevant standards and specifications.
Troubleshoot potential quality-of-service and security problems.
Discuss the basics of VoIP, VoIP codecs and VoIP Protocols.
Describe new technologies such as P2P technology, VoWiFi, WiMax, and 3G Networks.
Explain QoS issues arising from deploying new technologies.
Solve the performance issues that arise when VoIP is deployed.

Is this course part of a transfer pathway: Yes ☐ No ☒
***If yes, please list the competencies below**

Revised Date: 3/29/2022