A. COURSE DESCRIPTION

Credits: 4
Lecture Hours/Week: 3
Lab Hours/Week: 1
OJT Hours/Week: *.*
Prerequisites:
CVNP 1612 - Cisco 2 (Number of Years Valid: 5) AND CVNP 1603 - Cisco 1 (Number of Years Valid: 5)
Corequisites: None
MnTC Goals: None

This course describes the architecture, components, and operations of routers and switches in large and complex networks. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), and Spanning Tree Protocol (STP) in both Internet Protocol v4 and 6 (IPv4) and (IPv6) networks. Students will also develop the knowledge and skills needed to implement a Wireless Local Area Network (WLAN) in a small-to-medium sized network.

Required hardware: Windows-based PC required with the operating system Windows 10 or higher. Chromebooks or other personal devices are not compatible with all required coursework. Required software: Office 365 or Office Professional 2019. Contact the instructor directly with any compatibility questions.

B. COURSE EFFECTIVE DATES: 08/22/2016 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Introduction to Scaling Networks
2. Local Area Network (LAN) redundancy
3. Link aggregation
4. Wireless Local Area Networks (WLAN)
5. Adjust Single-Area Open Shortest Path First (OSPF)
6. Troubleshoot Single-Area OSPF
7. Multiarea OSPF
8. EIGRP advanced configurations and troubleshooting
10. Internetwork Operating System (IOS) images and licensing

D. LEARNING OUTCOMES (General)

1. The learner will demonstrate an understanding of design and performance issues related to scaled network design.
2. The learner will demonstrate the understanding of (WLAN) and (VLAN) design.
3. The learner will demonstrate the understanding and ability to configure OSPF and EIGRP protocols.
E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted