A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 2
Lab Hours/Week: 1
OJT Hours/Week: *.*
Prerequisites: None
Corequisites: None
MnTC Goals: None

This is the first course in the Cisco Certified Network Associate (CCNA) Routing and Switching curriculum. This introductory course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. This course addresses the principles and structure of Internet Protocol (IP) addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for understanding networks. Students will be able to build simple Local Area Networks (LAN), perform basic configurations for routers and switches, and implement IP addressing schemes.

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. Exploring networking
2. Configuring a Cisco Internetworking Operating System (IOS)
3. Network protocols and communications
4. Network access
5. Ethernet
6. Network layer
7. Transport layer
8. IP Addressing
9. Subnetting IP networks
10. Application layer

D. LEARNING OUTCOMES (General)

1. The learner will demonstrate an understanding of Open Systems Interconnection (OSI) and Transmission Control Protocol/Internet Protocol (TCP/IP) models as they relate to transferring data in the network.
2. The learner will demonstrate an understanding of bridging, switching, and routing as it relates to the TCP/IP networking layers.
3. The learner will demonstrate an understanding of computer network topologies, hardware, and test equipment by creating a network from basic cables, connectors, and switches.
E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted