

# Networking Professional

17-150-5 Technical Certificate

## Overview

The Networking Professional certificate is designed to give information technology professionals a path to complete industry certification while advancing their skills. Students should have experience in information technology or telecommunications.

Campus:

Rice Lake



WISCONSIN  
INDIANHEAD  
TECHNICAL  
COLLEGE

## Special Feature

Friendly, skilled instructors with an emphasis in a hands-on teaching environment will teach the courses. Topics within the certificate will help prepare the student for industry certification in CompTIA: Network+, A+, Security+, and the Cisco Certified Networking Associate (CCNA). Taking three certification exams is a requirement of the certificate program.

## Student Profile

Networking Professional certificate students should be near completion, or have completed a degree in information technology or telecommunications. Students completing Cisco Networking Fundamentals, Cisco Routing Protocols and Concepts, Cisco Switching and Wireless, and Cisco WANs will receive credit for CCNA 1-4 Prep and Networking Fundamentals in this certificate.

## Preparation for Admission

Students should strive to reach a comfort level in the following courses or skills:

- Network hardware configuration
- Router setup and configuration
- Switch configuration
- PC hardware installation and troubleshooting
- Network management
- Operating System Management

## Outcomes

Employers will expect graduates of this certificate to:

- Configure hardware and software
- Identify security issues
- Plan and implement routers into TCP/IP network infrastructure
- Plan, implement, and support wired and wireless networks

## Career Outlook

Graduates of this certificate will be ready for their careers as:

- Network/Technical Coordinators

- Network Administrator/Managers
- Network Technician or Support Specialists
- Computer Support Specialists

## Related Program

- Information Technology - Network Specialist

## Curriculum

Number	Course Title	Credits
10150125	CompTIA A+ Computer Essentials <sup>▲</sup>	2
10150126	CompTIA A+ IT Technician <sup>▲</sup>	2
10150150	Networking Fundamentals <b>or</b>	2
10150152	IT Security	2
10150151	CompTIA Network+ Certification Prep	2
10150153	CCNA 1 Prep	2
10150154	CCNA 2 Prep <sup>▲</sup>	2
10150155	CCNA 3 Prep <sup>▲</sup>	2
10150156	CCNA 4 Prep <sup>▲</sup>	2

CERTIFICATE REQUIREMENTS **16**

<sup>▲</sup> Requires a prerequisite and/or corequisite that must be completed with a grade point of 2.0 or better.

Open System Interconnection (OSI) models, cabling, cabling tools, routers, Ethernet, Internet Protocol (IP) addressing, and networking standards.

### 10150154 CCNA 2 Prep - Credits: 2

CCNA 2 Prep: Routers and Routing Basics is the second of four CCNA prep courses leading to the Cisco Certified Network Associate (CCNA) designation. CCNA 2 focuses on initial router configuration, Cisco IOS software management, routing protocol configuration, TCP/IP and access control lists (ACLs). Students will develop skills on how to configure a router, managing Cisco IOS software, configuring routing protocol on routers, and set the access lists to control the access to routers. PREREQUISITE: 10150111 Cisco Networking Fundamentals or 10150153 CCNA 1 Prep.

### 10150155 CCNA 3 Prep - Credits: 2

CCNA 3 Prep: Switching Basics and Intermediate Routing is the third of four courses leading to the Cisco Certified Network Associate (CCNA) designation. The course focuses on advanced IP addressing techniques including VLSM, intermediate routing protocols, command-line interface configuration of Ethernet switching, Virtual LANs (VLANs), Spanning Tree Protocol (STP), and VLAN Trunking Protocol (VTP). Particular emphasis is given to practice questions and scenarios related to the CCNA certification. Students should have prior experience with networking. PREREQUISITES: 10150112 Cisco Routing Protocols and Concepts or 10150154 CCNA 2 Prep.

### 10150156 CCNA 4 Prep - Credits: 2

CCNA 4 Prep is the last component of a series of courses preparing students for CCNA (Cisco Certified Network Associate) certification. The focus of study includes advanced IP addressing, Port Address Translation, DHCP, wide-area network terminology, and wide-area network technology that includes PPP, ISDN, DDR, and Frame Relay. PREREQUISITE: 10150113 Cisco Switching and Wireless or 10150155 CCNA 3 Prep.

## Course Descriptions

### 10150125

#### CompTIA A+ Computer Essentials - Credits: 2

The objective of the CompTIA A+ certification course will be to pass the CompTIA A+ Computer Essentials certification exam. Those holding the CompTIA A+ certification have a broad base of knowledge and competency in core operating system technologies including installation, configuration, diagnosing, preventive maintenance, and basic networking. The CompTIA A+ exams test the following areas of knowledge: operating system fundamentals, installation, configuration, and upgrading; diagnosing and troubleshooting; and networking. As this class focuses on preparing for the exams, prospective students should have experience installing and working with operating systems. Students are required to take the CompTIA A+ certification test as part of this course. PREREQUISITE: 10154109 PC Troubleshooting/Upgrading or equivalent work experience.

### 10150126

#### CompTIA A+ IT Technician - Credits: 2

The objective of the CompTIA A+ certification course will be to pass the CompTIA A+ IT Technician certification exam. Those holding the CompTIA A+ certification have a broad base of knowledge and competency in core hardware technologies including installation, configuration, diagnosing, preventive maintenance, and basic networking. The CompTIA A+ exams test the following areas of knowledge: installation, configuring and upgrading; diagnosis and troubleshooting; preventive maintenance; motherboard, processors and memory; printers; basic networking. As this class focuses on preparing for the exams, prospective students should have experience installing and working with computer memory, disk controllers, CPUs, network cards, and video systems. Students are required to take the CompTIA A+ certification test as part of this course. PREREQUISITE: 10154109 PC Troubleshooting/Upgrading or equivalent work experience.

### 10150150

#### Networking Fundamentals - Credits: 2

Networking Fundamentals is designed to prepare the learner for the Network+ certification test.

It is the first of two courses in the Network+ certification prep program. This course introduces the concepts and topics covered on the Network+ certification exam. The curriculum uses hands-on labs and projects designed to familiarize the learner with the most common products and procedures used to design, install, and support a computer data network. Learners will create peer-to-peer, LAN, and wireless networks, and set up and configure basic file and print servers. Learners will participate in a capstone project that involves the design and configuration of a multisite Cisco routed network.

### 10150152

#### IT Security - Credits: 2

This course will cover hardware, software, and the physical environment related to IT security. The processes of defense, prevention, detection, and response will be studied. Typical types of attacks will be studied and potential solutions or defenses will be explored. Networking and Operating System experience is required along with a code of ethics.

### 10150151

#### CompTIA Network+ Certification Prep - Credits: 2

Earning a CompTIA Network+ certification demonstrates that a candidate can describe the features and functions of networking components and possesses the knowledge and skills needed to install, configure, and troubleshoot basic networking hardware, protocols, and services. IP addressing techniques and principles will be covered in detail. The exam tests technical ability in the areas of media and topologies, protocols and standards, network implementation, and network support. The new exam also covers new technologies such as wireless networking and gigabit Ethernet. Networking fundamentals background required.

### 10150153

#### CCNA 1 Prep - Credits: 2

CCNA 1 Prep is a preparation course. This is one of four courses offered for CCNA certification. Topics covered include network terminology and protocols, local-area networks (LANs), wide-area networks (WANs),