# CAREER PATHWAYS

# Network Administration Pathway

### Program Prerequisites

Basic knowledge of Information Technology

## 🔓 Program Goal

The Network Administration Program is designed to prepare students for a career managing and maintaining computer networks. This program introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, participants will be able to build simple LANs, perform basic configurations for routers and switches and implement IP addressing schemes.

#### **Core Courses**

CompTIA Security+ |

72 hours

Cisco Certified Network Associate

(CCNA) | 72 hours

Cisco Certified Network Professional

(CCNP) ENCOR | 72 hours

(CCNP) ENARSI | 72 hours

Total Network Administration Pathway Clock Hours | 288

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## $\overset{\circ}{\sim}$ Educational Objectives

The objective of the program is to teach the student the planning, implementation, maintenance and management of a computer network. During the course of the program, the student will be able to:

- Apply knowledge of hardware concepts, standards, software tools, equipment and best practices to properly administer the computer network.
- Design, develop and implement security policies to protect the IT resources.
- Develop management procedures for effective application of network technologies to business needs.
- Incorporate customer service and tech support skills for effective network administration.
- Ensure appropriate ethical considerations are used during network administration activities.
- Evaluate troubleshooting techniques while repairing network hardware and software problems.
- Support networks by performing periodical computer hardening to keep data secure.

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## Learning Outcomes

Upon completion of the program, the graduate will be able to:

- Design effective network models by considering aspects like cabling, topology and computer infrastructure.
- Configure router interface parameters for Ethernet, WAN facilities, frame relay, ISDN and ATM.
- Interconnect switches to VLANs using trunks and configure LAN switches to supply local connectivity to servers.
- Implement best practices for IPS, VPN and firewall technologies to keep the network secure.
- Deploy and maintain perimeter security in networks along with threat control for layer 2 attacks.
- Monitor and administer network security to determine the necessary incident response and disaster recovery plan.

### Professional Objectives

- Network / Systems Analyst
- Network Security Professional
- Network Field Technician
- Network Consultant

Network Administrator

- Network Specialist
- Network Security Administrator
- Cisco Network Engineer
- Network Support Technician
- Network Architect

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