EXCELSIOR COLLEGE®

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CENTER FOR PROFESSIONAL DEVELOPMENT

CISCO® CCNA® CERTIFICATION TRAINING

100 Hours/6 Months/Instructor-Facilitated
Course Code: **CPD049** || Course Cost: **$1995**

OVERVIEW

Excelsior College has partnered with ed2go to bring you the Cisco CCNA Certification Training program. This program incorporates the objectives for the Cisco CCNA exam version 640-802, focusing on giving you the skills and knowledge necessary to install, operate, and troubleshoot a small and medium branch office Enterprise network, including configuring several switches and routers, connecting to a WAN, and implanting network security.

The CCNA certification indicates a professional level of knowledge and a foundation in basic networking. A student should be able to complete configuration and implementation of a small branch office network under supervision. Upon successful completion of this program, you'll be prepared to sit for the Cisco 640-802 certification exam.

No other self-paced program is as up-to-date or as complete as this one. This program contains online tutorials, practice questions, online labs (using real, not simulated, Cisco equipment), and a mentor to answer any questions you may have pertaining to the curriculum and program completion.

OBJECTIVES

Upon successful completion of this program, you'll be able to:

- Describe how networks function, identifying major components, the function of network components, and the Open System Interconnection (OSI) reference model
- Using the host-to-host packet delivery process, describe issues related to increasing traffic on an Ethernet LAN and identify switched LAN technology solutions to Ethernet networking issues
- Describe the reasons for extending the reach of a LAN and the methods that can be used, with a focus on RF wireless access
- Understand the reasons for connecting networks with routers and how routed networks transmit data through networks using TCP/IP
- Describe the function and major devices of Wide Area Networks (WANs), and be able to configure PPP encapsulation, static and dynamic routing, and PAT and RIP routing
- Use the command-line interface to discover neighbors on the network and manage the router startup and configuration
- Expand the switched network from a small LAN to a medium-sized LAN with multiple switches, supporting VLANs, trunking, and spanning tree
- Configure, verify, and troubleshoot OSPF and EIGRP
- Determine how to apply ACLs based on network requirements, and how to configure, verify, and troubleshoot ACLs on a medium-sized network
- Successfully complete the Cisco 640-802 exam

MATERIALS INCLUDED

- *CCNA: Cisco Certified Network Associate Study Guide: Exam 640-802, 6th Edition*

OUTLINE

1. **Building a Simple Network**
    a. Exploring the Functions of Networking
    b. Securing the Network
    c. Understanding the Host-to-Host Communications Model
    d. Understanding the TCP/IP Internet Layer
    e. Understanding the TCP/IP Transport Layer
    f. Exploring the Packet Delivery Process
    g. Understanding the Ethernet
    h. Connecting to an Ethernet LAN

2. **Ethernet LANs**
    a. Understanding the Challenges of Shared LANs
    b. Solving Network Challenges With Switched LAN Technology
    c. Exploring the Packet Delivery Process
    d. Operating Cisco IOS Software
    e. Starting a Switch
    f. Understanding Switch Security
    g. Maximizing the Benefits of Switching
    h. Troubleshooting Switch Issues

3. **Wireless LANs**
    a. Exploring Wireless Networking
    b. Understanding WLAN Security
    c. Implementing a WLAN

4. **LAN Connections**
    a. Exploring the Functions of Routing
    b. Understanding Binary Basics
    c. Constructing a Network Addressing Scheme
    d. Starting a Route
    e. Configuring a Cisco Router
    f. Exploring the Packet Delivery Process
    g. Understanding Cisco Router Security
    h. Using Cisco SDM
    i. Using a Cisco Router as a DHCP Server
    j. Accessing Remote Devices

5. **WAN Connections**
    a. Under WAN Technologies
    b. Enabling the Internet Connection
    c. Enabling Static Routing
    d. Configuring Serial Encapsulation
    e. Enabling RIP

6. **Network Environment Management**

a. Discovering Neighbors on the Network
b. Managing Router Startup and Configuration
c. Managing Cisco Devices

7. Small Network Implementation
a. Introducing the Review Lab

8. Medium-Sized Switched Network Construction
a. Medium-Sized Switched Network Construction
b. Implementing VLANs and Trunks
c. Improving Performance With Spanning Tree
d. Routing Between VLANs
e. Securing the Expanded Network
f. Troubleshooting Switched Networks

9. Medium-Sized Routed Network Construction
a. Reviewing Routing Operations
b. Implementing VLSM

10. Singe-Area OSPF Implementation
a. Implementing OSPF
b. Troubleshooting Switched Networks

11. EIGRP Implementation
a. Implementing EIGRP
b. Troubleshooting EIGRP

12. Access Control Lists
a. Access Control Lists
b. Introducing ACL Operation
c. Configuring and Troubleshooting ACLs

13. Address Space Management
a. Scaling the Network With NAT and PAT
b. Transitioning to IPv6

14. LAN Extension Into a WAN
a. Introducing VPN Solutions
b. Establishing a WAN Connection With Frame Relay
c. Troubleshooting Frame Relay WANs

COMPUTER REQUIREMENTS

- Windows XP/Vista/7 and IE 7 or later browsers
- High-speed Internet connection
- Pop-up blockers disabled
- Java JRE v.1.6.0 or higher
- Must not be located behind a caching proxy firewall

Please Note: It's possible to run the remote labs with a different OS (i.e., Linux, Apple); however, only the designated Windows operating systems w/required browser will be eligible for support.

Certification Requirements:

The CCNA certification indicates a foundation in and apprentice knowledge of networking for the small office/home office (SOHO) and small and medium business market. CCNA certified professionals can install, configure, and operate LAN, WAN, and dial-access services for small, simple networks, including (but not limited to) use of these protocols and technologies: IP, IPv6, Wireless, EIGRP, PPP, HDLC, NAT, Static Routing, Frame Relay, OSPF, VLANs, VTP, Ethernet, and Access Control Lists.

INSTRUCTOR BIO

Brock Stout is a graduate of the University of Dayton. He has honed his skills as an IT professional and instructor, contracting with a multitude of Fortune 500 companies over the last 15 years. Brock has an extensive background in CCNA curriculum development and is currently teaching at the collegiate level. Brock also owns an IT consulting firm that provides a myriad of services, including remote labs. Brock has designed and taught numerous networking classes for adult education programs public and private. Brock can be contacted at brock@cyanna.com.