



## Cisco CCNP Courses for Network Professionals

### Cisco Networking Academy

We live in an increasingly connected world, creating a global economy and a growing need for technical skills. Cisco® Networking Academy® delivers information technology skills to over 500,000 students a year in more than 165 countries worldwide. Networking Academy students have the opportunity to participate in a powerful and consistent learning experience that is supported by high quality, online curricula and assessments, instructor training, hands-on labs, and classroom interaction. This experience ensures the same level of qualifications and skills regardless of where in the world a student is located.

Networking Academy students will become the architects of the networked economy; enabling everyday experiences on the global human network. With the ever-increasing demand for their skills, Networking Academy students have the chance to dream about business-critical positions never before imagined, in industries ranging from medicine and finance to entertainment and aerospace. Networking Academy opens doors to rewarding careers and opportunities for economic advancement and local community development. Students only need to be 'Mind Wide Open' to the possibilities.

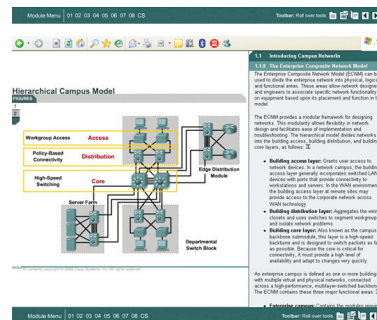
### CCNP Overview

The Cisco CCNP® curriculum includes four modules, which align with the four exams required for CCNP certification. The CCNP curriculum builds on Cisco CCNA® courses with more complex network configurations, diagnosis, and troubleshooting. The curriculum is intended for those interested in continuing their post-CCNA preparation to become network administrators, Level 2 support engineers, Level 2 systems engineers, network technicians, or deployment engineers. Students interested in

this course should have completed CCNA 1-4, or the equivalents. CCNA certification is also desirable; however, it is not a prerequisite.

### CCNP Curriculum

The CCNP curriculum teaches the advanced skills required to manage end-to-end network infrastructures, and applications deployed on the edge of a network, such as wireless, security, and voice. Additional topics include converged networks, quality of service (QoS), VPNs, and broadband technologies. CCNP integrates next-generation network devices and services engineered to provide wire-speed delivery of concurrent data, voice, video, and wireless services with optimized security.



Each course is designed to be delivered in a 70-hour timeframe. Approximately 45 hours will be designated to lab activities and 25 hours will be spent on curriculum content. A case study is also required.

The new CCNP courses can be taken in any order. However it is recommended that

students take Building Multilayer Switched Networks before taking Optimizing Converged Networks.

### CCNP Course Descriptions

#### Building Scalable Internetworks

In this course, students will learn how to create an efficient and expandable enterprise network. Students will also learn how to install, configure, monitor, and troubleshoot network infrastructure equipment. Topics include configuration of EIGRP, OSPF, IS-IS, and BGP routing protocols, and how to manipulate and optimize routing updates between these protocols. Other topics include multicast routing, IPv6, and DHCP configuration.

#### Implementing Secure Converged Wide-Area Networks

Students are introduced to secure enterprise-class network services for teleworkers and branch sites. Students will learn how to secure and expand the reach of an enterprise network with a focus on VPN configuration and securing network access. Topics include teleworker configuration and access, frame-mode MPLS, site-to-site IPSEC VPN, Cisco EZVPN, strategies used to mitigate network attacks, Cisco device hardening, and IOS firewall features.

#### Building Multilayer Switched Networks

This course covers the deployment of state-of-the-art campus LANs. The primary focus is on the selection and implementation



## CCNP Course Descriptions (continued)



of the appropriate Cisco IOS services to build reliable, scalable, multilayer-switched LANs. Focus areas of the course include VLANs, Spanning Tree Protocol, wireless client access, minimizing service loss, and minimiz-

ing data theft in a campus network. This hands-on, lab-oriented course stresses the design, implementation, operation, and troubleshooting of multilayer switched networks.

### Optimizing Converged Networks

Optimizing Converged Networks introduces students to effective QoS techniques for optimization in converged networks with voice, wireless, and security applications. Topics include implementing a VoIP network, specific mechanisms for implementing the DiffServ QoS model, AutoQoS, wireless security, and basic wireless management.

### Skills Development and Industry Recognized Certification

CCNP certification validates a network professional's ability to install, configure, and troubleshoot converged local and wide-area networks with 100 to 500 or more nodes. Network professionals who obtain the CCNP certification have demonstrated the knowledge and skills required to manage routers and switches at the network core, as well as edge applications that integrate voice, wireless, and security into the network.

The following are skills students will be able to perform after completing each CCNP course, and corresponding certification exams.

#### Building Scalable Networks

- Explain routing in the enterprise network
- Implement and verify multicast forwarding using PIM
- Implement IPv6 in an enterprise network
- Implement and verify EIGRP operations
- Build a scalable multi-area network with OSPF
- **Certification Exam:** BSCI v3.0, Routing Protocols at Campus Edge, and 642-901

#### Implementing Secure Converged Wide-Area Networks

- Implement secure broadband connections for teleworkers
- Describe Cisco network architecture alignment with connectivity requirements
- Describe MPLS conceptual data and control planes
- Describe and configure a site-to-site IPsec VPN
- Describe and configure Cisco device hardening strategies to mitigate network attacks
- **Certification Exam:** ISCW v1.0 and 642-825

#### Building Multilayer Switched Networks

- Define VLANs to segment network traffic
- Explain Cisco hierarchy network model for campus networks
- Implement Spanning Tree Protocol and implement and verify InterVLAN routing
- Design and implement security features
- Implement high-availability technologies and techniques
- Describe and configure wireless LAN access and switch to support voice
- **Certification Exam:** BCMSN v3.0 exam and 642-812

#### Optimizing Converged Networks

- Describe the converged network requirements within Cisco conceptual network models, with a focus on wireless security
- Describe basic principles of VoIP network bandwidth requirements, VoIP packet encapsulation, and VoIP implementation
- Explain the need for QoS and the methods to implement QoS
- Explain the key IP QoS mechanisms used to implement the DiffServ QoS model
- Configure Cisco AutoQoS model
- Describe and configure wireless security and basic wireless management
- **Certification Exam:** ONT and 642-845

### For more information

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