

# CCNP – Cisco Certified Network Professional

## Course Description:

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.

The CCNP courses can be taken in any order. However it is recommended that students take Building Multilayer Switched Networks before taking Optimizing Converged Networks.

The four courses include:

- Building Scalable Internetworks,
- Implementing Secured Converged Wide-area Networks,
- Building Multilayer Switched Networks, and
- Optimizing Converged Networks.

## 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.

**Certification Exam:** BSCI v3.0, Routing Protocols at Campus Edge, and 642-901

## Course Objectives for Building Scalable Internetworks include:

- 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

## 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.

**Certification Exam:** ISCW v1.0 and 642-825

### **Course Objectives for 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

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

**Certification Exam:** BCMSN v3.0 exam and 642-812

### **Course Objectives for 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

### **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.

**Certification Exam:** ONT and 642-845

### **Course Objectives for 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

**Training Duration:**

Each of the CCNP Courses consists of 100 hours, usually delivered three (3) times a week on sessions of (2) hours.

**Training Cost:**

CCNP – Cisco Certified Network Professional	Course Price
Building Scalable Internetworks	€ 555.00
Implementing Secure Converged Wide-Area Networks	€ 555.00
Building Multilayer Switched Networks	€ 555.00
Optimizing Converged Networks	€ 555.00
<b>Total:</b>	<b>€ 2,220.00</b>

**\*Note: The price also includes the Cisco Press book**