

## COURSE OUTLINE

# Designing Cisco Enterprise Networks (ENSLD)

**Duration:** 5 Days

**Prerequisites:**

Before taking this training, you should have earned CCNA® certification or be familiar with:

- Understand network fundamentals
- Implement LANs
- Implement LAN connectivity

**Course Description:**

The Designing Cisco Enterprise Networks (ENSLD) training gives you the knowledge and skills you need to design an enterprise network. This training serves as a deep dive into enterprise network design and expands on the topics covered in the Implementing and Operating Cisco® Enterprise Network Core Technologies (ENCOR) v1.0 training.

This training also helps you prepare to take the 300-420 Designing Cisco Enterprise Networks (ENSLD) exam which is part of the CCNP® Enterprise and Cisco Certified Specialist - Enterprise Design certifications. This training also earns you 40 Continuing Education (CE) credits towards recertification.

**Course Objectives:**

After taking this training, you should be able to:

- Design Enhanced Interior Gateway Routing Protocol (EIGRP) internal routing for the enterprise network
- Design Open Shortest Path First (OSPF) internal routing for the enterprise network
- Design Intermediate System to Intermediate System (IS-IS) internal routing for the enterprise network
- Design a network based on customer requirements
- Design Border Gateway Protocol (BGP) routing for the enterprise network
- Describe the different types and uses of Multiprotocol BGP (MP-BGP) address families
- Describe BGP load sharing
- Design a BGP network based on customer requirements
- Decide where the L2/L3 boundary will be in your Campus network and make design decisions
- Describe Layer 2 design considerations for Enterprise Campus networks
- Design a LAN network based on customer requirements
- Describe Layer 3 design considerations in an Enterprise Campus network
- Examine Cisco SD-Access fundamental concepts
- Describe Cisco SD-Access Fabric Design
- Design a Software-Defined Access (SD-Access) Campus Fabric based on customer requirements
- Design service provider-managed VPNs
- Design enterprise-managed VPNs
- Design a resilient WAN
- Design a resilient WAN network based on customer requirements
- Examine the Cisco SD-WAN architecture
- Describe Cisco SD-WAN deployment options
- Design Cisco SD-WAN redundancy
- Explain the basic principles of QoS
- Design Quality of Service (QoS) for the WAN
- Design QoS for enterprise network based on customer requirements
- Explain the basic principles of multicast
- Designing rendezvous point distribution solutions
- Describe high-level considerations when doing IP addressing design
- Create an IPv6 addressing plan
- Plan an IPv6 deployment in an existing enterprise IPv4 network
- Describe the challenges that you might encounter when transitioning to IPv6

- Design an IPv6 addressing plan based on customer requirements
- Describe Network APIs and protocols
- Describe Yet Another Next Generation (YANG), Network Configuration Protocol (NETCONF), and Representational State Transfer Configuration Protocol (RESTCONF)

**Intended Audience:**

- Network design engineers
- Network engineers
- System administrators

**Course outlines:**

- Module 1: Designing EIGRP routing
- Module 2: Designing OSPF routing
- Module 3: Designing IS-IS routing
- Module 4: Designing BGP routing and redundancy
- Module 5: Exploring BGP Address Families and Attributes
- Module 6: Designing an Enterprise Campus LAN
- Module 7: Designing Layer 2 Campus
- Module 8: Designing a Layer 3 Campus
- Module 9: Discovering the Cisco SD-Access Architecture
- Module 10: Exploring Cisco SD-Access Fabric Design
- Module 11: Exploring Cisco SD-Access Site Design Strategy and Considerations
- Module 12: Discovering Service Provider-Managed VPNs
- Module 13: Designing Enterprise-Managed VPNs
- Module 14: Designing WAN Resiliency
- Module 15: Examining Cisco SD-WAN Architectures
- Module 16: Examining Cisco SD-WAN Deployment Design Considerations
- Module 17: Examining Cisco SD-WAN—NAT and Hybrid Design Considerations
- Module 18: Designing Cisco SD-WAN Routing and High Availability
- Module 19: Exploring QoS
- Module 20: Designing LAN and WAN QoS
- Module 21: Introducing Multicast
- Module 22: Exploring Multicast with PIM-SM
- Module 23: Designing Rendezvous Point Distribution Solutions
- Module 24: Designing an IPv4 Address Plan
- Module 25: Exploring IPv6
- Module 26: Deploying IPv6
- Module 27: Introducing Network APIs and Protocols
- Module 28: Exploring YANG, NETCONF, RESTCONF, and Model-Driven Telemetry

**Lab outline**

- Designing Enterprise Connectivity
- Designing an Enterprise Network with BGP Internet Connectivity
- Designing an Enterprise Campus LAN
- Designing Resilient Enterprise WAN
- Designing QoS in an Enterprise Network
- Designing an Enterprise IPv6 Network

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