

## دوره جامع مهندسی سیسکو | CCNA To CCNP Enterprise

دوره تربیت مهندسین حوزه کار با تجهیزات شبکه سیسکو متشکل از دوره های

CCNA ۲۰۰-۳۰۱, CCNP ENCOR, CCNP ENARSI

### مروری بر دوره

این دوره جامع مطابق با سرفصل های دوره های جدید سیسکو - CCNA ۲۰۰

CCNP ENCOR, CCNP ENARSI, ۳۰۱ طراحی شده است. تجمیع مطالب و عناوین

گنجانده شده در این دوره به شما علاقه مندان حوزه کار با تجهیزات شبکه سیسکو این امکان را می دهد تا ضمن بهره مندی کامل از مطالب، خود را برای شرکت در آزمون های رسمی سیسکو جهت اخذ مدارک بین المللی آماده سازید.

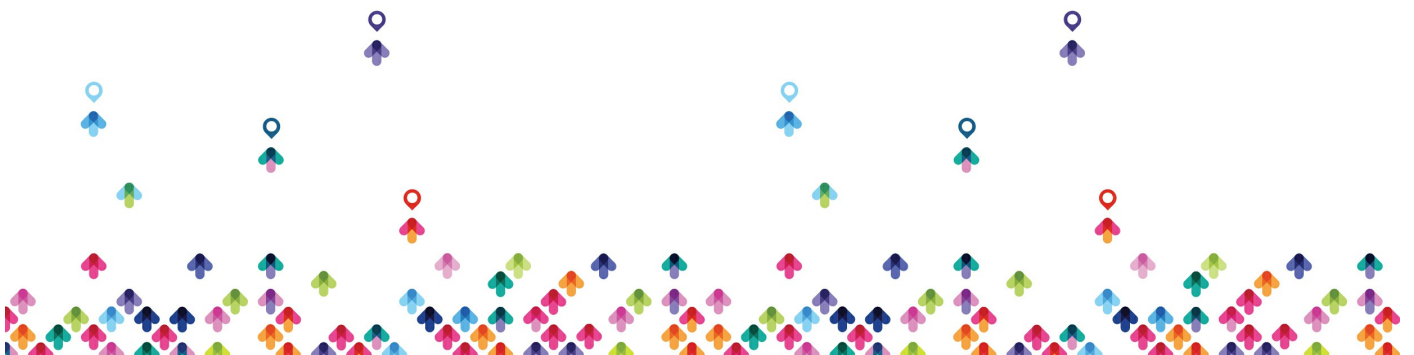
### سرفصل ها

Outline - CCNA ۲۰۰-۳۰۱

#### ۱. Building a Simple Network

- Exploring the Functions of Networking
- Understanding the Host-to-Host Communications Model
- Introducing LANs
- Operating Cisco IOS Software
- Starting a Switch
- Understanding Ethernet and Switch Operation
- Troubleshooting Common Switch Media Issues

#### ۲. Establishing Internet Connectivity



- Understanding the TCP/IP Internet Layer
- Understanding IP Addressing and Subnets
- Understanding the TCP/IP Transport Layer
- Exploring the Functions of Routing
- Configuring a Cisco Router
- Exploring the Packet Delivery Process
- Enabling Static Routing
- Learning Basics of ACL
- Enabling Internet Connectivity

### ۳. Summary Challenge

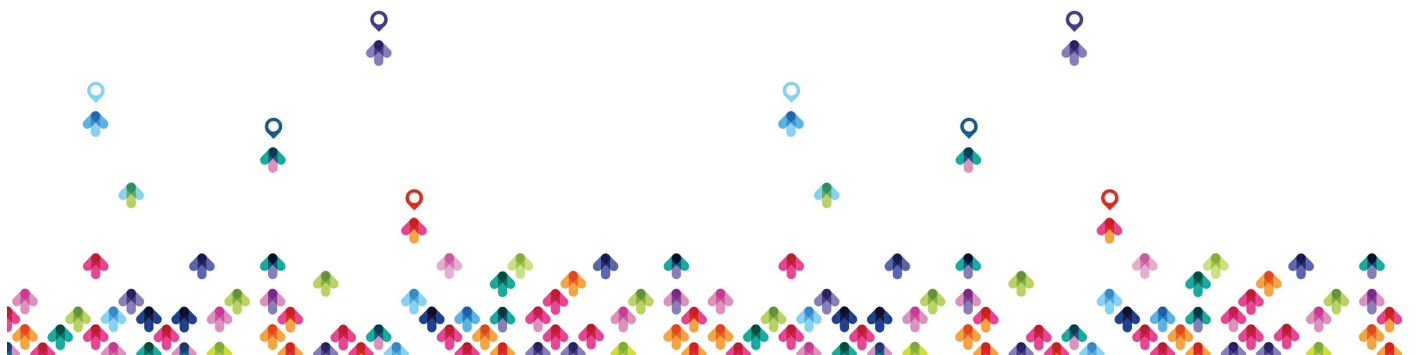
- Establish Internet Connectivity
- Troubleshoot Internet Connectivity

### ۴. Implementing Scalable Medium-Sized Networks

- Implementing and Troubleshooting VLANs and Trunks
- Building Redundant Switched Topologies
- Improving Redundant Switched Topologies with EtherChannel
- Routing Between VLANs
- Using a Cisco IOS Network Device as a DHCP Server
- Understanding Layer ۳ Redundancy
- Implementing RIPv۲

### ۵. Introducing IPv۶

- Introducing Basic IPv۶



- Understanding IPv6 Operation
- Configuring IPv6 Static Routes

## ۶. Troubleshooting Basic Connectivity

- Troubleshooting IPv6 Network Connectivity
- Troubleshooting IPv6 Network Connectivity

## ۷. Implementing Network Device Security

- Securing Administrative Access
- Implementing Device Hardening
- Implementing Advance Security

## ۸. Implementing an EIGRP-Based Solution

- Implementing EIGRP
- Implementing EIGRP for IPv6

## ۹. Summary Challenge

- Troubleshooting a Medium-Sized Network
- Troubleshooting Scalable Medium-Sized Network

## ۱۰. Implementing a Scalable OSPF-Based Solution

- Understanding OSPF
- Multiarea OSPF IPv6 Implementation
- Implementing OSPFv3 for IPv6
- Troubleshooting Multiarea OSPF



## ۱۱. Implementing Wide-Area Networks

- Understanding WAN Technologies
- Understanding Point-to-Point Protocols
- Configuring GRE Tunnels
- Configuring Single-Homed EBGP

## ۱۲. Network Device Management

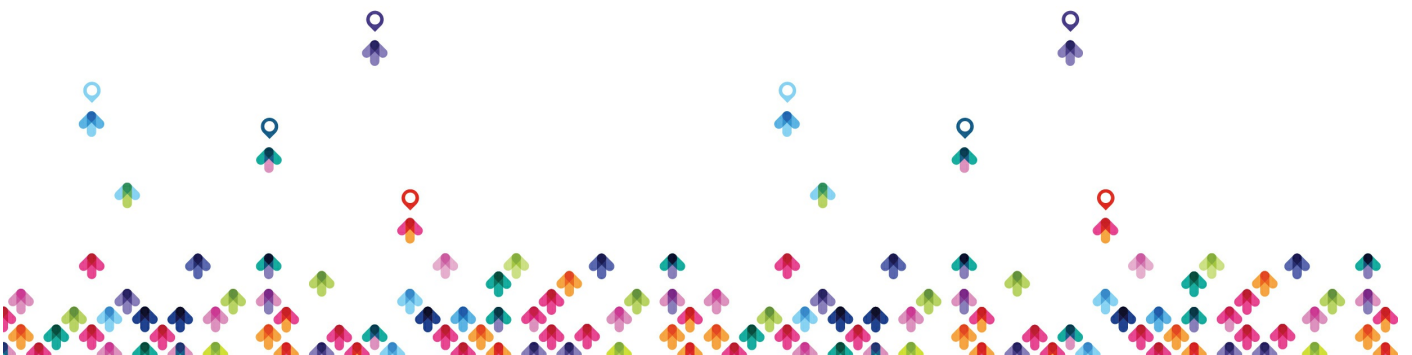
- Implementing Basic Network Device Management
- Evolution of Intelligent Networks
- Introducing QoS
- Managing Cisco Devices
- Licensing

## ۱۳. Summary Challenge

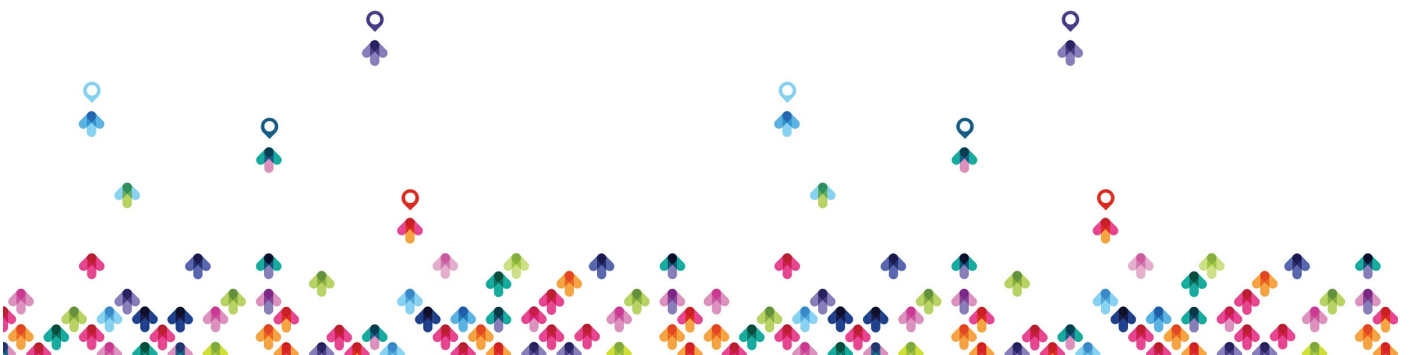
- Troubleshooting Scalable Multiarea Network
- Implementing and Troubleshooting Scalable Multiarea Network

## Outline - CCNP ENCOR

- Examining Cisco Enterprise Network Architecture
- Understanding Cisco Switching Paths
- Implementing Campus LAN Connectivity
- Building Redundant Switched Topology
- Implementing Layer ۲ Port Aggregation



- Understanding EIGRP
- Implementing OSPF
- Optimizing OSPF
- Exploring EBGp
- Implementing Network Redundancy
- Implementing NAT
- Introducing Virtualization Protocols and Techniques
- Understanding Virtual Private Networks and Interfaces
- Understanding Wireless Principles
- Examining Wireless Deployment Options
- Understanding Wireless Roaming and Location Services
- Examining Wireless AP Operation
- Understanding Wireless Client Authentication
- Troubleshooting Wireless Client Connectivity
- Introducing Multicast Protocols
- Introducing QoS
- Implementing Network Services
- Using Network Analysis Tools
- Implementing Infrastructure Security
- Implementing Secure Access Control
- Understanding Enterprise Network Security Architecture
- Exploring Automation and Assurance Using Cisco DNA Center
- Examining the Cisco SD-Access Solution
- Understanding the Working Principles of the Cisco SD-WAN Solution
- Understanding the Basics of Python Programming
- Introducing Network Programmability Protocols



- Introducing APIs in Cisco DNA Center and vManage

## Lab outline

- Investigate the CAM
- Analyze Cisco Express Forwarding
- Troubleshoot VLAN and Trunk Issues
- Tuning Spanning Tree Protocol (STP) and Configuring Rapid Spanning Tree Protocol (RSTP)
- Configure Multiple Spanning Tree Protocol
- Troubleshoot EtherChannel
- Implement Multi-area OSPF
- Implement OSPF Tuning
- Apply OSPF Optimization
- Implement OSPFv3
- Configure and Verify Single-Homed EBGP
- Implementing Hot Standby Routing Protocol (HSRP)
- Configure Virtual Router Redundancy Protocol (VRRP)
- Implement NAT
- Configure and Verify Virtual Routing and Forwarding (VRF)
- Configure and Verify a Generic Routing Encapsulation (GRE) Tunnel
- Configure Static Virtual Tunnel Interface (VTI) Point-to-Point Tunnels
- Configure Wireless Client Authentication in a Centralized Deployment
- Troubleshoot Wireless Client Connectivity Issues
- Configure Syslog
- Configure and Verify Flexible NetFlow
- Configuring Cisco IOS Embedded Event Manager (EEM)



- Troubleshoot Connectivity and Analyze Traffic with Ping, Traceroute, and Debug
- Configure and Verify Cisco IP SLAs
- Configure Standard and Extended ACLs
- Configure Control Plane Policing
- Implement Local and Server-Based AAA
- Writing and Troubleshooting Python Scripts
- Explore JavaScript Object Notation (JSON) Objects and Scripts in Python
- Use NETCONF Via SSH
- Use RESTCONF with Cisco IOS XE Software

#### Outline - CCNP ENARSI

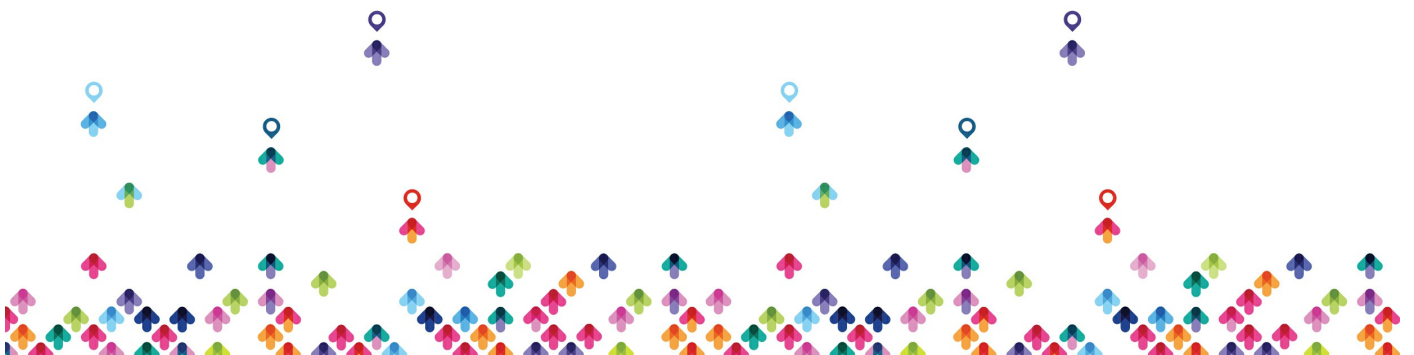
- Implementing EIGRP
- Optimizing EIGRP
- Troubleshooting EIGRP
- Implementing OSPF
- Optimizing OSPF
- Troubleshooting OSPF
- Implementing Internal Border Gateway Protocol (IBGP)
- Optimizing BGP
- Implementing MP-BGP
- Troubleshooting BGP
- Configuring Redistribution
- Troubleshooting Redistribution
- Implementing Path Control
- Exploring MPLS



- Introducing MPLS L۳ VPN Architecture
- Introducing MPLS L۳ VPN Routing
- Configuring Virtual Routing and Forwarding (VRF)-Lite
- Implementing DMVPN
- Implementing DHCP
- Troubleshooting DHCP
- Introducing IPv۶ First Hop Security
- Securing Cisco Routers
- Troubleshooting Infrastructure Security and Services

## Lab Outline

- Configure EIGRP Using Classic Mode and Named Mode for IPv۴ and IPv۶
- Verify the EIGRP Topology Table
- Configure EIGRP Stub Routing, Summarization, and Default Routing
- Configure EIGRP Load Balancing and Authentication
- LAB: Troubleshoot EIGRP Issues
- Configure OSPFv۳ for IPv۴ and IPv۶
- Verify the Link-State Database
- Configure OSPF Stub Areas and Summarization
- Configure OSPF Authentication
- Troubleshoot OSPF
- Implement Routing Protocol Redistribution
- Manipulate Redistribution
- Manipulate Redistribution Using Route Maps
- Troubleshoot Redistribution Issues
- Implement PBR





- Configure IBGP and External Border Gateway Protocol (EBGP)
- Implement BGP Path Selection
- Configure BGP Advanced Features
- Configure BGP Route Reflectors
- Configure MP-BGP for IPv۴ and IPv۶
- Troubleshoot BGP Issues
- Implement PBR
- Configure Routing with VRF-Lite
- Implement Cisco IOS DMVPN
- Obtain IPv۶ Addresses Dynamically
- Troubleshoot DHCPv۴ and DHCPv۶ Issues
- Troubleshoot IPv۴ and IPv۶ Access Control List (ACL) Issues
- Configure and Verify Control Plane Policing
- Configure and Verify Unicast Reverse Path Forwarding (uRPF)
- Troubleshoot Network Management Protocol Issues: Lab ۱
- Troubleshoot Network Management Protocol Issues: Lab ۲

## پیش نیازها

- گذراندن دوره نتورک پلاس یا برخورداری از دانشی معادل آن

## دوره های مرتبط

[CompTIA Network+ | دوره Network+ کامبتیا](#)

