

## Course Outline

- Examining Cisco Enterprise Network Architecture
- Exploring Cisco Switching Paths
- Implementing Campus LAN Connectivity
- Building Redundant Switched Topology
- Implementing Layer 2 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
- Implementing Wireless Client Authentication
- Troubleshooting Wireless Client Connectivity
- Implementing Network Services
- Using Network Analysis Tools
- Implementing Infrastructure Security
- Implementing Secure Access Control
- Discovering the Basics of Python Programming
- Discovering Network Programmability Protocols
- Implementing Layer 2 Port Aggregation
- Discovering Multicast Protocols
- Understanding QoS
- Exploring 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

## Lab Outline

- Investigate the CAM
- Analyze Cisco Express Forwarding
- Troubleshoot VLAN and Trunk Issues

- Tune Spanning Tree Protocol (STP) and Configure 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
- Implement 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
- Configure Cisco IOS Embedded Event Manager (EEM)
- Troubleshoot Connectivity and Analyze Traffic with Ping, Trace route, and Debug
- Configure and Verify Cisco IP SLAs
- Configure Standard and Extended ACLs
- Configure Control Plane Policing
- Implement Local and Server-Based AAA
- Write and Troubleshoot Python Scripts
- Explore JavaScript Object Notation (JSON) Objects and Scripts in Python
- Use NETCONF Via SSH
- Use RESTCONF with Cisco IOS XE Software