Course Name: CCDP

Course Time: 80 Hrs.

Course Prerequisites: CCDA

Course Outline:

- ➢ **Implement VLAN Based Solution, Given a Network Design and a Set of Requirements**
    - ❖ Determine network resources needed for implementing a VLAN based solution on a network
    - ❖ Create a VLAN based implementation plan
    - ❖ Create a VLAN based verification plan
    - ❖ Configure switch-to-switch connectivity for the VLAN based solution
    - ❖ Configure loop prevention for the VLAN based solution
    - ❖ Verify EIGRP solution was implemented properly using show and debug commands
- ➢ **Implement a Security Extension of a Layer 2 Solution, Given a Network Design and a Set of Requirements**
    - ❖ Determine network resources needed for implementing a Security solution
    - ❖ Create a implementation plan for the Security solution
    - ❖ Create a verification plan for the Security solution
    - ❖ Configure port security features
    - ❖ Configure general switch security features
    - ❖ Configure private VLANs
    - ❖ Configure VACL and PACL
    - ❖ Verify the Security based solution was implemented properly using show and debug commands
    - ❖ Document results of Security implementation and verification
- ➢ **Implement Switch Based Layer 3 Services, Given a Network Design and a Set of Requirements**
    - ❖ Determine network resources needed for implementing a Switch based Layer 3 solution
    - ❖ Create an implementation plan for the Switch based Layer 3 solution
    - ❖ Create a verification plan for the Switch based Layer 3 solution
    - ❖ Configure routing interfaces
    - ❖ Configure Layer 3 Security
    - ❖ Verify the Switch based Layer 3 solution was implemented properly using show and debug commands
    - ❖ Document results of Switch based Layer 3 implementation and verification
- ➢ **Prepare Infrastructure to Support Advanced Services**
    - ❖ Implement a wireless extension of a Layer 2 solution
    - ❖ Implement a VoIP support solution
    - ❖ Implement video support solution
- ➢ **Implement High Availability, Given a Network Design and a Set of Requirements**
    - ❖ Determine network resources needed for implementing High Availability on a network
    - ❖ Create a High Availability implementation plan
    - ❖ Create a High Availability verification plan
    - ❖ Implement first hop redundancy protocols
    - ❖ Implement switch supervisor redundancy
    - ❖ Verify High Availability solution was implemented properly using show and debug commands
    - ❖ Document results of High Availability implementation and verification

- ➢ **Implement an EIGRP Based Solution, Given a Network Design and a Set of Requirements**
  - ❖ Determine network resources needed for implementing EIGRP on a network
  - ❖ Create an EIGRP implementation plan
  - ❖ Create an EIGRP verification plan
  - ❖ Configure EIGRP routing
  - ❖ Verify EIGRP solution was implemented properly using show and debug commands
  - ❖ Document results of EIGRP implementation and verification
- ➢ **Implement a Multi-Area OSPF Network, Given a Network Design and a Set of Requirements**
  - ❖ Determine network resources needed for implementing OSPF on a network
  - ❖ Create an OSPF implementation plan
  - ❖ Create an OSPF verification plan
  - ❖ Configure OSPF routing
  - ❖ Verify OSPF solution was implemented properly using show and debug commands
  - ❖ Document results of OSPF implementation and verification plan
- ➢ **Implement an eBGP Based Solution, Given a Network Design and a Set of Requirements**
  - ❖ Determine network resources needed for implementing eBGP on a network
  - ❖ Create an eBGP implementation plan
  - ❖ Create an eBGP verification plan
  - ❖ Configure eBGP routing
  - ❖ Verify eBGP solution was implemented properly using show and debug commands
  - ❖ Document results of eBGP implementation and verification
- ➢ **Implement an IPv6 based solution, given a network design and a set of requirements**
  - ❖ Determine network resources needed for implementing IPv6 on a network
  - ❖ Create an IPv6 implementation plan
  - ❖ Create an IPv6 verification plan
  - ❖ Configure IPv6 routing
  - ❖ Configure IPv6 interoperation with IPv4
  - ❖ Verify IPv6 solution was implemented properly using show and debug commands
  - ❖ Document results of IPv6 implementation and verification plan
- ➢ **Implement an IPv4 or IPv6 based redistribution solution, given a network design and a set of requirements**
  - ❖ Create a redistribution implementation plan based upon the results of the redistribution analysis
  - ❖ Create a redistribution verification plan
  - ❖ Configure a redistribution solution
  - ❖ Verify that a redistribution was implemented
  - ❖ Document results of a redistribution implementation and verification plan
  - ❖ Identify the differences between implementing an IPv4 and IPv6 redistribution solution
- ➢ **Implement Layer 3 Path Control Solution**
  - ❖ Create a Layer 3 path control implementation plan based upon the results of the redistribution analysis
  - ❖ Create a Layer 3 path control verification plan
  - ❖ Configure Layer 3 path control
  - ❖ Verify that a Layer 3 path control was implemented
  - ❖ Document results of a Layer 3 path control implementation and verification plan
- ➢ **Implement basic teleworker and branch services**
  - ❖ Describe broadband technologies
  - ❖ Configure basic broadband connections

- ❖ Describe basic VPN technologies
- ❖ Configure GRE
- ❖ Describe branch access technologies

- ➢ **Design Advanced Enterprise Campus Networks**
  - ❖ Design for high availability in enterprise networks
  - ❖ Design Layer 2 and Layer 3 campus infrastructures using best practices
  - ❖ Describe enterprise network virtualization considerations
  - ❖ Design for infrastructure services
    - Voice
    - Video
    - QoS
  - ❖ Identify network management capabilities in Cisco IOS Software
- ➢ **Design Advanced IP Addressing and Routing Solutions for Enterprise Networks**
  - ❖ Create summary-able and structured addressing designs
  - ❖ Describe IPv6 for campus design considerations
  - ❖ Create stable and scalable routing designs for EIGRP for IPv4
  - ❖ Describe IPv4 multicast routing
  - ❖ Create IPv4 multicast services and security designs
  - ❖ Create stable and scalable routing designs for OSPF for IPv4
  - ❖ Create stable and scalable routing designs for BGP for IPv4
- ➢ **Design WAN Services for Enterprise Networks**
  - ❖ 3.1 Describe Layer 1–3 WAN connectivity options
    - Optical networking
    - MetroEthernet
    - VPLS
    - MPLS VPNs
  - ❖ Describe IPsec VPN technology options
  - ❖ Evaluate WAN service provider design considerations
    - Features
    - SLAs
    - WAN backup
  - ❖ Create site-to-site VPN designs with appropriate technologies, scaling, and topologies
- ➢ **Design an Enterprise Data Center**
  - ❖ Describe data center network infrastructure best practices
  - ❖ Describe the components and technologies of a SAN network
  - ❖ Describe integrated fabric designs using Cisco Nexus technology
  - ❖ Describe network and server virtualization technologies for the data center
  - ❖ Create an effective e-commerce design
  - ❖ Design a high-availability data center network that is modular and flexible
- ➢ **Design Security Services**
  - ❖ Create firewall designs
  - ❖ Create NAC appliance designs
  - ❖ Create IPS/IDS designs
  - ❖ Create remote access VPN designs for the teleworker