CCNA ICND1 Course Outline

Module 1: Build a Simple Network

- Examples of networks Common network components by function
- Characteristics of a network
- Compare and contrast logical and physical topologies
- Interpret network diagrams
- User applications on the network
- Identify the requirements of a host-to-host communication model
- The OSI reference model
- Functions and purposes of the TCP/IP layers
- Peer-to-peer communication
- Encapsulation and de-encapsulation
- Components of a LAN
- Switches Characteristics and features of switches Cisco IOS
- Software Functions and usage of the Command Line Interface (CLI)
- Switch installation and configuration
- Ethernet LAN connection media
- Ethernet frame fields
- Duplex communication
- Troubleshooting switch issues

Module 2: Establishing Internet Connectivity

- Characteristics of IP
- IPv4 components and addresses
- DNS functions Subnets and subnet mask
- ubnetting Role and implementation of VLSM
- Purpose and functions of the TCP/IP transport layer
- Transport
- TCP vs. UDP analogy
- Role, components, and functions of a router
- Router configuration

- Network discovery protocol
- Address Resolution Protocol (ARP)
- Default gateway
- Packet delivery
- Static and dynamic routing
- Access Control Lists (ACLs)
- Standard IPv4 ACLs
- Configure and verify ACLs
- Demarcation point
- DHCP and static addresses
- NAT and PAT configuration and verification

Module 3: Build a Medium-Sized Network
- VLANs and trunking implementation
- Inter-VLAN routing configuration and application
- IOS DHCPv4 server configuration
- Routing protocols
- RIPv2 features and configuration

Module 4: Managing and Securing Network Devices
- Basic security configuration
- Unused ports security
- Port security configuration
- Configure and verify NTP
- Syslog messages and configuration
- ROM functions
- Router boot sequence
- IOS image files
- IOS file systems
- Licenses

Module 5: Introducing IPv6

- IPv4 issues
- IPv6 features and addresses
- IPv6 operation and configuration
- Implementing RIPv2
- Enhancing the Security of the Initial Configuration
- Limiting Remote Access Connectivity
- Securing Device Administrative Access
- Configuring and Verifying Port Security
- Configuring and Verifying NTP
- Implementing Device Hardening
- Configuring Syslog
- Configuring System Message Logging
- Configuring Basic IPv6 Connectivity
- Configuring IPv6 Static Routes
- Implementing IPv6 Static Routing