Implementing and Administering Cisco Solutions (CCNA)

Price	Duration	Delivery Methods
$3,195.00	5 Daytime Classes Or 10 Evening Classes	Virtual, In-Person, Private Group,

CAREER SKILLS+™

The Implementing and Administering Cisco Solutions (CCNA) v2.0 course is designed to equip participants with a wide range of fundamental knowledge required for various IT careers. This extensive training involves lectures, hands-on labs, and self-study components, enabling learners to install, operate, configure, and verify basic IPv4 and IPv6 networks. Participants will gain proficiency in configuring essential network components such as switches, routers, and wireless LAN controllers, managing network devices, and understanding basic security threats. Additionally, the course lays a foundational understanding of network programmability, automation, and software-defined networking, all crucial for modern network management and optimization.

This comprehensive course not only prepares participants for the 200-301 Cisco® Certified Network Associate (CCNA®) exam to earn the coveted CCNA certification but also qualifies them for 30 Cisco Continuing Education Credits towards recertification. The training is structured to cover key topics such as the operation of Cisco IOS software, understanding LANs, Ethernet operations, and configuring Cisco routers and switches. By exploring topics like IPv4 and IPv6, VLANs, OSPF, and network security, participants are well-prepared to handle real-world networking challenges effectively.

Who Should Attend	The course is ideal for entry-level network engineers, network administrators, and support technicians, offering both foundational knowledge and practical skills essential for career advancement in network administration.
Course Objectives	Identify the components of a computer network and describe their basic characteristics
	Understand the model of host-to-host communication
	Describe the features and functions of the Cisco Internetwork Operating System (IOS®) software
	Describe LANs and the role of switches within LANs
	Describe Ethernet as the network access layer of TCP/IP and describe the operation of switches
	Install a switch and perform the initial configuration
	Describe the TCP/IP Internet layer, IPv4, its addressing scheme, and subnetting
	Describe the TCP/IP Transport layer and Application layer
	Explore functions of routing
	Implement basic configuration on a Cisco router
	Explain host-to-host communications across switches and routers
	Identify and resolve common switched network issues and common problems associated with IPv4 addressing
	Describe IPv6 main features and addresses, and configure and verify basic IPv6 connectivity
	Describe the operation, benefits, and limitations of static routing
	Describe, implement, and verify virtual local area networks (VLANs) and trunks
	Describe the application and configuration of inter-VLAN routing
	Explain the basics of dynamic routing protocols and describe components and terms of Open Shortest Path First (OSPF)
	Explain how Spanning Tree Protocol (STP) and Rapid Spanning Tree Protocol (RSTP) work
	Configure link aggregation using EtherChannel
	Describe the purpose of Layer 3 redundancy protocols
	Describe basic WAN and VPN concepts

Describe the operation of access control lists (ACLs) and their applications in the network

Configure Internet access using Dynamic Host Configuration Protocol (DHCP) clients and explain and configure network address translation (NAT) on Cisco routers

Describe basic quality of service (QoS) concepts

Describe the concepts of wireless networks, which types of wireless networks can be built, and how to use Wireless LAN Controllers (WLCs)

Describe network and device architectures and introduce virtualization

Introduce the concept of network programmability and Software-Defined Networking (SDN) and describe smart network management solutions such as Cisco DNA Center™, Software-Defined Access (SD-Access), and Software-Defined Wide Area Network (SD-WAN)

Configure basic IOS system monitoring tools

Describe the management of Cisco devices

Describe the current security threat landscape

Describe threat defense technologies

Implement a basic security configuration of the device management plane

Implement basic steps to harden network devices

Agenda

Exploring the Functions of Networking — Lecture
Introducing the Host-to-Host Communications Model — Lecture
Operating Cisco IOS Software — Lecture
Introducing LANs — Lecture
Exploring the TCP/IP Link Layer — Lecture
Starting a Switch — Lecture
Introducing the TCP/IP Internet Layer, IPv4 Addressing, and Subnets — Lecture
Explaining the TCP/IP Transport Layer and Application Layer — Lecture
Exploring the Functions of Routing — Lecture
Configuring a Cisco Router — Lecture
Exploring the Packet Delivery Process — Lecture
Troubleshooting a Simple Network — Lecture
Introducing Basic IPv6 — Lecture
Configuring Static Routing — Lecture
Implementing VLANs and Trunks — Lecture
Routing Between VLANs — Lecture
Introducing OSPF — Lecture

Building Redundant Switched Topologies — Self-study
Improving Redundant Switched Topologies with EtherChannel — Lecture
Exploring Layer 3 Redundancy — Self-study
Introducing WAN Technologies — Self-study
Explaining Basics of ACL — Lecture
Enabling Internet Connectivity — Lecture
Introducing QoS — Self-study
Explaining Wireless Fundamentals — Self-study
Introducing Architectures and Virtualization — Self-study
Explaining the Evolution of Intelligent Networks — Lecture
Introducing System Monitoring — Lecture
Managing Cisco Devices — Lecture
Examining the Security Threat Landscape – Self-study