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Cisco Implementing & Administering Cisco Solutions (CCNA) Training

Award Winning Training · Applied Technology Academy

The course covers configuring network components such as switches, routers, and wireless LAN controllers; managing network devices; and identifying basic security threats. The course also gives you a foundation in network programmability, automation, and software-defined networking. This course helps you prepare to take the 200-301 Cisco® Certified Network Associate (CCNA®) exam. By passing this one exam, you earn CCNA certification.

LEVEL	DURATION	EXPERIENCE	AVERAGE SALARY	LABS
Beginner	**5 Days**	**None (basic computer & IP literacy recommended)**	**$131,270**	**Yes**

Course Outline

This class includes lecture sections and some self-study sections. In instructor-led classes, lectures are delivered in real-time, either in person or remote. The self-study sections are available online.

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

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- Improving Redundant Switched Topologies with EtherChannel
- Exploring Layer 3 Redundancy (Self-study)
- Introducing WAN Technologies (Self-study)
- Explaining Basics of ACL
- Enabling Internet Connectivity
- Introducing QoS (Self-study)
- Explaining Wireless Fundamentals (Self-study)
- Introducing Architectures and Virtualization (Self-study)
- Explaining the Evolution of Intelligent Networks
- Introducing System Monitoring
- Managing Cisco Devices
- Examining the Security Threat Landscape (Self-study)
- Implementing Threat Defense Technologies (Self-study)
- Securing Administrative Access
- Implementing Device Hardening

Intended Audience

This training is designed for anyone seeking CCNA certification. The training also provides foundational knowledge for all support technicians involved in the basic installation, operation, and verification of Cisco networks.

The job roles best suited to the material in this training are:

- Entry-level network engineer
- Network administrator
- Network support technician
- Help desk technician

Prerequisites

Before taking this course, you should have:

- Basic computer literacy
- Basic PC operating system navigation skills
- Basic Internet usage skills
- Basic IP address knowledge

There are no formal prerequisites for CCNA certification, but you should make sure to have a good understanding of the exam topics.

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Follow-On Courses

- CCNP Enterprise
- Understanding Cisco Wireless Foundations (WLFNDU) 1.0
- Designing Cisco Enterprise Networks300-420 (ENSLD)
- Designing Cisco Enterprise Wireless Networks 300-425 (ENWLSD)

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

Ready to enroll? Call 800.674.3550 or email Info@AppliedTechAc.com — private team cohorts, GSA MAS purchasing, military credentialing funding, VA GI Bill and VR&E and student financing available.