



Skill Set Alignment CCNA1 through CCNA4

The following skill set for CCNA1 through CCNA4 lists the competencies that students learn during these four courses. This curriculum is good preparation for the CCNA certification exam. Employers, Academies, and students may use this document to communicate current knowledge, or to identify skills demonstrated at a work setting. Another valuable use of this information is as a list of proficiencies expected through work experience.

Name of Business/Employer

Name of Student

Street Address

Street Address

City State Zip

City State Zip

Phone

Phone

Employment Supervisor's Name and Position

Skill Set - CCNA Orientation

- Tour facility
- Demonstrate use of emergency equipment current and techniques
- Organize tool kit
- Identification, use, and care for tools
- Construct and analyze linear integrated circuits to manufacturer's specifications
- Build and use oscillators according to circuit requirements
- Construct and analyze digital circuits to meet manufacturer's specifications
- Analyze microprocessors to manufacturer's specifications

Basic Electronics Theory

- Analyze and measure values in direct current circuits to existing tolerance
- Analyze and measure values in alternating circuits to existing tolerances
- Analyze and measure characteristics of diodes and basic power supplies to manufacturer's specifications
- Construct and analyze transistor circuits to manufacturer's specifications

Networking

- Identify and describe the functions of the seven layers of OSI reference
- Describe data link and network addresses
- Identify key differences between data link and network addresses

Electronic Applications for Consumer Electronic Equipment

- ___ Analyze and repair video equipment to manufacturer's specifications model
- ___ Analyze and repair audio equipment to manufacturer's specifications

Applied Digital Concepts

- ___ Identify logic gate construction in a circuit
- ___ Define logic gate construction in a circuit
- ___ List truth tables for gates
- ___ Troubleshoot a logic circuit

Computer Basics

- ___ Understand and use computer terminology
- ___ Identify different processor types
- ___ Add memory and replace motherboards

Computer Hardware

- ___ Disassemble and reassemble a computer
- ___ Use troubleshooting tools to isolate problems
- ___ Perform preventative maintenance to manufacturer's specifications
- ___ Install and use scanners
- ___ Install and use printers
- ___ Use digital camera
- ___ Perform hardware upgrades
- ___ Check an initial configuration using the setup command
- ___ Log in to a router in both user and privileged modes
- ___ Use the context-sensitive help facility
- ___ Use the command history and editing features
- ___ List the commands to load Cisco IOS software from flash memory, TFTP server, ROM

Networking (continued)

- ___ Define and describe function of a MAC address
- ___ List the key internetworking functions of the OSI Network layer
- ___ Describe the two parts of network addressing
- ___ Identify the parts in specific protocol address examples
- ___ Identify the functions of each layer of the ISO/OSI reference model
- ___ Define and explain the five conversion steps of data encapsulation
- ___ Describe the different classes of IP addresses and subnetting
- ___ Identify functions of TCP/IP network-layer protocols

Routers

- ___ Examine router elements (RAM, ROM, CDP, show)
- ___ Describe and identify the differences between connection-oriented network service as well as connectionless network service
- ___ Define flow control and describe the three basic methods used in networking
- ___ Identify the functions of TCP/IP transport layer protocols
- ___ Manage configuration files from the privileged exec mode
- ___ Identify the function performed by ICMP
- ___ Control router passwords, identification, and banner
- ___ Identify the main Cisco IOS software commands for router startup
- ___ List and describe techniques to reduce the number of problems which each routing type encounters when dealing with topology changes
- ___ Configure IP addresses
- ___ Verify IP addresses

Computer Hardware (continued)

- ___ Backup, upgrade and load a backup Cisco IOS software image
- ___ Identify the parts in specific protocol address examples

Computer Software

- ___ Identify and repair common software problems
- ___ Backup software
- ___ Install virus protection and updating
- ___ Manage network setup and operating systems

Employer-specific Skills

Routers (continued)

- ___ Prepare the initial configuration of a router and enable IP
- ___ Add the RIP routing protocol to configuration
- ___ Add the IGRP routing protocol to configuration
- ___ Configure standard access lists to figure IP
- ___ Monitor and verify selected access list operations on the router
- ___ Configure extended access lists to filter IP traffic
