Cisco Certified Entry Networking Technician
100-101 (ICND1)
Course Syllabus
38 Hours

Course Description

The Cisco Certified Entry Networking Technician (CCENT) certification validates the skills required for entry-level network support positions, the starting point for many successful careers in networking. CCENT certified professionals have the knowledge and skill to install, operate, and troubleshoot a small enterprise branch network, including basic network security. It opens doors to a career in networking; having a CCENT verifies that an individual has what it takes to manage a small, enterprise branch network. This course covers the objectives for the exam:

- **100-105 ICND1**

Learning Objectives

Upon completion of the course, students will understand:

- The fundamentals of networks and how the Open System Interconnection (OSI) model divides network communication into seven layers; discovering the TCP/IP networking model and exploring the two foundational transport layer protocols - TCP and UDP
- The key network components you'll find within a network, the common design strategies for topologies, and the key network architecture basics required to configure a functional Enterprise internetwork
- The differences between networking cables and how to address IPv4, including its limitations
- The benefits of subnetting, including achieving more efficient use of address space, increasing security through segmentation, and decreasing the size of collision and broadcast domains
- The features of IPv6 and how it overcomes the limitations of IPv4 by providing more than enough globally unique IP addresses to accommodate every device in the world
- How to install and configure new Cisco devices on a network and explore the different configuration options that are part of IPv4 and IPv6 addressing
- How to troubleshoot methodologies that provide a variety of approaches and how to determine which techniques are best suited for your configuration scenario
- The physical components of Cisco devices - the internal integrated parts provided in some devices, versus the interchangeable options included for others, allowing the addition of further functionality
- Routing (including components) functionality, the routing table, routing protocols, and path selection
- The requirements of periodic maintenance, recovery, or security hardening and the basic needs of hardening and maintaining a router
- How to identify port-security concepts, such as the different violation modes, the need for "switchport port-security", and how to configure a recovery from a violation
- Concepts surrounding how to secure the network, especially at the perimeter, and discovering how to use Access Control Lists to permit or deny access to network resources

Course Format

CCENT is a self-paced, online course delivered through the learning management system Skillsoft. The site to access the coursework is www.ivmfcore.org. Once you have logged into your CORE account, you can locate the coursework by selecting "Coursework" then clicking the Skillsoft logo.

Coursework is delivered through videos, tutorials, and tests. No textbooks are required for the course; however, students are encouraged to utilize additional resources to assist with certification preparation. Resource Guides with lists of supplemental study materials for each certification are available at http://libguide.get-vet.syr.edu/curriculum/ or on the IVMF CORE.

Revised: 11/19/18

Course Completion Requirements

CCENT coursework is due within 90 days from the assignment date. The course hours listed at the top of the syllabus reflect the time it would take to click through the slides and do not account for taking notes or the end of module tests. You must complete all modules listed within the course. Successful completion of a module is marked after you review the lesson videos and score 80% or higher on the end of module tests.

Industry Certification Requirements

In order for the program to fund your CCENT certification exam you will need to meet the CCENT practice exam requirements. Your advisor or O2O program coordinator will provide you with access to the practice exam as well as completion instructions once you have finished the coursework.

Support

- For technical support, please contact Skillsoft Support at support.skillsoft.com
- For course content support, please utilize Skillsoft's mentoring resource titled "Mentoring 100-105 Interconnecting Cisco Networking Devices Part 1 (ICND1)"
- For program support or questions, please contact your advisor or O2O program coordinator

Course Outline

1.1 CCENT: Overview of Networking

1.2 CCENT: OSI Model

1.3 CCENT: TCP/IP Model

1.4 CCENT: Network Components, Topologies, and Architecture

1.5 CCENT: Network Cabling

1.6 CCENT: IPv4 Addressing Part 1

1.7 CCENT: IPv4 Addressing Part 2

1.8 CCENT: Subnetting Part 1

1.9 CCENT: Subnetting Part 2

1.10 CCENT: IPv6 Addressing

1.11 CCENT: Initial Device Configuration

1.12 CCENT: IPv4 Configuration

1.13 CCENT: IPv6 Configuration

1.14 CCENT: Troubleshooting Methodologies

1.15 CCENT: Overview of Cisco Devices

1.16 CCENT: Switching Functions

1.17 CCENT: Discovering Ethernet

1.18 CCENT: Troubleshooting Interfaces and Cables

1.19 CCENT: VLAN Configuration

1.20 CCENT: Interswitch Connectivity