

CIW Internetworking Professional: TCP/IP Internetworking

Course length: 2 days

Course Description

Course Objective: You will identify the architecture and functioning of the TCP/IP protocol suite, so that, as a network professional, you can plan, deploy, and effectively manage a network.

Target Student: This course is targeted at IT professionals who possess a basic understanding of networks and desire to validate their knowledge with the CIW certification. It is also targeted at students who want to understand network administration and gain proficiency in defining the network architecture; identifying infrastructure components; monitoring and analyzing network performance; and designing, managing, and troubleshooting enterprise TCP/IP networks.

Prerequisites: It is required that the students take the following courses or have equivalent knowledge:

- CIW: Internet Business Foundations
- CIW: Site Development Foundations
- CIW: Network Technology Foundations

Course Objectives

Upon successful completion of this course, students will be able to:

- Identify the primary elements of a communication network infrastructure.
- Describe the OSI and TCP/IP models.
- Describe the functioning of the various network access layer protocols.
- Identify the various Internet layer protocols that facilitate effective packet delivery.
- Define IP addressing and IP routing concepts.
- Implement address resolution protocols to enable automatic addressing.
- Identify the various transport layer protocols that facilitate data transmission within a network.
- Identify the various application layer protocols.

Course Content

Lesson 1: Describing Network Infrastructure

Topic 1A: Identify Basic Networking Concepts
Topic 1B: Identify Standard Computer Network Models
Topic 1C: Identify Data Transmission Methods
Topic 1D: Identify Network Switching Techniques
Topic 1E: Define Data Communication Terminologies

Lesson 2: Describing Data Transfer in Network Models

Topic 2A: Describe the Layered Network Architecture
Topic 2B: Describe the OSI Reference Model
Topic 2C: Describe the TCP/IP Model
Topic 2D: Describe Data Transfer in the TCP/IP Model



Lesson 3: Identifying Network Access Layer Protocols

Topic 3A: Identify Data Communication Methods in the Network Access Layer

Topic 3B: Describe Ethernet Protocol Concepts

Lesson 4: Identifying Internet Layer Protocols

Topic 4A: Describe IP Fragmentation

Topic 4B: Describe Internet Control Message Protocol (ICMP)

Lesson 5: Describing IP Addressing and Routing

Topic 5A: Identify Internet Protocol Addressing Techniques

Topic 5B: Describing Custom IP Addresses

Topic 5C: Describe the Routing Process in TCP/IP Networks

Lesson 6: Implementing Address Resolution Protocols in a Network

Topic 6A: Describe Address Resolution Protocol (ARP)

Topic 6B: Describe the Bootstrap Protocol (BOOTP)

Topic 6C: Configure DHCP

Lesson 7: Identifying Transport Layer Protocols

Topic 7A: Describe Transmission Control Protocol (TCP)

Topic 7B: Describe Data Transfer over TCP Connections

Topic 7C: Describe User Datagram Protocol (UDP)

Lesson 8: Identifying Application Layer Protocols

Topic 8A: Configure Domain Name System (DNS)

Topic 8B: Describe NetBIOS Name Resolution Concepts

Topic 8C: Implement File Transfer Protocol (FTP)

Topic 8D: Describe Hypertext Transfer Protocol (HTTP)

Appendix A: Mapping CIW Internetworking Professional: TCP/IP Internetworking to the CIW Internetworking Professional Series – Course 1: TCP/IP Internetworking Objectives

