



Web Foundations Series

Network Technology Associate

Network Technology Associate teaches essential networking technologies and skills, including TCP/IP, stable network creation, wireless networking and network troubleshooting. You will learn to use various network components and protocols that enable users to share data quickly and easily. You will explore the different types of transmission media, and will learn how network architecture and topologies provide for efficient and secure communication. In addition, you will learn about the OSI reference model and its relationship to packet creation, and you will compare and contrast the OSI model with the Internet architecture model.

You will study the functions and features of internetworking server types, and learn about the benefits of implementing a Content Management System (CMS). You will also achieve competency in performing basic hardware and operating system maintenance procedures. In addition, you will learn about mobile computing devices and the importance of RFC documents.

You will also learn about the importance of routing, and will explore IP addressing, IP address classes and subnet masks. Finally, you will explore essential network security concepts, Internet-based challenges facing today's users, and methods you can use to secure networks and network transmissions, including authentication, encryption and firewalls.

Topics

Introduction to Networking

- Overview of Networks and Protocols
- Telephony and Convergence
 - Networking
- Networking Evolution
- Client/Server Model
- Network Operations Center (NOC)
- Networking Categories
- Network Topologies
- Network Operating System
- Microsoft Windows Servers
- UNIX/Linux
- The Need for Protocols
- OSI Reference Model
- Data Encapsulation
- Packets
- OSI/RM Protocol Examples
- TCP/IP
- IPX/SPX
- Binding Protocols
- Local Area Network (LAN)
- Wide Area Network (WAN)
- Internet Exchange Point (IXP)
- Common Network Components
- Transmission Media
- Wireless Network Technologies
- Transmission Types
- IEEE LAN Standards
- T-Carrier System
- E-Carrier System
- SONET/SDH
- Downloading Files with BitTorrent
- Virtualization

TCP/IP Suite and Internet Addressing

- Introduction to TCP/IP
- Internet Architecture
- Requests for Comments (RFCs)
- Internet Protocols
- Demultiplexing
- Introduction to Routing
- Routing Protocols
- Port Numbers
- Internet Addressing
- Subnet Mask
- Internet Address Classes
- Internet Protocol Version 6 (IPv6)
- System Configuration and IP Addresses
- Diagnostic Tools for Internet Troubleshooting

Internetworking Servers

- Overview of Internetworking Servers
- File and Print Servers
- HTTP Server Essentials
- Database Servers
- Proxy Servers
- Mail Servers
- Instant Messaging (IM)
- Mailing List Servers
- Media Servers
- DNS Servers
- FTP Servers
- News Servers
- Certificate Servers
- Directory Servers
- Fax Servers
- Transaction Servers
- Choosing Web Server Products
- Content Management System (CMS)

Hardware and Operating System Maintenance

- Basic Hardware and System Maintenance
- Motherboard
- IRQs, I/O Addresses and DMA
- Mass Storage Device Interfaces
- Network Interface Card (NIC)
- Common Peripheral Ports
- Power Requirements
- Optical Discs
- TV Tuner Card
- HDMI Connections
- Mobile Computing
- Netbooks
- Tablet PCs
- Client Operating System Management
- Software Licensing
- Partitions and Logical Drives
- File System Types
- File System Management Tools
- Troubleshooting Software
- Remote Management and Troubleshooting

Network Security and Personal Privacy Protection

- Importance of Network Security
- Viruses and Worms
- Overview of Network Attack Types
- Defeating Attacks
- Authentication
- Encryption
- Firewalls
- Firewall Topologies
- Security Zones
- Virtual Private Network (VPN)
- Security Audit
- Uninterruptible Power Supply (UPS)
- Personal Privacy and the Internet
- Personal Protection and the Internet



Target Audience

All students preparing to enter or continue in the workforce can benefit from the *CIW Network Technology Associate* course and/or certification:

- High school students
- College students
- Technical/trade school students

Professionals in all industries can benefit from the *CIW Network Technology Associate* course and/or certification:

- IT professionals
- Healthcare professionals
- Legal professionals
- Marketing professionals
- Graphic artists
- Business professionals

Job Responsibilities

Understand the common core of Internet knowledge, and apply the foundation skills required for further specialization.

Prerequisites

No prior experience using the Internet, developing Web pages or configuring networks is necessary. However, students should be familiar with an operating system such as Microsoft Windows before taking this course. The CIW Web Foundations courseware does not provide entry-level computer literacy. Rather, it builds upon computer literacy training and certifications such as Microsoft Office Specialist (www.microsoft.com) and IC3 (www.certiport.com).