

Introduction to Networking Technologies HTS-150

 **TelCom** Technology

Quick View

- ▶ Provides a comprehensive introduction to networking technologies
- ▶ Flexible and Modular Curriculum

System Components

- ▶ Instructor's Guide
- ▶ Workbook
- ▶ Textbook
- ▶ Student Parts Park

Optional Support Material

Instructor Support Module (ISM)


- ▶ Material Required for Lecture
- ▶ Material Required for Each Lab Station
- ▶ Material Covered (Required Support Material and Associated Reading Assignment)
- ▶ Course Objectives
- ▶ PowerPoint Presentations (.ppt and .html versions)
- ▶ Lab Session

Classroom Hours

- ▶ 25 hours

Prerequisites

- ▶ None



Computers are being used in today's homes much like they are being used in businesses -- for everything from financial management to research to design. And as the computer becomes more of an integral part of the home, families are finding that multiple computers are needed to accomplish all tasks at hand, and are networking all of them together. A networked computer provides more security, data space, and at times, mobility (wireless networking). Heathkit Educational Systems (HES) has developed a course, for the HTI Technician, that provides the foundation for configuring and installing a home networking system. Through a series of hands-on experiments and detailed instruction, students will gain the necessary knowledge and skills to successfully network computers for the home.



Introduction to Networking Technologies

Course Objectives

After you complete this course,
you will be able to:

- ▶ Implement password protection.
- ▶ Identify the properties of every local user on the computer.
- ▶ Add new local users to the operating system.
- ▶ Identify where user information and resources are stored on the local computer.
- ▶ Identify the current users and groups on the local computer.
- ▶ Describe the purpose of the Security and Sharing tabs of the Windows XP Pro Properties dialog box on a standalone computer.
- ▶ Explain why sharing is only useful on a network of computers.
- ▶ Explain how to configure the operating system to allow two or more active users.
- ▶ Explain the purpose of a network adapter or NIC.
- ▶ Install and configure a Plug and Play NIC.
- ▶ Enable and disable the integrated network adapter on the motherboard.
- ▶ Access and use the *Local Area Connection Properties* dialog box in Windows XP professional.
- ▶ List three software components required by a network and controlled from the *Local Area Connection Properties* dialog box.
- ▶ Define client and protocol, and explain the purpose of each.
- ▶ Explain the purpose of the NetBEUI, IPX/SPX, TCP/IP, and Appletalk protocols.
- ▶ Change the *client, services, and protocol* of a local area network connection in a Windows XP Pro computer.
- ▶ Use UTP cables and a hub to physically connect computers together in a peer-to-peer network.

Course Objectives

(continued)

- ▶ Configure a Windows XP Pro computer to act as a member of a peer-to-peer network using a hub or router.
- ▶ Describe the client, services, and protocol components of a networked Windows XP computer.
- ▶ Change the computer name and workgroup name of a Windows XP Pro computer.
- ▶ Explain the difference between Security permissions and Share permissions.
- ▶ Explain the difference between full-control access and read-only access.
- ▶ Turn sharing on or off for a particular resource.
- ▶ Access and modify files on a host computer from a remote guest.
- ▶ Find a shared resource using the Universal Naming Convention (UNC).
- ▶ Map and disconnect a network drive.
- ▶ Use computer Management to determine which resources are shared, who is accessing them, and which shared files are open.
- ▶ Implement password protection on a peer-to-peer network.
- ▶ Add users to the system.
- ▶ Explain the difference between a local user and a network user.
- ▶ Identify the current users and groups on the local computer.
- ▶ Describe the purpose of the Security and Sharing tabs of the Windows XP Professional Properties dialog box.
- ▶ Configure the TCP/IP protocol.
- ▶ Use the IPCONFIG to determine the TCP/IP configuration of computers on the network.
- ▶ Use PING to verify the connections to other computers on the network.
- ▶ Explain three ways that TCP/IP can be configured on a Windows XP Professional-based network.

Course Objectives

(continued)

- ▶ Explain the purpose of DHCP.
- ▶ Predict the impact of modifying, adding, or removing DHCP services on resources and users.
- ▶ Recognize the symptoms when a DHCP server is not found.
- ▶ Use the IPCONFIG command to renew or release a DHCP lease.
- ▶ Define wireless LAN, WLAN, Wireless Access Point (WAP), and 802.11b.
- ▶ Specify the speed, access methods, topology, and media of wireless LANs.
- ▶ Install and configure a Wireless Access Point (WAP).
- ▶ Install and configure a Wireless Network Interface Card.
- ▶ Use the Wireless Zero Configuration utilities in Windows XP to make wireless network connections.
- ▶ Modify the SSID of a wireless router, hide the broadcast of that SSID, and configure a client to make a connection with a router that is not broadcasting SSID.
- ▶ Configure a wireless router to use WEP or WPA encryption and then make a connection to that router with a remote host.

Hands-On Experiments

1. Controlling Windows Access
2. Windows Security
3. The Network Interface Card (NIC)
4. Exploring Network Properties
5. The Peer-to-Peer Network
6. Sharing Resources
7. Exploring the Ethernet LAN
8. Implementing Security on Peer-to-Peer Networks
9. Introduction to TCP/IP
10. Dynamic Host Configuration Protocol
11. The Wireless LAN
12. The Secure Wireless LAN