Network Administration

Unit		Objectives
Basic Computer Concepts	1	Demonstrate ethical conduct in everyday procedures (e.g., piracy, licensing, intellectual property, etc.)
	2	Use basic computer terminology correctly
	3	Identify parts of a computer (components and media)
	4	Identify components of input, processing, output, and storage
	5	Compare mainframes, servers, desktops, laptops, and mobile devices
	6	Differentiate between common operating systems, including file systems
	7	Perform basic computer filing tasks (e.g., naming, saving, deleting, and moving files)
	8	Perform basic computer maintenance (including disk maintenance, software updates, and physical cleaning)
Communications	1	Present solutions in a positive, tactful manner
	2	Practice constructive problem solving with customers
	3	Explain concepts of remote access and phone support
	4	Describe software and hardware tools to support individuals with disabilities
	5	Explain the need for network policy documentation
	6	Understand SLAs (Service Level Agreements)
	7	Create basic user and/or network administrator documentation
	8	Demonstrate effective telephone support skills
	9	Demonstrate effective technical correspondence etiquette (including e-mail, text, chat, and work orders)
	10	Present an oral proposal for a network installation
	11	Prepare a written request for proposal
	12	Create technical correspondence
Hardware	1	Verify operation of common peripherals
	2	Install and uninstall common peripherals
	3	Install and configure a network adapter
	4	Install and configure network devices (routers, switches, wireless access points)
	5	Install and configure a modem (dial-up and broadband)
	6	Perform basic hardware upgrades (e.g., hard drive, optical drive, memory, video and sound cards)
	7	Specify internal components for a network server and networking devices (routers, switches, and wireless access points)
	8	Differentiate between routing and switching/bridging
	9	Differentiate between various current protocols (e.g., TCP/IP, DHCP, ARP)
	10	Relate industry standard workstation hardware systems to network performance
	11	Evaluate equipment for purchase
	12	Identify industry standard hardware systems (server, client, and network devices)

Network Administration		
Unit		**Objectives**
Networking Concepts	1	Use networking terminology correctly
	2	Draw, label, and explain functions of networking layers (OSI and TCP/IP)
	3	Identify network devices (routers, switches, access points, etc.)
	4	List the functions of a network operating system (NOS)
	5	Identify types of networks (e.g., LAN, WAN, WLAN, MAN, and SAN)
	6	Identify shared network resources (e.g., hardware, software)
	7	Compare and contrast advantages and disadvantages of network vs. standalone computing
	8	Access shared network resources (e.g., hardware, software files)
	9	Describe capabilities of networking media (copper, fiber, and wireless)
	10	Diagram and explain logical network topologies (e.g., star, bus, ring, broadband, baseband) and their related geometries
	11	Diagram and explain physical network topology (e.g., clients, servers, networking devices, redundancy, ring, star, bus)
	12	Identify types of licensing agreements
	13	Explain current network standards (e.g., IEEE, RFCs, ISO)
Prepare for Employment	1	Demonstrate working as a team
	2	Search the web and other places to locate career-planning information and job opportunities related to networking
	3	Identify careers in the information technology field
	4	Create a resume
	5	Demonstrate appropriate interviewing skills
	6	Demonstrate communication skills
	7	Demonstrate logical thinking
	8	Demonstrate interpersonal skills
	9	Exhibit leadership skills through a student organization (e.g. FBLA, PBL, ACM, SkillsUSA)
Safety	1	List features of an ergonomically correct workstation
	2	Demonstrate using antistatic tools to prevent static discharge
	3	Describe the operation of fire suppression resources including fire extinguishers
	4	Identify electrical, mechanical, chemical, and environmental hazards
	5	Practice workplace safety (e.g., first aid, eye protection, anti-static procedures)
	6	Demonstrate proper use of hand and power tools
	7	Demonstrate proper use of electrically operated equipment including grounding
	8	Demonstrate proper lifting and carrying techniques
Troubleshooting	1	Verify client access to network resources
	2	Utilize existing technical resources for problem resolution (e.g., Internet, technical manuals, e-mail)
	3	Identify sources of electromagnetic and radio frequency interference
	4	Use troubleshooting tools to determine problem areas
	5	Analyze system log files
	6	Perform and interpret diagnostics (both software and hardware)
	7	Troubleshoot software/hardware integration problems