

Network Administration (40-assignment)



This is an integrated instructional module designed specifically to operate within a Modular Program environment. It is ideal for use with our Scantek Technology or IT2020 Information Technology programs. It includes a 10-assignment exploratory curriculum and a further 30-assignment in-depth curriculum. The exploratory curriculum and the in-depth curriculum are each split into two parts. Each part includes a pre-test and post test. The module includes software and curriculum materials sufficient to provide a complete learning experience.

The curriculum incorporates continuous assessment through questions. When used in conjunction with a ClassAct networked management system, this provides instant feedback of student performance. The assessments begin with a comprehensive pre-test. This quiz includes questions for each subsequent assignment, together with questions that will specifically test math and reading ability.

Every assignment starts with a series of questions designed to track inventory. These ensure that any missing items are located before they are needed.

Each assignment is divided into a series of tasks. Hands-on tasks introduce students to computer network administration, and are accompanied by research tasks based upon illustrated textbooks and on-screen applications. Assessment questions are incorporated into each task.

Exploratory Phase Topics:

- Operating systems
- User accounts
- Administering a network
- Performance monitoring
- Backing up data
- User profiles
- Identifying user requirements
- Network models
- Sharing resources
- Configuring workstations
- Network security
- Network policies
- Network implementation
- Network hardware
- Network software
- Client/Server and peer-to-peer networks
- Computer and network uses
- Network requirements

Exploratory Phase activities:

- Exploring computer networks.
- Investigating the idea of file sharing and how to enable it.
- Securing issues relating to file sharing.
- Accessing shared files.
- Investigating how to access a shared printer.
- Investigating a peer-to-peer network.
- Investigating a client/server network.
- Setting and activating a user profile.
- Investigating network monitoring.
- Planning accounts for a company, using knowledge gained throughout the module.

Advanced Specialization Phase topics:

- User and group management
- Group policies
- Network security
- Installing and configuring Windows Server 2003
- Remote administration
- Configuring Internet services (web, FTP, news, and mail servers)
- Network addressing
- Planning and implementation
- Deploying user desktops
- Network shares

Advanced Specialization Phase activities:

- Creating user accounts (using the Active Directory Users and Computers)
- Removing user accounts
- Examining account settings
- Investigating network shares (NetBIOS shares over TCP/IP)
- Creating network shares
- Administering network shares (securing network shares with User Rights)
- Creating network groups (using the Active Directory Users and Computers)
- Administering network groups
- Investigating network policies
- Creating and editing user policies
- Creating and editing client policies
- Investigating login scripts (Windows Batch Files / VBScript / Windows Scripting Host)
- Applying user login scripts
- Creating a user login script
- Customizing the user desktop
- Creating a custom desktop for users
- Examining logoff scripts
- Investigating network security.
- Exploring accounts and passwords
- Investigating security models and factors (password policies and share rights)
- Exploring safe network practices
- Exploring the Management Console
- Examining console snap-ins
- Creating a custom console
- Network addressing
- Investigating TCP/IP
- Investigating address/name resolution
- Investigating DNS
- Investigating IPX
- Exploring News services (NNTP service with IIS)
- Setting up and configuring a news server
- Setting up and configuring a news client
- HTTP services (HTTP service with IIS)
- Setting up and configuring a web server
- Setting up and configuring a web client
- Exploring network services (FTP service with IIS, Telnet Server)
- Setting up and configuring an FTP server and client
- Exploring network services (POP3/SMTP)

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Advanced Specialization Phase activities (continued):

- Installing a network operating system
- Installing Windows Server 2003 (Simulation)
- Configuring a network printer
- Exploring remote Access
- Investigating Windows Terminal Services
- Network Planning and Implementation

Each assignment is designed around a list of performance objectives. These lists include academic, technical, and occupational objectives. The assignments are written in such a way as to enable a student to attain the performance objectives, with the assessment questions linked to these in order to provide a measure of true competency.

The performance objectives are used by the ClassAct management system to generate a comprehensive portfolio of student competency reports. Default reports that are supplied with this module include:

- Entry report
- Technical/Occupational Exit report
- Basic Skills report based upon the federal SCAN's report.

The items supplied with this instructional module include:

- 10-assignment On-Screen Student Assignment Guide CD
- 10-assignment Student Workbook
- 10-assignment Instructor's Guide
- 30-assignment Student Assignment Guide
- 30-assignment Student Workbook
- 30-assignment Instructor's Guide
- Networking Theory and Simulation Software
- Network Administration Reference Guide
- Teach Yourself Networking textbook
- 4-port network hub
- UTP network cables
- Microsoft Windows Server 2003 operating system software

Additional items required:

- Student workstation computer
- Two practice computers, one to be used as a Client computer and the other to be used as a Server computer (refer to the specifications on this page).

Client computer specification:

- Operating System: Windows® XP Professional (*see Notes 1 and 2*)
- CPU: 600 MHz or higher Pentium-compatible CPU.
- Memory: 256 megabytes (MB) of RAM recommended minimum; more memory improves performance.
- Hard Disk: 10GB Hard disk space.
- Drives: Floppy Disk, CD-ROM or DVD drive.
- Display: 800x600 or higher resolution with True Color.
- Peripherals: Keyboard and mouse or compatible pointing device (optional).
- Port: 1 Free USB port.
- Network: Ethernet network adaptor.

Server computer specification:

- Operating System: None required (*see Note 3*)
- CPU: 600 MHz or higher Pentium-compatible Central Processing Unit (CPU).
- Memory: 512 megabytes (MB) of RAM recommended minimum (128 MB minimum supported; 4 GB maximum).
- Hard Disk: 10GB Hard disk space.
- Drives: Floppy Disk, CD-ROM or DVD drive.
- Display: 800x600 or higher resolution with True Color.
- Peripherals: Keyboard and mouse or compatible pointing device (optional).
- Network: Ethernet network adaptor.

Notes

1. Some manufacturers do not supply a Windows XP Professional CD with new computers. It is important that a Windows XP Professional CD is available in the lab at the time the 30-assignment module is installed.
2. It is recommended that Microsoft Windows XP service pack 2 is installed on the Client computer.
3. The Server computer will be installed with Windows Server 2003 as part of the installation of the 30-assignment module.
4. In a lab also containing Network Configuration, in later assignments of Network Configuration, students will connect together all four computers to form one large network. This will be achieved by connecting together the hubs that link each pair of computers. For this reason, the Network Configuration networking computers should be positioned within 13 feet (4 meters) of the Network Administration networking computers, such that a cable can be connected between their hubs without creating a safety hazard (for example, by blocking a walkway).

Module Facts

For Technology Program, order as: ST630/40 Network Administration

For IT Program, order as: NS2C Network Administration

	No.	Average time
Assignments	40	45 minutes
Extension Activities	4	45 minutes
Total		33 hours



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