



Course Description

CTS1328 | Supporting Microsoft Clients | 4.00 credits

This course is intended for students preparing for IT careers as desktop and network support specialists and server administrators, as well as candidates for industry certification. Students will learn how to implement and maintain a Microsoft client operating system. Prerequisite: CGS1060C or Previous Computer Experience.

Course Competencies:

Competency 1: The student will demonstrate how to install the Windows client operating system by:

1. Describing the features of the current Windows client operating system, including versions, architecture, components, boot processes and options, distribution methods, upgrade paths, and migration issues
2. Describing the methods, options, and requirements for a Windows client installation
3. Performing a pre-installation evaluation and determining installation methods
4. Performing an attended and an unattended OS installation
5. Transferring user files, settings, and applications to a new computer
6. Performing a system review and troubleshooting installation issues
7. Documenting the system installation

Competency 2: The student will demonstrate how to configure the Windows client system settings by:

1. Describing the Windows User Interface and demonstrating its use, operation, and features
2. Validating a Windows client installation and performing a system update
3. Installing, configuring, and updating system device drivers
4. Customizing the Windows Desktop, Start Menu, Taskbar, Toolbars and Sidebar
5. Describing the hardware requirements and features of the Windows display system
6. Installing, configuring, and troubleshooting video display adapters and enabling Windows display features

Competency 3: The student will demonstrate how to manage disks, folders, and files for a Windows client by:

1. Describing the various types of disks, partitions, volumes, and file systems used by Windows systems and the disk utilities included in Windows
2. Initializing, partitioning, and formatting disks
3. Converting disk types and creating volumes
4. Managing and maintaining file system permissions
5. Sharing files and folders and controlling user access to data
6. Performing disk management activities, including file system checks, defragmenting, encrypting and compacting
7. Configuring data protection and performing system and data backups

Competency 4: The student will demonstrate how to manage users and groups for a Windows client by:

1. Describing the various types of users and groups, including local and domain users
2. Describing the methods of controlling users' permissions and access to resources
3. Creating, configuring, managing, and troubleshooting user accounts and profiles
4. Creating, configuring, managing, and troubleshooting local groups
5. Configuring and troubleshooting user account control (UAC)
6. Performing administrative tasks such as resetting passwords, modifying group memberships, setting group policies, configuring local policies, and securing the system

Competency 5: The student will demonstrate how to manage device drivers and printers for a Windows client by:

1. Describing the various types of device drivers used by Windows and the utilities used to install, configure, manage, upgrade, and troubleshoot system devices

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2. Describing the device and driver installation process
3. Researching and obtaining device drivers, including verification of digital signatures
4. Configuring driver policies
5. Installing, configuring, and troubleshooting devices requiring third-party drivers
6. Enabling, disabling, updating, and rolling back device drivers
7. Installing, configuring, and troubleshooting local printers
8. Sharing and accessing a local printer and configuring printer security
9. Managing printers and documents, including print access, priority, scheduling, and spooling

Competency 6: The student will demonstrate how to manage the network settings of a Windows client by:

1. Describe the network protocols a Windows client uses and the network tools and utilities provided by Windows
2. Installing, configuring, and troubleshooting Windows network support
3. Connecting a Windows client to a network
4. Configuring a Windows client for membership in a workgroup
5. Joining a Windows client to a domain
6. Configuring and managing local area network connections, including viewing network status, manually configuring TCP/IP settings, using TCP/IP tools, and monitoring network connections

Competency 7: The student will demonstrate how to manage the security features of a Windows client by:

1. Describing the security tools and features in Windows and accessing them to perform a security audit and update
2. Installing, configuring, and monitoring Windows Firewall to block dangerous incoming and outgoing network traffic
3. Installing, configuring, and monitoring Windows Defender to prevent the infiltration of spyware and other malicious software
4. Performing anti-virus and other security scanning and removing malicious software
5. Installing, configuring, and monitoring Windows Parental Controls
6. Installing, configuring, and monitoring Automatic Updates and performing system audits and manual updates
7. Installing, configuring, and monitoring data security measures, including BitLocker and Encrypting File System

Competency 8: The student will demonstrate how to manage Windows Applications by:

1. Describing the applications and other software features in Windows
2. Configuring and troubleshooting Internet Explorer, including management of user preferences, security and privacy settings, RSS feeds and subscriptions, Internet search, and add-ons
3. Configure application compatibility and restrictions

Competency 9: The student will demonstrate how to optimize Windows client performance by:

1. Describing the performance optimization tools and features in Windows and explaining their uses
2. Performing tests and audits to establish and document a system baseline
3. Describing, evaluating, downloading, and deploying Windows updates
4. Performing periodic system monitoring using Event Viewer, system logs, reliability, resource, and performance monitoring tools
5. Performing an analysis, update, and optimization of a poorly performing Windows client

Competency 10: The student will demonstrate how to troubleshoot a Windows client by:

1. Describing common problems that occur in the installation and use of Windows
2. Discussing guidelines and procedures for troubleshooting a Windows client
3. Identifying and resolving system boot and start-up issues and disk problems by using diagnostic and

recovery tools and booting to a Windows pre-installation environment

4. Identify and solve reliability issues using Windows' diagnostic and configuration tools
5. Configuring remote access for troubleshooting remote users

Competency 11: The student will demonstrate how to configure Windows client mobile features by:

1. Identifying settings mobile users require, including battery and power management, display features, data synchronization, input and output devices, and tablet features
2. Installing, configuring, and troubleshooting wireless network access
3. Installing and configuring security measures

Competency 12: The student will demonstrate workplace skills and professionalism by:

1. Describing the roles of the IT support specialist in a business enterprise
2. Describing methods of understanding and managing user's needs and expectations
3. Describing methods of logging incidents and reporting problem resolution
4. Presenting and following oral and written instructions
5. Demonstrating self-motivation and responsibility to complete an assigned task
6. Choosing appropriate actions in situations requiring effective time management
7. Applying principles and techniques for being a productive, contributing team member
8. Identifying and discussing intellectual property rights and licensing issues
9. Identifying and discussing issues contained within professional codes of conduct
10. Using appropriate communication skills, courtesy, manners, and dress in the workplace
11. Documenting problems and solutions in service reports and maintaining support records
12. Explaining the methods and best practices of interviewing end users to determine the symptoms and probable causes of system problems

Learning Outcomes:

- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information
- Use computer and emerging technologies effectively