

Virginia Western Community College
ITN 110
Client Operating System (Windows 10)

Prerequisites

Co-requisite: TEL 150

Course Description

Covers installation, configuration, administration, management, maintenance, and troubleshooting of the desktop client operating system in a networked environment.

Semester Credits: 3 Lecture Hours: 3 Lab/Clinical/Internship Hours: 0

Required Materials**Textbook:**

70-698: Installing and Configuring Windows 10 textbook. ISBN: 978-1-119-33129-2 TBD

Other Required Materials:

70-698: MOAC Labs Online access code. ISBN: TBD

Course Outcomes

At the completion of this course, the student should be able to:

- Prepare for installation requirements
- Installing Windows
- Configure Devices and Device Drivers
- Perform Post-Installation Configuration
- Implement Windows in an Enterprise Environment
- Configure Networking
- Configuring Storage
- Configure Data Access and Usage
- Implement Apps
- Configure Remote Management
- Configure Updates
- Monitor Windows
- Configure System and Data Recovery
- Configure Authorization and Authentication
- Configure Advanced Management Tools

Topical Description

- Lesson 01: Preparing for Installation Requirements
 - Preparing for a Windows 10 Installation
 - Determining Hardware Requirements and Compatibility
 - Choosing Between an Upgrade and a Clean Installation
 - Determining Appropriate Editions According to Device Type
 - Determining Requirements for Particular Features
 - Determining and Creating Appropriate Installation Media
- Lesson 02: Installing Windows
 - Installing and Upgrading to Windows 10
 - Performing a Clean Installation
 - Upgrading to Windows 10
 - Using Native VHD Boot
 - Installing and Booting Windows 10 on a VHD
- Lesson 03: Configuring Devices and Device Drivers
 - Managing Devices
 - Using the Devices and Printers Folder
 - Interpreting Data from Device Manager
 - Managing Driver Packages
 - Installing, Updating, and Disabling Drivers
 - Rolling Back a Driver
 - Configuring Driver Settings
 - Resolving Hardware Issues, Device Issues, and Driver Issues
 - Using the Deployment Image Servicing and Management (DISM) Tool to Add Packages
 - Capturing Images
 - Modifying Images Using DISM
- Lesson 04: Performing Post-Installation Configuration
 - Configuring Windows 10
 - Configuring and Customizing the Start Menu, Desktop, Taskbar, and Notification Settings
 - Using Windows 10 Settings
 - Using Control Panel
 - Configuring System Settings
 - Changing Date and Time
 - Configuring Accessibility Options
 - Configuring Power Settings
 - Configuring Cortana
 - Understanding the Registry
 - Configuring Internet Explorer
 - Managing Cookies and Privacy Settings

- Configuring Security Zones
 - Using Dynamic Security and Protected Mode
 - Configuring SmartScreen Filter and Phishing
 - Managing Add-Ons
- Lesson 05: Implementing Windows in an Enterprise Environment
 - Provisioning with the Windows Imaging and Configuration Designer Tool
 - Activating Windows
 - Implementing Volume Activation using a Key Management Service (KMS)
 - Implementing Active Directory–Based Activation
 - Querying and Configuring Activation States Using the Command Line
 - Configuring Active Directory
 - Understanding Active Directory Components
 - Using Group Policy
 - Configuring and Optimizing User Account Control (UAC)
- Lesson 06: Configuring Networking
 - Configuring IP Settings
 - Exploring IPv4 and IPv6 Protocols
 - Using the Default Gateway
 - Understanding Name Resolution
 - Configuring IP Settings and Name Resolution Settings
 - Configuring Advanced Sharing Settings and Network Locations
 - Troubleshooting IP Network Problems
 - Exploring IPv4 and IPv6 Protocols
 - Using the Default Gateway
 - Understanding Name Resolution
 - Configuring IP Settings and Name Resolution Settings
 - Configuring Advanced Sharing Settings and Network Locations
 - Configuring Wireless Networks and Connections
 - Understanding Wi-Fi-Technology Standards
 - Utilizing Wireless Security
- Lesson 07: Configuring Disks, Volumes and File System Options
 - Configuring Disks, Volumes and File System Options
 - Understanding Disk and Drive Types
 - Using Disk Management to Configure Disks, Volumes, and File Systems
 - Using Windows PowerShell to Configure Disks, Volumes, and File Systems
 - Creating and Configuring VHDs
 - Supporting Storage Pools and Storage Spaces
 - Creating Storage Pools
 - Creating Storage Spaces
 - Configuring Removable Storage Devices
 - Troubleshooting Storage and Removable Devices Issues

- Lesson 08: Configuring Data Access and Usage
 - Configuring File Sharing
 - Configuring File System Permissions
 - Understanding Effective NTFS Permissions
 - Viewing Effective Permissions on a Resource
 - Combining NTFS and Share Permissions
 - Troubleshooting Data Access and Usage
 - Understanding the Windows 10 File Structure
 - Configuring Libraries
 - Configuring Public Folders
 - Configuring HomeGroup Connections
- Lesson 09: Implementing Apps
 - Configuring Applications
 - Configuring Desktop Apps
 - Configuring Windows Features
 - Configuring Startup Options
 - Managing Windows Store Apps
 - Configuring the Windows Store
 - Implementing Windows Store Apps
 - Implementing Windows Store for Business
 - Using Deployment Tools to Deploy Applications
 - Installing Software with Group Policy
 - Sideloaded and Deep Linking Apps
 - Creating Provisioning Packages with ICD
- Lesson 10: Configuring Remote Management
 - Accessing a Computer Remotely
 - Configuring Remote Desktop
 - Configuring Remote Assistance
 - Configuring Remote Management Settings
 - Using Microsoft Management Console to Manage Systems Remotely
 - Using Windows Remote Management
 - Using WinRS.exe
 - Using Remote Windows PowerShell
 - Choosing the Appropriate Remote Management Tool
- Lesson 11: Configuring Updates
 - Configuring and Managing Updates
 - Configuring Windows Update Options
 - Managing Update History and Rolling Back Updates
 - Configuring Windows Update Policies
 - Updating Windows Store Apps
 - Managing the Update Life Cycle

- Implementing Insider Preview
- Implementing Current Branch (CB), Current Branch for Business (CBB), and Long-Term Servicing Branch (LTSB) Scenarios
- Lesson 12: Monitoring Windows
 - Configuring and Analyzing Event Viewer Logs
 - Understanding Logs and Events
 - Filtering Events
 - Adding a Task to an Event
 - Configuring Event Subscriptions
 - Managing Performance
 - Monitoring Performance Using Task Manager
 - Monitoring Performance Using Resource Monitor
 - Monitoring Performance Using Performance Monitor
 - Monitoring System Resources
 - Monitoring Performance Using Data Collector Sets
 - Configuring Performance Alerts
- Lesson 13: Configuring System and Data Recovery
 - Configuring System Recovery
 - Configuring a System Restore
 - Performing a PC Refresh or Reset
 - Configuring a Windows 10 File Recovery Drive
 - Restoring Previous Versions of Files and Folders with Windows Backup
 - Performing a Backup and Restore with WBAAdmin
 - Configuring File History
 - Recovering Files from OneDrive
 - Performing Recovery Operations Using Windows Recovery
- Lesson 14: Configuring Authorization and Authentication
 - Supporting Authentication and Authorization
 - Supporting Multi-Factor Authentication
 - Supporting Passwords, PINS, and Picture Passwords
 - Supporting Digital Certificates and Smart Cards
 - Configuring Biometrics, Windows Hello, and Microsoft Passport
 - Configuring Local Accounts, Domain Accounts, and Microsoft Accounts
 - Authenticating Computers and Users
 - Understanding Kerberos and NTLM Authentication
 - Understanding Access Tokens and Credential Caching
 - Configuring Credential Manager
- Lesson 15: Configuring Advanced Management Tools
 - Configuring Advanced Management Tools
 - Configuring Services
 - Using the System Configuration Utility (MSConfig.exe)

- Configuring Task Scheduler
- Configuring Automation of Management Tasks Using Windows PowerShell

Notes to Instructors

- All instructors are to use the same textbook
- All course sections are to follow the same basic course outline
- All hybrid sections must allow for students to complete the labs during regular class time