



Veterans Training and Employment Program

ADMINISTERING AND MAINTAINING WINDOWS 7

COURSE DESCRIPTION

In this Windows 7 training course, you will gain the knowledge and skills you will need to successfully administer, maintain, and troubleshoot Windows 7 computers.

Upon completion of this course and successfully passing of the certification exam, you will earn the Microsoft Certified Technology Specialist (MCTS) credential and become part of the Microsoft Certified Professional (MCP) community. This credential is recognized as an industry-wide standard for experienced IT professionals. You will receive invaluable experience with installation and applying software upgrades, remote access administration and support, Windows 7 security, and the new desktop environment. You will learn how Windows 7 allows for vast improvements to security, overall system performance, and application compatibility.

LOCATION

VETS Group Training Center
1200 18th St. NW, Suite LL100
Washington DC, 20036

SCHEDULE

M, T, W, TH 4:00pm-8:00pm

LENGTH

3 Weeks (54 hrs)

FEES

TUITION: \$2799.00

STUDENT MATERIALS: \$97.00

*70-680 Windows 7 Configuration text book & lab manual

EXAM: \$150.00

COURSE OUTLINE

OVERVIEW

In this course you will focus on successful configuration of the IT Pro tools and applications that are included with Windows 7. You will learn to identify technical problems that can occur on your organization's client computers, and you will discover the Windows 7 tools used to monitor, maintain and administer those computers. At the conclusion of this course, you will have installed and configured a Windows 7 computer that is secure and has been added to an office network, while focusing on five main troubleshooting areas: operating system, hardware, networking, security, and applications.

This course will prepare you prepare for Exam 70-680 and achievement of the Microsoft Certified Technology Specialist (MCTS) credential.

Who Needs to Attend

Students who have experience with the Windows operating system, and some familiarity with Windows Server and Windows Active Directory along with a desire to secure employment in the Information Technology (IT) field.

Prerequisites

- Familiarity with computer hardware and devices, such as the ability to look into the Device Manager and look for unsupported devices.
- Experience supporting previous versions of the Windows operating system.
- Basic TCP/IP knowledge, such as knowing why you need to have a valid IP address and how to determine the current IP address of a computer.
- Basic Windows and Active Directory knowledge, such as knowledge about domain user accounts, domain vs. local user accounts, user profiles, and group membership.

What You Will Learn

- Describe and choose the various versions of Windows 7.
- Perform a clean install of Windows 7.
- Create an image for deployment.
- Configure hardware devices.
- Configure software for compatibility.
- Configure networking including sharing resources.
- Configure DirectAccess for the network.
- Monitor and configure system performance.

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- Perform backups and configure system restore.

OUTLINE

MODULE 1: Introduction to Windows 7

This module will provide a high level overview of the Windows 7 desktop operating product line. It describes the Windows 7 product line and its features. It also describes the features of the Windows 7 boot process and how to perform a clean installation as well as an upgrade. Finally, this section describes the Windows Server 2008 R2 deployment technologies that you can use with Windows 7.

Lessons

- Evolution of the Windows Desktop Operating System
- Windows 7 Products and Features
- Windows 7 Hardware Requirements and Software Compatibility Tools
- Windows 7 Boot Process
- Windows 7 New Installations and Upgrades
- Windows Server Deployment Technologies for Windows 7

Lab: Installing Windows 7 into Virtual Machine Technologies

- Perform a Clean install of Windows 7
- Navigate, Identify, and Interpret the BCD
- Using Easy Transfer

After completing this module, students will be able to:

- Explain at a high level the evolution of the Windows desktop operating system
- Describe the features of Windows 7 products
- Explain the hardware requirements for Windows 7
- Describe the tools you can use for application compatibility testing
- Explain the Windows 7 boot process
- Install a Windows 7 desktop
- Upgrade to a Windows 7 desktop
- Describe the Windows Server 2008 R2 deployment technologies that are used with Windows 7

Module 2: Configuring and Managing the Windows 7 Desktop

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This module explains how to analyze the new features of the Windows 7 desktop. It also explores the new methodology for performing old tasks in an efficient manner. Understanding fully the Windows 7 desktop will allow you, as a support professional, to better serve your clients because the bulk of client issues stem from basic navigation and basic configuration troubleshooting.

Lessons

- Display Driver Technologies: Windows Vista vs. Windows 7
- Desktop Views: Windows Vista vs. Windows 7
- Personalizing the Desktop to Your Requirements
- Using the Control Panel Utilities to Personalize the Desktop

Lab : Configuring the Windows 7 Desktop

- Computer Personalization
- Control Panel Navigation
- Changing Themes

After completing this module, students will be able to:

- Configure and manage the Windows 7 desktop
- Explain the differences between Windows Vista and Windows 7 display driver technologies
- Explain the differences between Windows Vista and Windows 7 desktop views
- Explain how to personalize the Windows 7 desktop to your requirements
- Use Windows 7 Control Panel utilities to personalize your desktop

MODULE 3: Customizing the Windows 7 User Interface

This module explains how to create and manage Windows 7 user profile. This module introduces the features of Windows 7 user interface and discusses in depth the Windows 7 Aero graphics package . This module will take you through the steps of using Windows 7 Search and Indexing Service, including how to conduct and save searches.

Lessons

- Windows 7 Aero Graphics Package Overview
- Windows 7 User Profiles
- Windows 7 Ease of Access Center
- Windows 7 Search and Indexing Service

Lab : Working with Windows 7 Ease of Access Center and User Profile settings

- Creating Users and Manipulating their Profiles (.MAN)

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- Configure and Use Windows 7 Aero Features
- Working with File and Folder Options
- Using the Ease of Access Center
- Configuring and Managing Windows Search
- Configuring Custom Searches

After completing this module, students will be able to:

- Describe the Windows Aero graphics package and list its hardware and software requirements
- Describe the features of the Windows Aero graphics package
- Explain Windows 7 user profiles
- Describe the features of the Windows 7 Ease of Access Center utility
- Explain the Windows Search and Indexing services

MODULE 4: Windows 7 in the Workgroup Environment

This module explains how to leverage the Windows 7 workgroup features so that you will be able to support the largest segment of computer networks in the market place. In this module you will be introduced to two different network types, the Workgroup and the Domain.

Lessons

- Windows Workgroups and Active Directory Domains
- Joining a Windows 7 Workgroup
- Windows 7 HomeGroups
- Windows 7 Sharing Methods
- Windows 7 Collaboration Infrastructure
- Encrypting File System

Lab : Configuring Windows 7 for the Workgroup

- Configuring the Homegroup
- Create a New Library and Share it with the Homegroup
- Use the Homegroup Troubleshooter
- Using NTFS Encryption
- Backing Up and Restoring Your Encryption Key

After completing this module, students will be able to:

- Define the terms *workgroup* and *domain*
- Join a Windows 7 workgroup
- Configure a HomeGroup
- Explain how to use the Windows 7 HomeGroups to set up data sharing

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- Create a new Windows 7 library
- Describe the Windows 7 collaboration infrastructure
- Describe Windows 7 data sharing
- Configure Windows 7 data sharing
- Describe the Encrypting File System

Module 5: Windows 7 Networking and LAN Connectivity

This module explains how to successfully manage and monitor your networks so they can operate smoothly and efficiently. This module introduces you to the Windows 7 networking technologies as well as networking in general.

Lessons

- Data Networking Defined
- Windows 7 Control Panel: Network and Internet Utility
- Fundamentals of TCP/IP with Windows 7
- Windows Enhancements to IP Version 6
- Role of Network Location Policies with Windows 7

Lab : The Windows 7 LAN

- Configure Windows 7 Branch Cache
- Using the NETSH Command Line Utility to Configure Branch Cache

After completing this module, students will be able to:

- Define data networking
- Describe the features of the Windows 7 Networking Control Panel
- Configure the Windows 7 Networking Control Panel
- Describe the features of the Networking and Sharing Center
- Use the Networking and Sharing Center to configure a Windows 7 network
- Add a Windows 7 desktop to an active network
- Configure IP protocol addressing with Windows 7
- Explain the fundamentals of TCP/IP with Windows 7
- Explain the Windows enhancements to IP version 6
- Configure IP version 6 with the Network and Sharing Center
- Explain the role of Windows 7 within a Branch Cache network
- Explain the role of network location policies with Windows 7

MODULE 6: Implementing Windows 7 in a Server 2008 R2 Active Directory Environment

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This module explains how to utilize the server side technologies that are available with Windows Server 2008 R2 and the enterprise abilities of Windows 7. This information will help you understand the things that you can do in your own network to make your job easier and make your data that much more available and secure.

Lessons

- DNS for Windows Server
- Windows Server 2008 R2 Active Directory
- Windows 7 ADMX Templates
- Windows 7 Group Policy Objects and Types

Lab : Windows 7 in the Domain

- Join the Windows Server 2008 R2 Domain
- Configure a Software Restriction Policy Path Rule
- Configure a Software Restriction Policy HASH Rule
- Configure Server 2008 R2 and Windows 7 Advanced Auditing
- Configure the RSAT Tools
- Using the RSAT Tools
- Configure Default AppLocker Rules

After completing this module, students will be able to:

- Describe at a high level the Domain Name Service for Windows Server
- Define Windows Server 2008 R2 Active Directory
- Join an Active Directory domain
- Configure the Windows 7 local security policy
- Configure Active Directory using the Windows 7 Active Directory tools
- Explain how to use the Windows 7 ADMX templates to pass security configurations
- Describe the Windows 7 group policy object types
- Configure the Windows 7 group policy objects

MODULE 7: Implementing Windows 7 Remote Capabilities and Utilities

This module explains how to connect remote workers to your branch office as well as connect to other Windows 7 machines for helpdesk type duties. You will discuss RSAT (Remote Server Administration Tools), which allows administrators to use their Windows 7 workstations to manage their remote servers with all of the necessary tools.

Lessons

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- Windows 7 Virtual Private Networking Technologies
- Configuring the VPN Client and Connecting to the Server
- Windows 7 DirectAccess
- RDP Version 7 Client Features

Lab : Configure and Manage Remote Access

- Configure Windows 7 and Server 2008 R2 VPN Access
- Configure Routing and Remote Access
- Configure a Windows 7 VPN Connection
- Connect to a Server 2008 R2 RRAS Server with VPN
- Create a VPN Shortcut
- Create an RDP Connection and Connect to a Server 2008 R2 Server
- Configure the Windows Firewall to Support Remote Technologies

After completing this module, students will be able to:

- Describe the Windows 7 VPN technologies
- Configure the Windows VPN connections
- Define Windows 7 DirectAccess networks
- Describe the Windows 7 DirectAccess utility
- Configure the Windows 7 DirectAccess utility
- Describe the features of the RDP version 7 client
- Use the RDP client to connect to a remote computer
- Configure the Windows 7 Firewall to support the RDP client connections

MODULE 8: Windows 7 for Mobile Computers

This module explains how to understand and manage your mobile work force and challenges they face on a daily basis with Windows 7.

Lessons

- Windows 7 Power Management Options
- Windows 7 Backup and Restore Center
- Windows 7 System Image Backup
- Windows 7 Offline Files and Folders Utility
- BitLocker for the Mobile Platform
- Windows 7 Sync Center

Lab : Configure Notebook and Mobility Features

- Create a Custom Windows 7 Power Plan
- Configure all Power Plan Options

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- Use Group Policy to Pass Power Plans to Organizational Units
- Using the Windows 7 Backup and Restore Center
- Configure and Execute Data Backups
- Configure and Execute Data Restorations
- Configure Offline Files and Folders and the Sync Center
- Configure and Use "Previous Versions"

After completing this module, students will be able to:

- Describe the Windows 7 power management options
- Configure the Windows 7 power management options
- Use the Windows 7 Mobility center to manage mobile computers
- Describe the purpose of the Windows 7 Backup and Restore center
- Configure data backups and data restrictions
- Describe the system image backup process
- Configure a Windows 7 computer for a complete system backup and restore process
- Describe the purpose of offline files and folders
- Configure offline files and folders
- Describe how BitLocker is used for the mobile platform
- Configure and manage BitLocker
- Describe the purpose of the Windows 7 Sync Center
- Configure the Windows 7 system repair disk

MODULE 9: Implementing Windows 7 Local, Network and Internet Security

This module explains how to use the various technologies that you can employ to secure your Windows 7 installations, like User Access Control, NAP (Network Access Protection), the Windows firewall and a host of other tools.

Lessons

- Advanced User Account Control Settings
- Server 2008 R2 Network Access Policy Engine
- Configuring the Windows 7 Firewall
- File and Registry Virtualization
- Windows 7 Service Hardening
- Windows Defender
- Windows 7 Dynamic Updates from Microsoft
- Using WSUS to Deploy Windows Updates to Windows 7 Clients

Lab : Configuring and Protecting Data Locally and over the Network

- Configure and Use the User Account Control Mechanism

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- Promote a Windows Server 2008 R2 Server to a Domain Controller
- Configure Network Access Protection on the Server 2008 R2 Server
- Configure Software Update Services Location

After completing this module, students will be able to:

- Describe the advanced User Account Control settings
- Configure the advanced User Account Control settings
- Describe the Server 2008 R2 Network Access Policy engine
- Configure the Windows 7 Network Access Policy settings
- Configure the Windows Firewall features to protect internal access to data
- Describe file and registry virtualization
- Configure the file and registry virtualization feature within the local security policy
- Describe Windows 7 service hardening
- Describe how applications and services interact within Windows 7
- Describe the Windows Defender utility
- Describe the Windows 7 Dynamic Updates from Microsoft
- Describe the Windows Server SUS for Updates feature
- Configure Windows Server SUS for updates
- Configure Windows 7 to use Windows SUS

Module 10: Working with the Windows 7 NTFS File System and Its Features

This module explains how to use NTFS and its corresponding features. You will explore the world of the SID (Security Identifier), including the NTFS permissions, Share permissions versus NTFS permissions.

Lessons

- NTFS Version 6.x Features
- NTFS Security Principals and Identifiers
- Assigning NTFS Permissions
- Secondary Logon Service
- Windows 7 Encryption

Lab : Using Windows 7 NTFS to Technologies Secure your Data

- Configure NTFS Security
- Use the Effective Permissions Utility

After completing this module, students will be able to:

- Define NTFS
- Describe the features of NTFS

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- Describe the purpose of the NTFS security principals and security identifiers
- Describe the purpose of the NTFS permissions
- Configure the NTFS permissions
- Compare and contrast the NTFS and share permissions
- Describe the purpose of the Secondary Logon service
- Describe the Windows 7 encryption process

MODULE 11: Troubleshooting and Monitoring Windows 7

This module explains how to use the Windows 7 Reliability Monitor, the Performance Monitor, and the other utilities to maintain and monitor your Windows 7 network.

Lessons

- Windows 7 Reliability Monitor
- Windows 7 Performance Monitor
- Windows 7 Troubleshooting Tools
- Windows 7 Task Manager
- Windows 7 Problem and Reporting Solutions Utility
- Windows 7 Performance Features
- Other Features of the System Properties Dialog Box
- Windows 7 Administrative Tools

Lab : Configure, Troubleshoot, and Monitor Windows 7

- Use Reliability Monitor
- Use and Navigate the Performance Monitor Utility
- Adding Performance Monitor Counters and Manipulating the Performance Monitor Graphs
- Create and Use Data Collector Sets (User-Defined and System-Defined)
- Using PowerShell Version 2.0

After completing this module, students will be able to:

- Describe the purpose of the Reliability Monitor
- Configure the Reliability Monitor
- Describe the purpose of the Performance Monitor
- Configure the Performance Monitor
- Describe the purpose of the Windows Memory Diagnostic tool
- Use the Windows Memory Diagnostic tool to troubleshoot memory problems on a Windows 7 computer
- Configure the network troubleshooting tools
- Describe the purpose of the MSCONFIG utility
- Use the MSCONFIG utility to troubleshoot a Windows 7 computer

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- Use the Windows Task Manager to manage and troubleshoot a Windows 7 computer
- Configure the Windows Problem Reports and Solutions utility
- Configure the Windows 7 performance options
- Configure the Windows startup and recovery options
- Use the System Restore features to restore a malfunctioning computer to an earlier point in time
- Describe the purpose of each of the Windows 7 Administrative Tools

MODULE 12: Running and Troubleshooting Applications on Windows 7

This module explains how to use Windows 7 and other stand alone utilities for application compatibility, remediation, and mitigation.

Lessons

- Mitigating Application Compatibility Issues
- Windows 7 File and Registry Virtualization Process
- Windows 7 Performance Variables
- Microsoft Virtual PC and XP Mode
- Windows 7 Virtual Hard Drive Mounting Technology

Lab : Working with Windows 7 Applications

- Run and Configure the Program Compatibility Wizard
- Install the Application Compatibility Toolkit
- Run the Standard User Analyzer
- Create, Mount, and Boot a .VHD file
- Use Windows VPC XP Mode
- Install and Use XP Mode Applications

After completing this module, students will be able to:

- Configure the Program Compatibility Wizard
- Use the Program Compatibility Wizard
- Describe the UAC settings for applications
- Describe the purpose of the Standard User Analyzer
- Install and configure the Standard User Analyzer
- Describe the features of the Application Compatibility Toolkit 5.5
- Install the Application Compatibility Toolkit 5.5
- Configure the performance variables that affect applications
- Manipulate the Windows 7 environment variables for legacy applications
- Describe the purpose of the Microsoft Virtual PC with XP mode
- Use the Microsoft Virtual PC with XP mode

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- Describe the Windows 7 VHD mounting process
- Use the Windows 7 VHD mounting process

MODULE 13: Configuring Internet Explorer 8

This module explains how to set up and configure Internet Explorer 8. This module will give you an understanding of the philosophy behind Internet Explorer 8 and be familiar with some of the new and exciting features of IE8.

Lessons

- Setting Up and Configuring IE8
- IE8 Menus and Commands

Lab : Configure and Use Internet Explorer 8

- Configure IE8 During Its First Run
- Configure and Use Internet Explorer 8 Search Features
- Configure Internet Explorer Accelerators
- Configure and Use Internet Explorer Privacy Filters
- Configure Internet Explorer 8 Web Slices

After completing this module, students will be able to:

- Describe the new features of Internet Explorer 8
- Configure the Internet Explorer 8 startup options
- Describe the purpose of the search features
- Use the search features
- Explain the purpose of the Internet Explorer 8 Accelerators
- Configure the Internet Explorer 8 Accelerators
- Describe the features of the Internet Explorer Privacy utilities
- Configure the Internet Explorer Privacy features
- Explain the purpose of the Internet Options configurations and tabs
- Use the Internet Options dialog box to configure Internet Explorer 8

EXAMS

REGISTRATION

Students must register for the exam online at <http://www.register.prometric.com/Menu.asp>.

All Microsoft exams are administered by Prometric, an independent testing organization with more than 3,000 locations worldwide.

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On exam day, it is recommended that candidates arrive at the test center at least 30 minutes before the test is scheduled to begin. Any backpacks, laptops, briefcases, and other personal items must be left at home. The testing center may have small lockers for items that cannot be left behind (such as purses, keys, etc.).

Candidates must present the identification (ID) that was specified upon exam registration. If it is unclear about which forms of ID are required, contact the exam sponsor identified in the registration information. Although requirements vary, IT exam candidates typically must show two valid forms of ID, one with a photo, both with a signature.

FORMAT

Microsoft Certification exams are presented in a wide variety of formats so that the candidate's knowledge and skills can be accurately evaluated. In addition to hands-on lab-based testing, exam formats may include:

- Multiple-choice, single-answer questions
- Multiple-choice, multiple-answer questions
- Active screen questions
- Drag and drop questions
- Build list and reorder questions
- Case studies
- Simulations

Microsoft offers new performance-based testing built on emulation technologies. This format allows the candidate to use any path or tool within a virtual computing environment (whereas simulation technology restricts the candidate to a small number of expected paths). Regardless of the performance-based item type, the candidate is evaluated on the accuracy of the end result, not the path that they took to complete the task.

SCORING

After completion of the exam, the exam software generates the scaled score based on scoring information provided by Microsoft. The bars on the score report show the candidate's relative performance in the various subject areas covered by the exam

The MCTS exam is scaled such that the passing score is 700. The actual cut score (the number of items you need to answer correctly) is determined by a group of subject-matter experts. After completion of the exam, the number of items answered correctly is compared with the cut score to determine whether the result is pass or fail.