

IT109

Microsoft Desktop Operating System

[Onsite]

Course Description:

This course introduces general knowledge and skills required in installation, configuration and management of popular Microsoft operating system(s) for standalone and network client computers.

Prerequisite(s) and/or Corequisite(s):

Prerequisites: TB143 Introduction to Personal Computers or equivalent

Credit hours: 4

Contact hours: 50 (30 Theory Hours, 20 Lab Hours)

Syllabus: Microsoft Desktop Operating System

Instructor: _____

Office hours: _____

Class hours: _____

Major Instructional Areas

1. Functions and basic operations of an operating system
2. Virtual machine and Hypervisor
3. Installation of Microsoft Windows 7
4. Devices, peripherals, disks, and file systems
5. NTFS security and shared folder security
6. Printing
7. Microsoft Internet Explorer connections and security
8. Updates and performance of operating systems
9. Domains, workgroups, homegroups, and user experience
10. Mobile computers with Windows 7

Course Objectives

1. Analyze the major purposes and functions of a typical operating system.
2. Explain how an operating system manages the various types of memory in a computer.
3. Examine the concept of virtual machines.
4. Examine the features of the Windows 7 operating system.
5. Manage the installation and deployment of Windows 7 on a computer.
6. Monitor disks, volumes, and devices to optimize utilities and system performance.

7. Connect a Windows 7 system to a network.
8. Manage NTFS and folder-sharing permissions in Windows 7.
9. Implement the various application services in Windows 7.
10. Apply the various tools used to monitor and manage Windows 7 and optimize performance.
11. Analyze the role of workgroups and domains in network administration.
12. Analyze different techniques to secure a Windows 7 system.
13. Apply the tools used to administer a Windows 7 system.
14. Configure Windows 7 on mobile computers.

SCANS Objectives

SCANS is an acronym for Secretary's Commission on Achieving Necessary Skills. The committee, created by the National Secretary of Labor in the early 1990s, created a list of skills and competencies that the committee feels are necessary for employees to function in a high-tech job market.

1. Identify the components of an operating system and evaluate its relevance.
2. Explain how operating systems work and operate.
3. Acquire data and make the best use of it by managing it with application software.
4. Explain how systems facilitate interactions between users and computers.
5. Explain procedures for using different programming systems.
6. Explain trends in technological changes in systems and deduce how these changes have affected system operations.

7. Determine a set of tools, computers, and programs that will best suit an organization. Make recommendations and include a rationale.
8. Evaluate a decision regarding the system to be used in an organization and other related problems through negotiation with team members.

Course Outline

Note: All graded activities, except the Project, are listed below in the pattern of <Unit Number>.<Assignment Number>. For example, Lab 2.1 refers to the 1st lab activity in Unit 2.

Unit	Activities
1–Operating Systems and Their Functions	Content Covered <i>Operating System Concepts</i> : <ul style="list-style-type: none"> o Chapter 1, “Introduction,” pp. 3-47 o Chapter 2, “Operating-System Structures,” pp. 49-76 Exercises: 1.1 Labs: 1.1
2–The User Interface and VM Basics	Read from <i>Operating System Concepts</i> : <ul style="list-style-type: none"> o Chapter 2, “Operating-System Structures,” pp. 76-98 Quizzes: 1 Exercises: 2.1 Labs: 2.1-2.2
3–Windows 7: Introduction and Installation	Read from <i>Windows 7 Configuration MOAC 70-680</i> : <ul style="list-style-type: none"> o Chapter 1, “Introducing Windows 7” o Chapter 2, “Installing Windows 7” Quizzes: 2 Exercises: 3.1 Labs: 3.1
4–Devices, Peripherals, Disks, and File	Read from <i>Windows 7 Configuration MOAC 70-680</i> : <ul style="list-style-type: none"> o Chapter 4, “Working with Disks and Devices”

Unit	Activities
Systems	Quizzes: 3 Exercises: 4.1 Labs: 4.1
5–Network Connection and Resource Sharing	Read from <i>Windows 7 Configuration MOAC 70-680</i> : <ul style="list-style-type: none"> o Chapter 5, “Connecting to a Network” o Chapter 6, “Sharing Resources” Mid-term Exam Exercises: 5.1 Labs: 5.1
6–Applications Management and System Performance Monitoring	Read from <i>Windows 7 Configuration MOAC 70-680</i> : <ul style="list-style-type: none"> o Chapter 7, “Working with Applications” o Chapter 8, “Managing and Monitoring Windows 7 Performance” Quizzes: 4 Exercises: 6.1 Labs: 6.1
7–Domain Configuration and Computer Security	Read from <i>Windows 7 Configuration MOAC 70-680</i> : <ul style="list-style-type: none"> o Chapter 9, “Working with Workgroups and Domains” o Chapter 10, “Securing Windows 7” Quizzes: 5 Exercises: 7.1 Labs: 7.1
8–Windows 7: Supporting and Troubleshooting	Read from <i>Windows 7 Configuration MOAC 70-680</i> : <ul style="list-style-type: none"> o Chapter 11, “Administering Windows 7” Quizzes: 6 Exercises: 8.1 Labs: 8.1
9–Mobile	Read from <i>Windows 7 Configuration MOAC 70-680</i> :

Unit	Activities
Computers	<ul style="list-style-type: none"> o Chapter 12, “Using Mobile Computers” Quizzes: 7 Exercises: 9.1 Labs: 9.1
10–Windows 7 Deployment to an Enterprise	Read from <i>Windows 7 Configuration MOAC 70-680</i> : <ul style="list-style-type: none"> o Chapter 3, “Deploying Windows 7” Exercises: 10.1 Project
11–Course Review and Final Exam	Final Exam

Instructional Methods

This course will help advance your career by exposing you to the process of installation, configuration and management of a current Microsoft desktop operating system. This course has been designed to examine the functions and features of Windows 7 and to troubleshoot network connectivity and application issues.

Your learning experience and outcome will be directly based on your dynamic use of the textbook and identified reference resources, your performance with all the labs, and your active participation in the classroom interactions. Throughout the course, you will have opportunities to apply and test your knowledge through class interactions with the instructor and among peer students, and by performing various learning activities such as labs, quizzes, assignments, projects and exams. The activities and assignments are practical and directly relate to the objectives of the course.

The classroom session includes teacher-student and student-student interactions exploring concepts and demonstrating procedures and processes. Wherever applicable, the instructor will use real-world examples and scenarios for illustrating the key concepts being introduced. The

lectures are based on the content in the textbook. The lab assignments are designed to enhance the learning of the concepts and procedures covered in the lectures.

Instructional Materials and References

Student Textbook Package

- A custom textbook package that contains the following titles:
 - Silberschatz, Abraham, Greg Gagne, and Peter Baer Galvin. *Operating System Concepts. 8th ed. Hoboken, NJ: John Wiley and Sons, 2009, Selected Chapters 1 and 2.*
 - *Windows 7 Configuration MOAC 70-680. Hoboken, NJ: John Wiley and Sons, 2011.*
- A Lab manual from the following title:
 - *Windows 7 Configuration MOAC 70-680 Lab Manual. Hoboken, NJ: John Wiley and Sons, 2011.*

References

ITT Tech Virtual Library

Log on to the ITT Tech Virtual Library at <http://www.library.itt-tech.edu/> to access online books, journals, and other reference resources selected to support ITT Tech curricula.

Books

You may click “Books” or use the “Search” function on the home page to find the following books.

Books24x7>

- Gookin, Dan. *PCs for Dummies, Windows 7 Edition*. Hoboken, NJ: John Wiley & Sons, 2010.
- McLean, Ian, and Orin Thomas. *MCTS Self-Paced Training Kit (Exam 70-680): Configuring Windows 7*. Redmond, WA: Microsoft Press, 2010.
- Tulloch, Mitch, Tony Northrup, Jerry Honeycutt, and Ed Wilson. *Windows 7 Resource Kit*. Redmond, WA: Microsoft Press, 2010.

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- Warren, Steven S. *virtual machinesware Workstation 5 Handbook*. Hingham, MA: Charles River Media, 2005.

School Of Study

You may click “School Of Study” or use the “Search” function on the home page to find the following resources.

School of Information Technology> Recommended Links>

- Microsoft TechNet
This site offers white papers, downloads, news, discussions, and

frequently asked questions (FAQs) related to Microsoft products.
<http://technet.microsoft.com/en-us/default.aspx> (accessed July 8, 2010).

- **Microsoft Training & Certification**
This Web site provides innovative learning products that enable you to make the most of your investment in Microsoft technology. The products include classroom training, e-learning, certification, Microsoft Press books, skills assessments, and more to serve the needs of customers and partners worldwide.
<http://www.microsoft.com/learning/en/us/default.aspx> (accessed July 8, 2010).
- **Windows Server and Workstation Tips**
Windows IT Pro is a digital community—a gathering of people, content, and resources—focused on Microsoft Windows technologies and applications.
<http://www.windowsitpro.com/> (accessed July 8, 2010)

Other References

The following resources may be found **outside** of the ITT Tech Virtual Library, whether online or in hard copy.

Web sites

- **Microsoft Developer Network**
This Web site provides articles, white papers, interviews, and sample code for software developers using Microsoft products.
<http://msdn.microsoft.com/en-us/default.aspx> (accessed July 8, 2010).
- **Microsoft Server & Tools**
This Web site provides webcasts, labcasts, virtual labs, and podcasts for Microsoft Exchange Server.
www.microsoft.com/servers/home.mspx (accessed July 8, 2010).
- **Operating System Technical Comparison**
This Web site compares operating systems.
<http://www.osdata.com/> (accessed July 8, 2010).
- **The Operating System Resource Center**
This site is a useful collection of documents and papers on a wide range of operating systems topics.
<http://www.nondot.org/sabre/os/articles> (accessed July 8, 2010).

- Windows 7: Home Premium, Professional, and Ultimate Editions

This Web site provides information on Windows 7 releases and upgrades. You can find tours and demos, explore new features, and see how Windows 7 compares with Windows Vista.

<http://www.microsoft.com/WINDOWS/windows-7/default.aspx> (accessed July 8, 2010).

All links to Web references outside of the ITT Tech Virtual Library are always subject to change without prior notice.

Course Evaluation and Grading

Evaluation Criteria Table

The final grades will be based on the following categories:

CATEGORY	WEIGHT
Quizzes	15%
Exercises	10%
Labs	30%
Project	10%
Mid-term Exam	15%
Final Exam	20%
Total	100%

Note: Students are responsible for abiding by the Plagiarism Policy.

Grade Conversion Table

The final grades will be calculated from the percentages earned in the course, as follows:

A	90-100%	4.0
B+	85-89%	3.5
B	80-84%	3.0
C+	75-79%	2.5
C	70-74%	2.0
D+	65-69%	1.5
D	60-64%	1.0

F	<60%	0.0
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(End of Syllabus)