

# **IT221**

## **Microsoft Network Operating System I**

### **[Onsite]**

#### **Course Description:**

The current Microsoft networking server operating system will be the focus of this course. Coverage includes installation, configuration and management of a popular Microsoft network server in relation to its clients and to other servers. Aspects of typical Microsoft client-server network administration functions are discussed.

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

Prerequisite: IT109 Microsoft Desktop Operating System

**Credit hours: 4**

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

## Syllabus: Microsoft Network Operating System I

---

Instructor: \_\_\_\_\_

Office hours: \_\_\_\_\_

Class hours: \_\_\_\_\_

### Major Instructional Areas

1. Installation and Configuration
2. Microsoft Active Directory
3. Domain Name System (DNS)
4. Dynamic Host Configuration Protocol (DHCP)
5. Configuring File and Print Services
6. Maintenance and Monitoring
7. Backing up and Restoring data
8. Application Services

### Course Objectives

1. Install and configure Windows Server 2008.
2. Implement a basic domain structure using Active Directory.
3. Configure Dynamic Host Configuration Protocol (DHCP) server role.
4. Configure Domain Name System (DNS) server role.
5. Implement application services to enable servers to share files, printers, and fax devices.
6. Analyze the process of monitoring and updating Windows Server 2008 infrastructure.
7. Apply various tools and techniques to manage Windows Server 2008 network.
8. Apply various tools used to monitor Windows Server 2008 network and optimize performance.
9. Apply tools used to backup and restore data on a Windows Server 2008 network.
10. Configure various application services in Windows Server 2008.
11. Use the resources on the ITT Tech Virtual Library to analyze various Windows Server 2008 features.

## 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. Demonstrate competence in selecting a technology to achieve desired results.
2. Demonstrate competence to understand the overall intent and proper procedure for setting up and operating machines, which includes computers and programming systems.
3. Demonstrate competence in maintaining and troubleshooting technology, which includes identifying, understanding, and performing routine preventative maintenance.
4. Demonstrate competence in performing the tasks of communicating and interpreting information.
5. Demonstrate competence in using computers to process information, which includes entering, modifying, retrieving, storing, and verifying data and other information.

## 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 1<sup>st</sup> lab activity in Unit 2.

Unit	Activities
1–Windows Server 2008	<ul style="list-style-type: none"> <li>• Content Covered:               <ul style="list-style-type: none"> <li><i>Windows Server 2008 Administrator MOAC 70-646:</i> <ul style="list-style-type: none"> <li>Chapter 1, "Planning Server Deployments" pp. 423-429</li> </ul> </li> <li><i>Network Infrastructure Configuration MOAC 70-642:</i> <ul style="list-style-type: none"> <li>Chapter 1, "Introduction to Networking Concepts" pp.</li> </ul> </li> </ul> </li> </ul>

Unit	Activities
	<p style="text-align: center;">65-80</p> <p style="text-align: center;">Chapter 2, "Installing Microsoft Windows Server 2008" pp. 81-98</p> <ul style="list-style-type: none"> <li>• Labs: 1.1</li> </ul>
2–Active Directory Deployment	<ul style="list-style-type: none"> <li>• Read from <i>Windows Server 2008 Administrator MOAC 70-646</i>: Chapter 3, "Planning an Active Directory Deployment" pp. 513-545</li> <li>• Read from <i>Active Directory Configuration MOAC 70-640</i>: Chapter 5, "Active Directory Administration" pp.1-24</li> <li>• Quiz 1</li> <li>• Labs: 2.1</li> </ul>
3–DHCP Server Role	<ul style="list-style-type: none"> <li>• Read from <i>Windows Server 2008 Administrator MOAC 70-646</i>: Chapter 2, "Planning Infrastructure Services" pp. 468-488</li> <li>• Read from <i>Network Infrastructure Configuration MOAC 70-642</i>: Chapter 3, "Configuring and Managing the DHCP Server Role" pp. 99-120</li> <li>• Quiz 2</li> <li>• Labs: 3.1</li> <li>• Research Assignments: Part 1</li> </ul>
4–DNS Server Role	<ul style="list-style-type: none"> <li>• Read from <i>Windows Server 2008 Administrator MOAC 70-646</i>: Chapter 2, "Planning Infrastructure Services" pp. 488-512</li> <li>• Read from <i>Network Infrastructure Configuration MOAC 70-642</i>: Chapter 4, "Configuring and Managing the DNS Server Role" pp. 121-164</li> <li>• Exam 1</li> </ul>

Unit	Activities
	<ul style="list-style-type: none"> <li>• Labs: 4.1</li> </ul>
5–File and Print Services	<ul style="list-style-type: none"> <li>• Read from <i>Windows Server 2008 Administrator MOAC 70-646</i>: Chapter 5, “Planning File and Print Services” pp. 582-632</li> <li>• Read from <i>Network Infrastructure Configuration MOAC 70-642</i>: Chapter 6, “Configuring File Services” pp. 190-216 Chapter 7, “Configuring Print Services” pp. 217- 242</li> <li>• Quiz 3</li> <li>• Labs: 5.1-5.2</li> </ul>
6–Windows Server 2008 Maintenance	<ul style="list-style-type: none"> <li>• Read from <i>Network Infrastructure Configuration MOAC 70-642</i>: Chapter 8, “Maintaining and Updating Windows Server 2008” pp. 243-266</li> <li>• Quiz 4</li> <li>• Labs: 6.1</li> <li>• Research Assignments: Part 2</li> </ul>
7–Server Management	<ul style="list-style-type: none"> <li>• Read from <i>Windows Server 2008 Administrator MOAC 70-646</i>: Chapter 10, “Managing Servers” pp. 634-680</li> <li>• Exam 2</li> <li>• Labs: 7.1</li> </ul>
8–Windows Server 2008 Monitoring	<ul style="list-style-type: none"> <li>• Read from <i>Windows Server 2008 Administrator MOAC 70-646</i>: Chapter 11, “Monitoring Servers” pp. 681-712</li> <li>• Quiz 5</li> <li>• Labs: 8.1</li> </ul>
9–Backup and Restoration	<ul style="list-style-type: none"> <li>• Read from <i>Windows Server 2008 Administrator MOAC 70-646</i>: Chapter 12, “Backing Up” pp. 713-744</li> <li>• Quiz 6</li> </ul>

Unit	Activities
	<ul style="list-style-type: none"> <li>• Labs: 9.1</li> </ul>
10–Windows Server 2008 Application Services	<ul style="list-style-type: none"> <li>• Read from <i>Windows Server 2008 Administrator MOAC 70-646</i>: Chapter 4, “Planning Application Services” pp. 546-581</li> <li>• Quiz 7</li> <li>• Labs: 10.1</li> </ul>
11–Review and Exam	<ul style="list-style-type: none"> <li>• Exam 3</li> <li>• Research Assignments: Part 3</li> </ul>

## Instructional Methods

The Microsoft Network Operating System I course will help advance your career by helping you acquire skills to successfully design, plan, manage, and troubleshoot a Windows Server 2008 network. You will use the textbook, lab and classroom sessions, and electronic resources, such as CDs and Web references, to speed up and enhance your learning.

Throughout the course, you will get the opportunity to apply and test your knowledge through a multiple part research assignment and quizzes, exams, and labs. The activities and assignments are practical and directly relate to the objectives of the course.

The classroom session will include lectures with demonstration of procedures and illustration of concepts. Whenever possible, instructors will use real-world examples and scenarios for illustrating the objectives being taught. The lectures are based on the content in the course textbook.

The lab assignments are designed to assess you on the concepts and procedures covered during the lecture period.

## Instructional Materials and References

### Student Textbook Package

- A custom textbook from the following titles:
  - *Active Directory Configuration MOAC 70-640. Hoboken, NJ: John Wiley and Sons, 2009.*
  - *Network Infrastructure Configuration MOAC 70-642. Hoboken, NJ: John Wiley and Sons, 2009.*
  - *Windows Server 2008 Administrator MOAC 70-646. Hoboken, NJ: John Wiley and Sons, 2009.*
- Windows Server 2008 Evaluation CD: *This includes Windows Server 2008 Standard, Windows 2008 Enterprise, and Windows Server 2008 Datacenter.*
- Microsoft Official Academic Course Windows Server 2008 Student CD for *Network Infrastructure Configuration MOAC 70-642 and Windows Server 2008 Administrator MOAC 70-646.*
- A custom lab manual from the following titles:
  - *Active Directory Configuration Microsoft Certified Technology Specialist Exam 70-640 Lab Manual*
  - *Network Infrastructure Configuration Microsoft Certified Technology Specialist Exam 70-642 Lab Manual*
  - *Windows Server 2008 Administrator Microsoft Certified IT Professional Exam 70-646 Lab Manual*

### 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

- Russel, Charlie, and Sharon Crawford. *Windows Server 2008 Administrator's Companion*. Redmond, WA: Microsoft Press, 2008.
- Shapiro, Jeffrey R. *Windows Server 2008 Bible*. Indianapolis, IN: Wiley Publishing, 2008.
- Stanek, William R. *Windows Server 2008 Administrator's Pocket Consultant*. Redmond, WA: Microsoft Press, 2008.
- Stanek, William R. *Windows Server 2008 Inside Out*. Redmond, WA: Microsoft Press, 2008.
- Tulloch, Mitch, and the Microsoft Windows Server Team. *Introducing Windows Server 2008*. Redmond, WA: Microsoft Press, 2007.

### 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 FAQs related to Microsoft products.  
<http://technet.microsoft.com/en-us/default.aspx> (accessed March 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. They offer a diverse range of products, including 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 March 8, 2010).

- Windows Server and Workstation Tips  
The 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 March 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  
Provides articles, whitepapers, interviews, and sample code for software developers using Microsoft products.  
<http://msdn.microsoft.com/en-us/default.aspx> (accessed March 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](http://www.microsoft.com/servers/home.mspx) (accessed March 8, 2010).
- Microsoft Windows Server 2008 R2  
This Web site provides information on Microsoft Windows Server 2008 R2, the most advanced Windows Server operating system, designed to power the next generation of networks and applications.  
[www.microsoft.com/windowsserver2008/en/us/default.aspx](http://www.microsoft.com/windowsserver2008/en/us/default.aspx) (accessed March 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:

<b>CATEGORY</b>	<b>WEIGHT</b>
Quizzes	15%
Labs	30%
Exam 1	15%
Exam 2	15%
Exam 3	15%
Research Assignments	10%
<b>Total</b>	<b>100%</b>

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

*(End of Syllabus)*