



## Key Data

Course #: 2278

Number of Days: 5

Format: Instructor-Led

### Certification Exams:

- 70-291: *Managing and Maintaining a Microsoft Windows Server 2003 Network Infrastructure*

Certification Track: MCSE

**This course syllabus should be used to determine whether the course is appropriate for the students, based on their current skills and technical training needs.**

**Course content, prices, and availability are subject to change without notice.**

## Course Syllabus

### *Planning and Maintaining a Microsoft® Windows® Server 2003 Network Infrastructure*

*Elements of this syllabus are subject to change.*

The goal of this five-day course is to provide students with the knowledge and skills necessary to plan and maintain a Windows Server 2003 network infrastructure.

This is the fifth course in the Windows Server 2003 Systems Engineer curriculum.

### Audience

This course is appropriate for individuals employed as or seeking a position as a systems engineer. This course is also appropriate for individuals currently supporting a competitive platform who want to enhance their job skills on Microsoft Windows Server 2003 networking.

The entry criteria for this course include individuals who are:

- IT professionals and new to Windows Server 2003 network implementation.
- Preparing for the Microsoft Certified Systems Engineer (MCSE) certification.

### At Course Completion

After completing this course, students will be able to:

- Plan a TCP/IP physical and logical network.
- Plan and troubleshoot a routing strategy.
- Plan a Dynamic Host Configuration Protocol (DHCP) strategy.
- Optimize and troubleshoot DHCP.
- Plan a Domain Name System (DNS) strategy.
- Optimize and troubleshoot DNS.
- Plan and optimize Windows Internet Naming Service (WINS).
- Plan, optimize, and troubleshoot IPsec network access.
- Troubleshoot network access.

### Prerequisites

Before attending this course, students must have completed Course 2277, *Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure: Network Services*, or have equivalent knowledge and skills.

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# Course Outline • Planning and Maintaining a Microsoft® Windows® Server 2003 Network Infrastructure

## Student Materials

The student kit includes a comprehensive workbook and other necessary materials for this class.

## Module 1: Introducing Windows Server 2003 Network Infrastructure Planning, Tools, and Documentation

This module explains the process of planning a network, and the tools and documentation you need to do so.

Lessons
<ul style="list-style-type: none"><li>▪ Introducing the Network Design</li><li>▪ Planning a Windows Server 2003 Network Infrastructure Project</li></ul>

After completing this module, students will be able to:

- Explain the concepts of a network design process.
- Explain the components of a network planning project.

## Module 2: Planning and Optimizing a TCP/IP Physical and Logical Network

This module explains how to plan a TCP/IP physical and logical network.

Lessons
<ul style="list-style-type: none"><li>▪ Planning a Functional TCP/IP Solution</li><li>▪ Evaluating Network Performance</li></ul>
Lab A: Planning and Optimizing a TCP/IP Physical and Logical Network

After completing this module, students will be able to:

- Plan a TCP/IP addressing scheme.
- Optimize network performance.

## Module 3: Planning and Troubleshooting Routing and Switching

This module explains how to plan a routing and switching strategy, and how to troubleshoot routing and switching.

Lessons
<ul style="list-style-type: none"><li>▪ Selecting Intermediate Devices</li><li>▪ Planning an Internet Connectivity Strategy</li><li>▪ Planning Routing Communications</li><li>▪ Troubleshooting TCP/IP Routing</li></ul>
Lab A: Planning and Troubleshooting Routing

After completing this module, students will be able to:

- Create a secure routing and switching plan.

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- Identify TCP/IP routing troubleshooting tools.
- Troubleshoot TCP/IP routing and switching.

### Module 4: Planning, Optimizing, and Troubleshooting DHCP

This module explains how to plan a DHCP strategy.

<b>Lessons</b>
<ul style="list-style-type: none"><li>▪ Planning a DHCP Strategy</li><li>▪ Securing a DHCP Solution</li><li>▪ Optimizing DHCP</li><li>▪ Troubleshooting DHCP</li></ul>
<b>Lab A: Planning a DHCP Strategy</b>
<b>Lab B: Troubleshooting DHCP Issues</b>

After completing this module, students will be able to:

- Plan a secure DHCP strategy.
- Optimize DHCP.
- Troubleshoot DHCP.

### Module 5: Planning a DNS Strategy

This module explains how to plan a DNS strategy for your enterprise.

<b>Lessons</b>
<ul style="list-style-type: none"><li>▪ Planning DNS Servers</li><li>▪ Planning a Namespace</li><li>▪ Planning Zones</li><li>▪ Planning Zone Replication and Delegation</li><li>▪ Integrating DNS and WINS</li></ul>
<b>Lab A: Planning a DNS Strategy</b>

After completing this module, students will be able to:

- Plan a DNS server implementation.
- Plan a namespace strategy.
- Plan zones.
- Plan zone replication and deletion.
- Integrate DNS and WINS.

### Module 6: Optimizing and Troubleshooting DNS

This module provides guidelines and strategies for optimizing a DNS server, and details steps for troubleshooting a DNS server.

<b>Lessons</b>
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- Optimizing DNS Servers
- Troubleshooting Host Name Resolution

### Lab A: Troubleshooting DNS

After completing this module, students will be able to:

- Optimize a DNS server.
- Optimize DNS server-to-server communications.
- Optimize DNS client support traffic.
- Troubleshoot host name resolution.

### Module 7: Planning and Optimizing WINS

This module covers planning and optimization of WINS, including information on optimizing servers and detailed explanations of optimization tasks.

#### Lessons

- Planning a WINS Solution
- Identifying WINS Optimization Requirements
- Optimizing WINS Traffic

### Lab A: Planning and Optimizing WINS

After completing this module, students will be able to:

- Plan a WINS solution.
- Identify WINS optimization requirements.
- Optimize WINS traffic.

### Module 8: Planning and Troubleshooting IPSec

This module explains how to plan an Internet Protocol Security (IPSec) deployment, and covers the necessary tools and skills for troubleshooting IPSec.

#### Lessons

- Understanding Default Policy Rules
- Planning an IPSec Deployment
- Troubleshooting IPSec Communications

### Lab A: Troubleshooting IPSec

After completing this module, students will be able to:

- Discuss IPSec.
- Understand IPSec default policies, rules, and settings.
- Plan IPSec deployment.
- Troubleshoot IPSec.

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### Module 9: Planning Network Access

This module explains how to plan network access.

Lessons
<ul style="list-style-type: none"><li>▪ Introducing Network Access</li><li>▪ Selecting Network Access Connection Methods</li><li>▪ Selecting a Remote Access Policy Strategy</li><li>▪ Selecting a Network Access Authentication Method</li><li>▪ Planning a Network Access Strategy</li></ul>
Lab A: Planning Network Access

After completing this module, students will be able to:

- Explain the requirements and authentication protocols for a network access strategy.
- Apply the guidelines for selecting a network access connection strategy.
- Apply the guidelines for selecting a remote access policy strategy.
- Select a network access authentication method.
- Plan a network access strategy.

### Module 10: Troubleshooting Network Access

This module explains how to troubleshoot network access.

Lessons
<ul style="list-style-type: none"><li>▪ Troubleshooting Network Access Resources</li><li>▪ Troubleshooting LAN Authentication</li><li>▪ Troubleshooting Remote Access</li></ul>
Lab A: Troubleshooting Network Access

After completing this module, students will be able to:

- Identify network access troubleshooting resources.
- Explain how to troubleshoot local area network (LAN) authentication.
- Explain how to troubleshoot remote access.

### Module 11: Planning a Windows Server 2003 Network Infrastructure

This module explains the course capstone lab. The capstone lab provides students with the opportunity to plan, implement, and troubleshoot the network infrastructure for a branch office.

Lessons
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## **Course Outline • Planning and Maintaining a Microsoft® Windows® Server 2003 Network Infrastructure**

- Introducing Planning Documentation
- Preparing Development and Test Environments
- Managing and Maintaining the Environment

### **Lab A: Planning a Windows Server 2003 Network**

### **Lab B: Planning and Maintaining a Windows Server 2003 Network**

After completing this module, students will be able to:

- Identify the components of the master project plan.
- Explain the process for preparing development and test environments.
- Explain how to manage and maintain the network infrastructure.

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