

ITMC 1055

Course Syllabus

1. Name of Course: Planning and Maintaining a Microsoft Windows Server 2003 Network Infrastructure

2. Number of Clock Hours: 48

3. Course Description:

The goal of this course is to provide students with the knowledge and skills necessary to plan and maintain a Windows Server 2003 network infrastructure. MOC 2278.

Prerequisites: MCSA Win2K3 certification.

4. Course Objectives

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.

5. Rationale:

Upon completion of this course, students will have a better understanding of Microsoft Windows 2003, the most popular operating system in use today.

6. Required Materials:

Microsoft Official Curriculum, MOC 2278, included.

7. Evaluation

Those who participate in class discussions, complete course lab work, and miss no more than three class meetings will be awarded 4.8 continuing education units.

8. Course Outline

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

- Introducing the Network Design
- Planning a Windows Server 2003 Network Infrastructure Project

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

- Planning a Functional TCP/IP Solution
- Evaluating Network Performance

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

- Selecting Intermediate Devices
- Planning an Internet Connectivity Strategy
- Planning Routing Communications
- Troubleshooting TCP/IP Routing

Lab A: Planning and Troubleshooting Routing

After completing this module, students will be able to:

- Create a secure routing and switching plan.
- 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.

Lessons

- Planning a DHCP Strategy
- Securing a DHCP Solution
- Optimizing DHCP
- Troubleshooting DHCP

Lab A: Planning a DHCP Strategy

Lab B: Troubleshooting DHCP Issues

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.

Lessons

- Planning DNS Servers
- Planning a Namespace
- Planning Zones
- Planning Zone Replication and Delegation
- Integrating DNS and WINS

Lab A: Planning a DNS Strategy

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.

Lessons

- 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.

Module 9: Planning Network Access

This module explains how to plan network access.

Lessons

- Introducing Network Access
- Selecting Network Access Connection Methods
- Selecting a Remote Access Policy Strategy
- Selecting a Network Access Authentication Method
- Planning a Network Access Strategy

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

- Troubleshooting Network Access Resources
- Troubleshooting LAN Authentication
- Troubleshooting Remote Access

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

- 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.