

Course Outline
MSFT-277
Implementing, Managing and Maintaining a Microsoft
Windows Server 2003 Network Infrastructure
3 semester hours

HOWARD COMMUNITY COLLEGE

Description

This course provides students with the knowledge and skills to configure, implement, manage, and maintain a Microsoft Windows Server 2003 network infrastructure. Students will learn to implement, manage, and maintain server networking technologies. These tasks include implementing routing; implementing, managing, and maintaining Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); securing Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; implementing a network access infrastructure by configuring the connections for remote access clients; and managing and monitoring network access. Prerequisite: MSFT-273 (3 hours lecture, 1 hour lab)

Overall Course Objectives

Upon completion of this course, the student will be able to:

1. Describe the Transmission Control Protocol/Internet Protocol (TCP/IP) protocol architecture.
2. Convert Internet Protocol (IP) addresses between decimal and binary.
3. Calculate a subnet mask.
4. Create subnets using Variable-Length Subnet Mask (VLSM) and Classless Inter-Domain Routing (CIDR).
5. Configure a host to use a static IP address.
6. Assign IP addresses in a multiple subnet network.
7. Describe the IP routing process and configure a host to obtain an IP address automatically.
8. Configure a host so that automatic private IP address configuration is disabled.
9. Configure a host to use name servers.
10. Isolate common connectivity issues.
11. Configure routing by using the Routing and Remote Access service.
12. Allocate IP addressing by using Dynamic Host Configuration Protocol (DHCP).
13. Manage and monitor DHCP.
14. Resolve names and resolve host names by using Domain Name System (DNS).
15. Manage and monitor DNS.
16. Resolve network basic input/output system (NetBIOS) names by using Windows Internet Naming Service (WINS).
17. Secure network traffic by using IPSec and certificates
18. Configure, manage and monitor network access.

Major Topics

- I. Review of the Suite of TCP/IP Protocols
- II. Assignment of IP Addresses in a Multiple Subnet Network
- III. Configuration of a Client IP Address
- IV. Configuration of a Client for Name Resolution
- V. Isolation of Common Connectivity Issues
- VI. Configuration of Routing by Using Routing and Remote Access
- VII. Allocation of IP Addressing by Using DHCP; Managing and Monitoring DHCP
- VIII. Resolving Names and Resolving Host Names by Using DNS

- IX. Managing and Monitoring DNS
- X. Resolving NetBIOS Names by Using WINS
- XI. Securing Network Traffic by using IPSec and Certificates
- XII. Configuring, Managing and Monitoring Network Access

About Certification Curriculum at HCC

When a student takes a certification course at HCC, that student usually receives more instruction time than they would receive in other formats. Therefore, while taking certification courses at HCC, the student may expect not only instruction from certification materials but additional academic and practical exercises and course work to better equip the student not only for the corresponding certification exam but for eventual utilization in their professional endeavors.

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will include the following: two quizzes or exams and one lab activity.

Other Course Information

This course is a Network Administration core course. This course is also intended for students who wish to become a Microsoft Certified Systems Engineer on Windows Server 2003. It will provide the needed foundation to pass Microsoft Certification Exam 70-291.