Las Positas College
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Course Outline for CNT 56

IMPLEM WINDOWS NETWORK INFRAS

Effective: Fall

I. CATALOG DESCRIPTION:
CNT 56 — IMPLEM WINDOWS NETWORK INFRAS — 3.00 units

This course will enable students to install, configure, manage, and support a network infrastructure that uses the Microsoft Windows Server products. The course focuses heavily on TCP/IP and related services including DHCP server, DNS server, WINS, network security protocols, Public Key Infrastructure (PKI), Internet Protocol Security (IPSec), and remote access. This course also enables a student to configure Windows as a network router, configure Internet access for a network, configure a Web server, and manage a Windows deployment using Remote Installation Service (RIS). The student will also learn to enable network connectivity between NetWare, Macintosh, and UNIX networks.

2.50 Units Lecture 0.50 Units Lab

Strongly Recommended
CNT 54 - Administering Windows Client
and

CNT 55 - Installing & Configuring Windows Server MCSA I

Grading Methods:
Letter or P/NP

Discipline:

	MIN
Lecture Hours:	45.00
Lab Hours:	27.00
Total Hours:	72.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 2

III. PREREQUISITE AND/OR ADVISORY SKILLS:

Before entering this course, it is strongly recommended that the student should be able to:

A. CNT54
B. CNT55

IV. MEASURABLE OBJECTIVES:

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

A. analyze information and develop theories about interdependencies in a Windows network infrastructure;
B. understand connectivity issues between operating systems including NetWare, Macintosh and UNIX;
C. explain the differences between intranets and extranets and describe the situations in which each would be used;
D. implement the automation of Internet Protocol (IP) address;
E. configure a DNS client, WINS client, and DHCP client;
F. use group policies to deploy and manage software in a Windows environment;
G. use troubleshooting tools such as Network Monitor;
H. understand and implement Simple Network Management Protocol (SNMP);
I. install and configure RIS and create an RIPrep image;
J. resolve network connectivity problems;
K. resolve TCP/IP problems;
L. troubleshoot routing problems.

V. CONTENT:
A. Introduction to Microsoft Windows Networking Infrastructure
1. Overview of Windows network infrastructure
2. Introduction to Intranets
3. Identifying remote access methods
4. Providing Internet Access
5. Introduction to Extranets

B. Implementing, Configuring, and Troubleshooting Networking Protocols
C. Automating IP Addressing
    1. Overview of Dynamic Host Configuration Protocol (DHCP)
    2. Installing the DHCP service
        a. Authorizing DHCP service
        b. Creating and configuring a scope
        c. Customizing DHCP functionality
        d. Configuring DHCP in a routed network
D. Implementing Name Resolution Using DNS and WINS
    1. Overview of the DNS query process
    2. Installing DNS server services
    3. Integrating DNS/WINS and DHCP
    4. Maintaining and troubleshooting DNS/WINS
    5. Enhancement of DNS/WINS design for security
    6. Enhancement of DNS/WINS design for availability
E. Configuring and Supporting Remote Access
F. IP Routing in Windows networks
G. IP Security
H. Extending Remote Access Capabilities Using Internet Authentication Service (IAS)
I. Remote Installation Services (RIS)
J. Configuring Internet Protocol Security (IPSec)

VI. METHODS OF INSTRUCTION:
A. **Lecture** -
B. **Demonstration** -
C. Internet research
D. **Lab** - Laboratory assignments
E. **Discussion** -

VII. TYPICAL ASSIGNMENTS:
A. Research the Internet Engineering Task Force (IETF) and write a one-page report on the work the IETF has accomplished. B. Assume that you work for an insurance company. The insurance company wants to get into the business of writing policies that cover business losses associated with disasters that damage computer equipment. In lay terms, explain to the insurance company's management the difference between client computers and servers and why a company without a disaster recovery plan is a high-risk client. Establish a checklist that the insurance company can use to determine if a client is a high-risk client or a low-risk client.

VIII. EVALUATION:
A. **Methods**

B. **Frequency**

IX. TYPICAL TEXTS:
1. Caudle and Glenn *MCSE Guide to Microsoft Windows 2000 Networking*., Course Technology, 2001.
2. Microsoft Corporation *MCSE Training Kit: Microsoft® Windows® 2000 Network Infrastructure Administration*., Microsoft Press, 2000.

X. OTHER MATERIALS REQUIRED OF STUDENTS:
A. Computer Lab Supplies Certificate