NVCC COLLEGE-WIDE COURSE CONTENT SUMMARY
ITN 116
Windows 2003 Network Infrastructure Implementation, Management, & Maintenance   (3 cr.)

Course Description

ITN 116 – This course focuses on the proper implementation and management of a Windows 2003 Server network infrastructure. The focus is primarily on design and implementation rather than administration. Design topics include DNS implementation, NetBIOS implementation, security implementation, TCP/IP implementation, backup and recovery implementation, and PKI implementation. Lecture 3 hours per week.

Recommended Co-requisites or Pre-requisites

ITN 101
College level reading and writing ability

Course Objectives

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

- Design and implement a DNS infrastructure
- Design and implement a NetBIOS infrastructure
- Design and implement TCP/IP on an internetwork
- Design and implement a security infrastructure
- Design and implement a PKI (Public Key Infrastructure)
- Design and implement an Internet connectivity strategy

Course Content

- DNS infrastructure
- NetBIOS infrastructure and name resolution
- DNS and NetBIOS combination
- TCP/IP implementation
- Security implementation
- PKI implementation
- NAT (Network Address Translation), Firewall, and Proxy Services implementation

Student Learning Outcomes

DNS infrastructure
- Design and implement DNS zones and domains
- Design and implement DNS delegation
- Design and implement zone transfers
- Implement proper resource records for a zone
- Design DNS security
- Integrate a local DNS with DNS Servers on the Internet
- Integrate DNS name resolution with other name resolution techniques

NetBIOS infrastructure and name resolution
- Understand and design a NetBIOS name resolution to support DNS
- Understand the limitations of NetBIOS Naming
- Implement WINS (Windows Internet Naming Service)
DNS and NetBIOS combination
- Integrate DNS and NetBIOS
- Implement HOSTS and LMHOSTS files as necessary
- Integrate DNS and DHCP services

TCP/IP implementation
- Design and implement proper TCP/IP on Servers and workstations
- Understand all TCP/IP settings on a workstation
- Implement TCP/IP using DHCP

Security implementation
- Implement security based on a given set of criteria
- Implement IPSec (IP Security)
- Implement Windows Security Templates
- Implement SMB (Server Message Block) security
- Implement remote access (RAS) security
- Implement web security (SSL)

PKI implementation
- Understand and implement a PKI
- Understand certificates
- Understand Public/Private key concepts

NAT (Network Address Translation), Firewall, and Proxy Services implementation
- Define and implement NAT using Windows 2003
- Define a Firewall and implement a simple firewall strategy
- Understand Proxy services and differences between it and NAT
- Implement a simple Proxy Server