

COURSE INFORMATION

COURSE PREFIX/NO: **IST 253**
COURSE TITLE: **LAN Service and Support**
LEC HRS/WEEK: 3.0
LAB HRS/WEEK: 0.0
CREDIT HRS/SEMESTER: 3.0

[DL ATTENDANCE/VA STATEMENT](#)
[TEXTBOOK INFORMATION](#)

COURSE DESCRIPTION

This course focuses on installing, maintaining, and troubleshooting local area networks in a lab environment.

COURSE COMPETENCIES

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

Module I – Networking Concepts and Resource Management

1. Describe the Windows 2000 networking architecture and use the Microsoft Management Console
2. Install new hardware on a computer running Windows 2000, update the operating system, manage client access licenses, and troubleshoot boot problems
3. Work with basic and dynamic disks, implement disk quotas, and manage the compression and encryption of files and folders
4. Share drives, folders, and printers with network users, and control access to these shared resources by assigning share and NTFS permissions
5. Install and manage network printers

Module II – Monitoring and Managing network Users and Security

6. Use the Performance Console, Task Manager, and Event Viewer to monitor server and network health and security
7. Plan and configure Windows 2000 auditing
8. Create and maintain user objects in Active Directory, and create user profiles
9. Create group objects in Active Directory to organize users and simplify the process of assigning access permissions
10. Control network users and workstations using group policies.
11. Publish shared folders and printers in Active Directory, redirect special folders, and use group policies to deploy software on the network
12. Create sites and subnets, and configure and troubleshoot intersite Active Directory replication
13. Manage Active Directory object and container permissions, locate and move Active Directory objects, delegate administrative control of organizational units (OUs), and troubleshoot Active Directory

Module III - Protocol Management and Design

14. Describe the TCP/IP protocol suite, install and configure a Microsoft TCP/IP client, and use TCP/IP utilities to test a network and troubleshoot communication problems
15. Explain how DHCP works, install and configure a DHCP server, and troubleshoot DHCP
16. Explain the Windows name resolution process, install a WINS server, configure a Windows 2000 WINS client, use static mappings, and configure a WINS proxy agent
17. Describe the DNS process, install the Domain Name System (DNS) service, create zones, manage resource records, and troubleshoot DNS
18. Create and administer Web sites and File Transfer Protocol (FTP) sites, create virtual directories, and manage site security; and troubleshoot IIS using Internet Information Services (IIS)
19. Configure and enable Windows 2000 Routing and Remote Access, configure a VPN server and a VPN client, configure Routing and Remote Access to use network address translation (NAT), enable Internet Connection Sharing (ICS), and install Terminal Services and the Terminal Services Licensing server using Windows 2000 remote access technology,
20. Back up a network using the backup hardware and software as well as the various backup types and strategies, and back up and restore Active Directory data using the Windows 2000 backup program.

COURSE REQUIREMENTS

All students are responsible for attaining competencies through completion of the following course requirements:

- attending class
- reading assigned material
- completing assigned exercises
- completing lab assignments
- completing all tests

ATTENDANCE POLICY

The attendance policy as stated in the York Technical College Handbook will be enforced. Attendance is required on test days unless the student has a doctor's excuse, death notice, etc., indicating an unusual circumstance for absence. If you know you must be absent on a test day, make arrangements with the instructor to take the test before the absence.

ACADEMIC INTEGRITY

The policies stated in the York Technical College Handbook will be enforced. Any student violating the policy will be subject to academic discipline. Anyone caught cheating will automatically get a 0 grade for the assignment.

GRADING SCALE

Chapter Tests	24%	A	90 - 100
Labs	12%	B	80 - 89
Hands-on Tests	24%	C	70 - 79
Final Exam	30%	D	60 - 69
Attendance/Part.	<u>10%</u>	F	Below 60
Total	100%		

ENTRY-LEVEL SKILLS

The student should be familiar with Windows NT environment. The student must be able to read and comprehend assigned material.

PREREQUISITES

IST 251 or IST 252 with a minimum grade of "C."

CO-REQUISITES

N/A

METHOD OF INSTRUCTION

The instructor will discuss the principles introduced in each chapter and demonstrate the methods described there. The student will reinforce this lecture material by reading the textbook as assigned. During this course the student will be given opportunities to practice on a microcomputer the skills being learned by doing lab assignments. These lab assignments will be vital in learning to use sample software packages, and the student should expect to spend time outside the class period as well as time given during class to complete this work. Student will have an opportunity to review solutions in class. Should a student need additional assistance, a tutor will be available, as will instructors during their posted office hours.

This course is divided into three modules. Modules must be completed in order. Students may exempt any of the three modules by completing both the theory and hands-on exam with a score of at least 80% on each exam. Below is a list of the modules:

Module 1	Networking Concepts Resource Management	20 Points
Module 2	Monitoring and Managing Network Users Security	20 Points
Module 3	Protocol Management Design	20 Points
Final Exam	Comprehensive	30 Points
Other	Attendance and Participation	10 Points

EVALUATION STRATEGIES/GRADING PROCEDURE

A minimum of three tests and five labs will be given covering the above competencies. These tests and the lab work determine the final semester grade as described below. A minimum grade of C is required for students in computer technology programs.

If a student takes and passes the Microsoft Certification Exam 70-218 after the course has begun and before the final exam is given, the student will exempt the final exam. This does not exempt the student from completing all labs, module written exams, and hands-on exams.

COURSE OUTLINE

Module 1

- I. Networking with Microsoft Windows 2000
 - II. Managing Client and Server Computers
 - III. Managing Storage Resources
 - IV. Managing NTFS Permissions
 - V. Sharing Drives and Printers
- Written and Hands-on Exam

Module 2

- VI. Monitoring Server Health and Security
 - VII. Managing Active Directory User and Computer Objects
 - VIII. Managing Active Directory Group Objects
 - IX. Using Group Policies
 - X. Managing Resources with Active Directory Service
 - XI. Replicating Active Directory
- Written and Hands-on Exam

Module 3

- XII. TCP/IP Administration
 - XIII. Dynamic Host Configuration Protocol
 - XIV. Windows Name Resolution
 - XV. Domain Name System
 - XVI. Managing Internet Information Services
 - XVII. Remote Client Access
 - XVIII. Disaster Recovery and Prevention
- Written and Hands-On Exam