
COURSE PREFIX/NO:	IST 260
COURSE TITLE:	Network Design
LEC HRS/WEEK:	3.0
LAB HRS/WEEK:	0.0
CREDIT HRS/SEMESTER:	3.0

[Distance Learning Attendance/VA Statement](#)
[Textbook Information](#)

COURSE DESCRIPTION

This course is a study of the processes and techniques required to identify the most attractive design solution of a telecommunications network—combining creativity, rigorous discipline, analysis, and synthesis—while emphasizing the solution in terms of cost and performance.

COURSE COMPETENCIES

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

Module I – Server Planning and Deployment, DNS, DHCP, and Design an Active Directory Infrastructure

- Describe the purpose of DHCP
- Configure a DHCP server
- Manage and monitor a DHCP database
- Describe the name resolution process
- Install and configure DNS
- Describe DNS zones and zone transfers
- Use system logs to troubleshoot and monitor DNS
- Create forests and domains

Module II – Planning Application, File and Print, Storage Solutions

- Deploy File and Print servers
- Share File and print services
- Plan server storage and deploy a Storage Area Network

Module III – Planning for High Availability, Securing Infrastructure Services

- Enhance Application availability
- Use Clustering and Network Load Balancing
- Secure servers and network access
 - o Build Firewalls
 - o Describe network security protocols used for authentication
 - o Employ security configuration tools
- Route and Remote Access
- Plan and using Certificates

Module IV – Managing, Monitoring, and Backing up Servers

- Use Remote Administration
- Update servers using WSUS
- Use Event Viewer
- Manage processor, memory, disk, and network performance
- Plan a backup strategy
- Create a backup
- Perform file and system restores

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. Makeup tests will not be given for theory tests. If a student must miss a theory test, he/she will get a zero for that test. However, students have the option of taking the comprehensive final. The student's grade on the comprehensive final will replace his/her missed theory test grade. It is the student's responsibility to schedule a time for a makeup hands-on test with his/her instructor.

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.

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 computer 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. The student will have an opportunity to review solutions in class. Should a student need additional assistance, instructors will be available during their posted office hours.

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. No makeup tests will be given except for the hands-on component of the course. **If a student passes the current Microsoft Certification Exam after the course has begun and before the final exam is given, the student will exempt the final exam.** Passing the Microsoft Certification Exam does not exempt the student from completing all labs, written module exams, and hands-on exams. A minimum grade of C is required for all students in computer technology programs.

GRADING SCALE

Module I	Tests 60% Homework/Labs 40%	Percent of Final Grade 25%
Module II	Tests 60% Homework/Labs 40%	Percent of Final Grade 25%
Module III	Tests 60% Homework/Labs 40%	Percent of Final Grade 25%
Module IV	Tests 60% Homework/Labs 40%	Percent of Final Grade 25%

LETTER GRADES

A	90 – 100
B	80 – 89
C	70 – 79
D	60 – 69
F	Below 60

ENTRY-LEVEL SKILLS

The student must have keyboarding ability and know the fundamentals of the Windows operating system. The student must be able to read and comprehend the assigned material.

PREREQUISITES: IST 251 or IST 252 with a minimum grade of “C”

CO-REQUISITES: None

DISABILITY STATEMENT: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Office (SRO) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.