
Course Prefix/Number: IST 254
Course Title: Centralized Network Management
Lecture Hours/Week: 3.0
Lab Hours/Week: 0.0
Credit Hours/Semester: 3.0

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

COURSE DESCRIPTION

A study of how SNMP (simple network management protocol) and the network management console can work together to create a network managed by a central console. Working with CMIP/CMIS (common management information protocol/common management information services) software including tracking of hardware/software configuration, installation of desktop application from a central location, receiving/forwarding alerts, etc.

COURSE COMPETENCIES

Upon successful completion of this course, the student should be competent to perform the following tasks:

Module 1 – Organizational Analysis of Security and Network Planning

- Identify the three pillars of information security
- Describe company assets, threats, and vulnerabilities
- Identify lessons learned from historical attacks
- Analyze risks associated with network management
- Determine ways of reducing network management risks
- Design a management infrastructure

Module 2 – Network Design and Security Structure

- Design a security solution, including an audit policy, the placement and inheritance of security policies, an EFS strategy and an authentication strategy, which includes certificate-based authentication Kerberos authentication, clear-text passwords digest authentication, smart cards, RADIUS and SSL Authentication methods
- Design a PKI which includes designing CA hierarchies and integrating third-party CAs and mapping certificates
- Design a Windows network services security which includes DNS, RIS, Terminal Services and SNMP
- Identify and develop ACLs for groups in a Windows Domain

Module 3 – Application Network Security Design

- Create a security solution for access between networks which includes providing secure access to public networks from a private network; providing external users with secure access to private network resources; providing secure access between private networks, including secure access within a LAN, a WAN, and across a public network; and designing security for remote access users.

- Create a security solution for access in a heterogeneous network environment, which includes providing interoperability between Windows and heterogeneous networks
- Create an application-level security plan, which includes implementing server message block (SMB) signing to provide authenticity and integrity of transmitted data and to prevent impersonation.
- Create an Internet Protocol Security (IPSec) security plan, which includes designing an IPSec encryption scheme, implementing an IPSec management strategy, designing IP filters, and defining security levels
- Create a security implementation plan, which includes defining a security policy; designing the steps required to develop a security plan, including defining the scope, the project team, the security requirements and security baselines, and deploying the project plan; and developing a maintenance strategy

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 make-up 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. 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 34%
Module II	Tests 60% Homework/Labs 40%	Percent of Final Grade 33%
Module III	Tests 60% Homework/Labs 40%	Percent of Final Grade 33%

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.