

York Technical College

Course Syllabus

Course Information

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 3 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

Minimal Standards/Performance Objectives

Students must read the assigned material prior to class and complete all assignments. The instructor will discuss the concepts and demonstrate the methods as appropriate. Students must participate in independent as well as team activities. Students may exempt a module by completing both theory and performance pre-assessments, if applicable, with a score of at least 80% on each assessment. Students who do not exempt the modules through pre-assessment must complete each module, learning activities, and post-assessment. Computer Technology students must attain a grade of "C" or better in this course for the degree and certificates.

Course Requirements*Attendance*

The student will attend class as stated in the York Technical College Handbook's attendance policy. Online students will participate in discussions and complete all assigned activities in a timely manner as evidence of virtual class attendance.

Academic Integrity

The student is bound by the policies stated in the York Technical College Catalog and Handbook. A student violating these policies will be subject to academic discipline.

Evaluation Strategies and Grading

Grades will be based on the average of the three module assessments.

The following scale will be the standard:

Score:	Grade:
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
<60	F

Final Grade:

Module 1 Assessment		% Module Grade	Course Grade
Theory/Performance Test	100	70%	
Homework & Learning Activities	100	20%	
Discussions	<u>100</u>	<u>10%</u>	
Module Grade		100%	33.3%
Module 2 Assessment		% Module Grade	
Theory/Performance Test	100	70%	
Homework & Learning Activities	100	20%	
Discussions	<u>100</u>	<u>10%</u>	
Module Grade		100%	33.3%
Module 3 Assessment		% Module Grade	
Theory/Performance Test	100	70%	
Homework & Learning Activities	100	20%	
Discussions	<u>100</u>	<u>10%</u>	
Module Grade		100%	33.3%
Final Grade			100.0%

Entry Level Skills

Keyboarding ability and fundamentals of the Windows operating system.

Prerequisites

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

Co-Requisites

None