

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: ITN 262

Credits: 4

Course Title: Network Communication, Security and Authentication

Course Description

Explores indepth various communication protocols with a concentration on TCP/IP. Discusses communication protocols from the point of view of the hacker in order to highlight protocol weaknesses. Includes Internet architecture, routing, addressing, topology, fragmentation and protocol analysis. Includes the use of various utilities to explore TCP/IP. Prerequisite: ITN 261 or school approval. Lecture 4 hours per week.

General Course Purpose

This course covers advanced network security techniques.

Course Prerequisites/Corequisites

ITN 261 or school approval

Course Objectives

Upon completing the course, the student will be able to:

- a. explain the Internet architecture.
- b. explain Risk Analysis and Network Security Policy.
- c. explain Disaster Recovery Planning.
- d. explain Network Encryption and Hashing.
- e. explain Virtual Private Networks (VPN).
- f. explain Digital Signatures and Public Key Infrastructure.
- g. explain Wireless Security.

Major Topics to be Included

- a. The Internet, Network Architecture and topology
- b. Major TCP/IP Protocols
- c. Network security principles
- d. Passwords and password selection
- e. Encryption principles
- f. Public and Private Networks
- g. Virtual Private Networks
- h. Digital Signature
- i. Wireless Security

Effective Date of Course Content Summary: 9/25/2008