

TCN-5080 Secure Telecommunications Transactions

Catalog Description

Telecom and information security issues such as: digital signatures, cryptography as applied to telecom transactions, network policing, nested authentication, and improving system trust. (3 credits)

Prerequisites

TCN-5030 or permission of the instructor.

Type

Required for MSTN

Course Objectives

This course provides an in-depth understanding of the threats, principles, and mechanisms in network security. Students will study cryptographic algorithms and their applications in security protocols in different layers of the Internet protocol stack. Students will also learn to determine appropriate security mechanisms for specific network applications.

Topics

Symmetric Key Encryption

Public Key Encryption

Hash Functions

Message Authentication Code

Digital Signatures

Authentication Protocols

IP Security

Email Security

Web Security

Firewalls

Textbook

Charlie Kaufman, Radia Perlman, and Mike Speciner, Network Security: Private Communication in a Public World (2nd Edition), Prentice Hall, 2002.

William Stallings, Cryptography and Network Security (5th Edition), Prentice Hall, 2010.

Matt Bishop, Introduction to Computer Security, Addison-Wesley, 2004.

Last Update

Deng Pan 8/30/2012