Global Learning Semesters
Course Syllabus
Course: COMP-477 Network Security
Department: Computer Science
Host Institution: University of Nicosia, Nicosia, Cyprus

Course Summary		
Course Code	**Course Title**	**Recommended Credit Hours**
COMP-477	Network Security	3
Semester Offered	**Contact Hours**	**Prerequisites**
Please contact us	42-45	COMP -358, COMP -354, COMP -455
Department	**Level of Course**	**Language of Instruction**
Computer Science	Upper Division	English

Course Description

The primary objective is to enhance students' understanding of basic issues, concepts, principles, and mechanisms in information security. The main goal of this class is to have an in depth knowledge of security vulnerabilities, goals, and techniques to be able to develop a comprehensive solution to protect networks, operating systems, and networked applications. The class examines the following topics: Security goals and threats to networking infrastructure and applications, introduction to cryptography, network security applications, system security applications, exposure to commercial as well as research security technologies

Prerequisites

COMP -358, COMP -354, COMP -455

Topic Areas

1. Background. Review of networking technologies and the Internet.

2. Security Introduction. Security Properties and Services Network security threats and counter measures. Authentication and security handshakes pitfalls. Security Policy.

3. Cryptography. Secret key cryptography, Hashes and message digests, Public key cryptography, Information hiding.

4. Authentication Applications. Authentication Systems Digital signatures and certificates, Kerberos and X.509v3 digital certificates.

5. Web and Mail security. Security standards-SSL/TLS and SET. PGP and S/MIME for electronic mail security.

6. Network Security. IP security, Attacks to routing infrastructures and counter measures.

7. System security. Virus/worm detection, firewalls, intrusion detection, Hacking and forensics.

Readings and Resources

Required Textbooks

- William Stallings, Network security essentials: applications and standards, Second Edition, Prentice Hall, ISBN: 0-13-035128-8, 2003.