

## **COSC 6389 Computer and Network Security**

Instructor: R.M. Verma, Office: PGH 532, Tel: 3-3348.

### **Recommended Textbook (not required)**

- Cryptography and Network Security by W. Stallings, Pearson Education, Sixth Edition, 2014.

### **References**

- Foundations of Security by N. Daswani, C. Kern and A. Kesavan, Apress, 2007 or later.
- Applied Cryptography by B. Schneier, Wiley, 1996 or later.

### **Goals**

- To provide computer science graduate students with a broad understanding of security issues in computer systems and networks.

### **Topics covered include (but are not limited to) the following:**

- Cryptography: secret key, public key and digital signatures.
- Authentication and identification schemes
- Security of electronic mail including spam and Phishing
- Software security issues including Buffer Overflow, SQL Injection
- Internet security issues including SSL/TLS protocols
- Viruses, Worms and Trojans
- Firewalls
- Protocol Design and Verification
- Intrusion detection
- Practical Issues - Guest lectures by System Administrator

**Grading criteria - subject to change:** Class participation 3%, Assignments 20%, Quiz 1 (Oct. 10) 15%, Quiz 2 (Nov. 26) 35%, term paper 18% and presentation 9%.

**Laptop/Cellphone/Pagers Policy:** All laptops, cellphones, and pagers (beepers, etc.) should be off in class, otherwise they may, at the instructor's discretion, be confiscated for the duration of the class period on first offense, until the next class on second violation and until the end of the semester on the third violation.

**Academic Honesty Policy:** Collaboration with anyone or anything in or outside the course is prohibited on any homeworks, exams and programming assignments (yes, that excludes the internet as well) unless specifically and explicitly allowed by the instructor. The *appropriate* help of the instructor and (if applicable) the TA is of course allowed and encouraged.

**Submission Guidelines:** Nothing should be submitted via email unless you are explicitly asked by me to do so.

Any file submitted via email must be named as follows:

1. No spaces or punctuation symbols are allowed in the file name except for a period.
2. File name must begin with XYnnnn, where X and Y are the initials of your first name and last name respectively and nnnn are the last 4 digits of your Student ID.
3. After the digits should be short descriptor such as hw1 for homework 1 and then the period and type of file (txt, pdf, etc.).

**Inside** the file it is very important to include: your name, the purpose of the submission and the date and time you are submitting the file.