

# CNT 5410

## Fall, 2012

### Syllabus

Course Title: Computer and Network Security  
Credits: 3  
Instructor: Ye Xia  
Office: CSE E538  
Tel: 352-505-1571  
Office Hours: Friday, 1pm – 3pm  
Email: [yx1@cise.ufl.edu](mailto:yx1@cise.ufl.edu)  
Course URL: [http://www.cise.ufl.edu/~yx1/teaching/CNT5410\\_F12/index.htm](http://www.cise.ufl.edu/~yx1/teaching/CNT5410_F12/index.htm)

Class Room: NEB 201  
Class Hours: Tue 8-9 Periods, 3:00-3:50pm, 4:05-4:55pm,  
Thu 9 Period, 4:05-4:55pm

TA: Chen, Min  
TA Office: E309  
Office Hours: 4-5pm, Monday and Wednesday  
Email: [minchen.ufl@gmail.com](mailto:minchen.ufl@gmail.com)  
Phone: 352-327-2008

#### Textbook:

- Network Security - Private Communication in a Public World, Second Edition, by Charlie Kaufman, Radia Perlman, and Mike Speciner, Prentice-Hall

#### Other Books:

- Applied Cryptography, Second Edition, by Bruce Schneier, John Wiley & Sons, Inc.
- Network Intrusion Detection, Third Edition, by Stephen Northcutt and Judy Novak, New Riders Publishing

#### Objectives:

This course studies the concepts and the protocols of computer and network security. We will cover (1) the basics of cryptography, including secret key cryptography, hashes and message digests, and public key cryptography; (2) security protocols, including Kerberos, PKI, IPSec, and SSL/TLS; (3) network intrusion detection: selected topics on attacks and defense techniques; (4) recent advance in network security, e.g., topics on DDoS, worms and wireless security.

#### Course Outline Topics:

Introduction to Computer and Network Security  
Cryptography  
Secret Key Cryptography  
Hashes and Message Digests

- Public Key Cryptography
- Authentication Systems
- Standards
  - Kerberos
  - Public Key Infrastructure
  - IPSec
  - SSL/TSL
- Network Intrusion and Defense
  - Network-based Attacks
  - Traffic Analysis
- Recent Advance in Network Security
  - Distributed Denial of Service
  - Internet Worms
  - Wireless Security

**Grading:**

Project .....	30%
Homework.....	10%
Mid-term Exam .....	25%
Second Exam .....	35%

**Exam Policy:**

There will be two exams; both will take place in class. They will be close-book exams.

The date for the mid-term exam will be announced later.

The second exam date is **Dec. 4**.

**Homework Policy:**

There will be 3 to 5 homework assignments. Students will work individually on the homework.

The due date for each assignment will be given at the time it is posted on the course web page. Homework will be collected at the start of the class on the due date. Late submissions will face 30-point reduction (out of 100), and will be accepted until one week after the original due date.

**Project Policy:**

There will be one project, which consists of multiple parts and multiple due dates. Students will work in teams of 1–3 persons. The due dates for the project will be given when the project assignment is posted on the course web page. Late submissions will NOT be accepted.

**Re-grading Policy:**

Re-grading requests for the homework assignments, project, and the midterm exam will be considered only before the date of the second exam.

**EDGE Students (off-campus only):**

**Homework and Project Assignments:** Please retrieve the homework and project assignments from the course web page, and submit your homework and project on the regular due dates.

Homework submissions: Please email me and cc the TA.

Project submissions: Please write a detailed instruction on how the TA can test your project.

You can work on the project alone.

**Exams:** Please get to know the procedure to take your exams. You should have a proctor to administer your exams. Please check with your proctor before your exam dates and make sure he/she knows how to get a copy of the exam.

Please prepare to take each exam within three days after the posted exam date for on-campus students, but as early as possible to avoid delay in getting your grade. You need to schedule the exam time with your proctor.

Please ask your proctor to scan your exam solutions and email them to me.