

CS 5473 Computer Security

Winter, 2016

General information:

Instructor: Dr. Ruizhong Wei (AT 5021, Ex. 8227)

E-mail: rwei@lakeheadu.ca

Time and location: TTh 10:00-11:30 am, AT 2021

Office hours: Tuesdays 2:30 - 3:30, AT 5021

Description:

This course investigates several important security topics in computer science. The topics may change from year to year. This year the following topics will be covered:

- Operating System security: process security, memory and filesystem security, application program security, access control, role-based access control.
- Distributed-Application security: Virtual private networks, Database Security, Sensitive data, payment system security, digital-rights management, social networking, voting system.
- Sensor network security: Secure routing protocol, key managements, trust based certificates, key distribution, key establishment.

Materials:

Based on lecture notes. Some materials will be from Internet or other resources distributed in class or by emails. The course web is also a resource of reading materials.

The students registered for CS 5473 will be requested to read some supplemental materials. Students will be requested to write technique reports. The details of reports will be distributed in separated sheet.

Reference books:

- W. Stallings, Network and internetwork security, Prentice Hall.
- M.T. Goodrich and R. Tamassia, Introduction to Computer Security, Addison Wesley, 2011.
- A. Boukerche (edt.), Algorithms and protocols for wireless and mobile ad hoc networks, John Wiley& Sons.

Assignments:

There will be 4 - 5 assignments in this term. Assignments may include some projects and research paper reading. Late assignments will be penalized and will not be accepted after 3 days.

Quizzes: There will be 4 - 5 short quizzes during lectures. The purpose of a quiz is for understanding lecture materials.

Examinations:

The regulation of examinations and related matters is described on university Calendar.

Course grade:

To determine the final grade of the course, the following weights will be applied:

- Assignments: 40%
- Midterm exam: 20%.
- Quizzes and reports: 20%
- Final exam: 20%

Course web page:

Some course information, supplemental materials and lecture notes will be put on the page:

<http://ccc.cs.lakeheadu.ca/cs5473.html>

Students are recommended to reference the web from time to time.