

CSC 490 Special Topics - Computer and Network Security

Spring 2008
M 6:00-8:30pm, Science Building

Instructor: Dr. Xiao Qin

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Class Web Page

Homeworks and announcements are posted on the class web page:
<http://www.eng.auburn.edu/~xqin/courses/csc490>

Handout, assignments, and important course information will be posted periodically on the class web page, which you have to regularly check.

Objectives

Students who have completed this course should be capable of doing the following:

- learn how access to systems, resources, and data can be controlled;
- understand the strengths, and weaknesses of cryptography as a tool of security;
- learn about security in UNIX and programming environments;
- learn how to attack a system, and to defend it by analyzing the system for vulnerabilities;
- understand security issues in networks;
- learn how to write basic security-related programs.

Textbook

Matt Bishop, "Introduction to Computer Security" by Addison-Wesley Professional, 2004, ISBN: 0321247442.

Topics Covered

Topics covered include: (These topics may change.)

- Basic components of computer security
- Integrity models
- Authentication
- Malicious logic
- Robust programming principles
- Classical Cryptography
- System Analysis
- Principles of Secure Design
- Vulnerability Models

- High-Level Policy Languages
- Network Security
- Key Exchange
- Comparison of the Models

Exams and Grading

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|------------|-----|
| Mid-term | 30% |
| Final Exam | 30% |
| Homework | 40% |

Scale

Letter grades will be awarded based on the following scale. This scale may be adjusted upwards if it is necessary based on the final grades.

A+ \geq 97 A \geq 93 A- \geq 90 B+ \geq 87 B \geq 83 B- \geq 80 C+ \geq 77 C \geq 73 C- \geq 70 D+ \geq 67 D \geq 63 D- \geq 60 F < 60

Reading

Students are expected to read the appropriate sections of the book before each lecture.

Homework

There will be two or three homework assignments. Homeworks are due at the beginning of class. **Late assignments will not receive any credit.** Any exceptions must be arranged at least a day before the homework is due.

Cheating

All assignments have to be done individually, and no teamwork is allowed. Students may discuss with their friends about general approaches to solving problems and writing programs. Please do not attempt to recycle code from the Internet (plagiarism). Any instance of suspected cheating or plagiarism will be referred to student judicial affairs. Ask Dr. Qin for clarification beforehand if the above rules are not clear.