CS 475: Computer Security
Spring 2018
MW 9:00-10:15 plus online lab assignments

Instructor Information

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Office Hours: Monday 1:00-2:00, Thursday 10:30-11:30
Course Website: `http://isoptera.lcsc.edu/~seth/cs475`

Course Goals

At the end of the course, students should understand:

- How encryption works, and the benefits it can provide
- The buffer overflow attack
- Hash functions and how to use them
- The challenges of security in a network environment
- How to engineer security solutions involving cryptography

Textbook

Security in Computing, Charles P. Pfleeger, Shari Lawrence Pfleeger, 4th edition

Grading

Your grade will be calculated based on the following items:

Item	Percentage of grade
Midterm	15%
Final	15%
4 Projects	40% total (10% each)
10 Lab Assignments	10% total (1% each)
2 Class Presentations	20%

Lab assignments will typically be made available prior to the week they are listed in, and due on Monday of the week after. Refer to the course calendar for timing. Not all weeks have a lab assignment.

Grades will be assigned according to a standard curve, that is:

A: 90% +
B: 80%- 90%
C: 70%- 80%
D: 60%- 70%
F: less than 60%

Use of + or - grades (such as B+ or A-) and curves will be at the instructor's discretion.

Deadlines and late work

Late work will not be accepted. However, partial credit will be given for partially-completed work. It is better to turn in an unfinished assignment for partial credit than to not turn in something on time and receive a 0.

Attendance

Attendance will not be taken in this class except as required for fiancial aid purposes. However, all material presented during lecture and student presentations is "fair game" for the midterm and final, and some of this material may not be in the book as well. Therefore I recommend that you always attend class.

Academic Dishonesty

Cheating on any assignment will result in failing the class. Some things which constitute cheating in this class are:

- Copying another student's homework
- Turning in homework created by another student
- Reading another student's answers on a test
- Sharing all or part of your completed homework with another student before the assignment is due

Appropriate collaboration on homework involves sharing ideas with other students only, not source code! Although it is often tempting to help another student by showing them how your completed program works, this is not helpful to their learning. However, this does not mean you cannot collaborate with other students on homework. Sharing of ideas, principles, and algorithms is permitted and encouraged.

Tentative Course Calendar

Spring 2018 CS475			
Week	**Course Content**	**Relevant Reading**	**Events**
Jan 15	Course Introduction, Cryptography Principles	Chapter 1, 2, 12	
Jan 22	Permutation and Substitution Ciphers		Lab 1, Project 1 assigned
Jan 29	Binary Ciphers		Lab 2
Feb 5	Hashing, Public Key Cryptography, Certificates		Project 2 assigned, Project 1 due, Lab 3
Feb 12	More on Binary Ciphers, SQL Injection, Packet Sniffing, ports, etc	Chapter 7	Lab 4
Feb 19	No class Monday, Viruses, Worms, and other Malware		Lab 5
Feb 26	E-mail case study, Presentations Round 1		Project 3 assigned, Project 2 due, Lab 6
Mar 5	Presentations Round 1		
Mar 12	Midterm and answers		
Mar 19	Buffer Overflows	Online, Chapter 3	Project 3 due, Project 4 assigned, Lab 7
Mar 26	Spring Break		
Apr 2	Buffer Overflows Continued		Lab 8
Apr 9	Privacy and Data Mining	Chapter 10	Lab 9
Apr 16	Privacy and Data Mining continued, Presentations round 2		Lab 10
Apr 23	Presentations round 2		
Apr 30	Topics of Interest		Project 4 due
May 7	Final Exam is Wednesday, May 9, at 9:00 AM in MLH 240		