SYLLABUS

CSCI 180: Computer Security - Fall 2019

Lectures: MWF 9:15 AM – 10:20 AM   O'Connor 105

Contact Information:

Instructor: Shiva Houshmand
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Office hours: Mon and Wed 3:30 – 5:30 PM
                  or by appointments.
Prerequisite: COEN 20.

Learning Objectives:

This course is designed to introduce fundamental security topics including security principles, access control, software and system security, web security, malwares, authentication, biometrics, threats and attacks, network security, intrusion detection, system evaluation and assurance.

Textbook:

Introduction to Computer Security, by Michael Goodrich and Roberto Tamassia.

Course Material:

All Lectures, Homework, and Announcements will be accessible through Camino. Please make sure that you all have access to the course material. **It is your responsibility to check the announcements frequently to follow what is new about the course**.

Grading:

The midterm dates will be announced in class and course calendar. The final exam will be during the assigned time slot by the Office of the Registrar.

- (**20%**) Midterm
- (**25%**) Final exam
- (**30%**) Homework: The due dates for homework assignments will be announced in class and on Camino at the time they are posted. Please start working on assignments as soon as they are announced to have sufficient time to complete them.

- **(20%)** Project: There is a group project on a security topic of your choice. The topic should be approved by the instructor. More information about the final project will be provided in class and on Camino.

- **(5%)** Participation: Participation includes attendance, class and discussion board activities, and security story presentations. I strongly encourage regular attendance in the class. You are responsible for all announcements and for all material presented in the lecture sessions. A general discussion board link has been set up on Camino to help you during your studies. Feel free to ask questions about lectures or assignments (but do not post solutions to homework!). You should also try to help your fellow classmates by providing ideas to their given queries. Any discussion topic posted on the discussion board will also count towards your participation.

General Policies:

- No Make-up exams. Incompletes will be given only in exceptional circumstances.

- **It is very important to complete all homework assignments by yourself. You are not to work in groups (except for group project).** You may talk to me, discuss it generally on discussion board (without explicitly giving the answer) or talk to other students to help you get started on a problem, but **you must do the problems individually**.

- **Late Policy:** Assignments must be submitted by the due time unless you have prior approval of the instructor. Late submissions are not accepted unless you have talked to me prior to the due date.

Academic Integrity Pledge:

The Academic Integrity pledge is an expression of the University's commitment to fostering an understanding of -- and commitment to -- a culture of integrity at Santa Clara University. The Academic Integrity pledge, which applies to all students, states:

"I am committed to being a person of integrity. I pledge, as a member of the Santa Clara University community, to abide by and uphold the standards of academic integrity contained in the Student Conduct Code."

Students are expected to uphold the principles of this pledge for all work in this class. For more information about Santa Clara University's academic integrity pledge and resources about ensuring academic integrity in your work, see www.scu.edu/academic-integrity.

Disabilities Resources:

If you have a documented disability for which accommodations may be required in this class, please contact the Office of Accessible Education (Benson 1, http://www.scu.edu/oae, 408-554-4109) as soon as possible to discuss your needs and register for accommodations with the

University. **If you have already arranged accommodations through OAE, please discuss them with me during my office hours within the first two weeks of class.**

To ensure fairness and consistency, individual faculty members are required to receive verification from the Office of Accessible Education before providing accommodations. OAE will work with students and faculty to arrange proctored exams for students whose accommodations include double time for exams and/or assistive technology. Students with approved accommodations of time-and-a-half should talk with me as soon as possible. The Office of Accessible Education must be contacted in advance (at least two weeks notice recommended) to schedule proctored examinations or to arrange other accommodations.

Accommodations for Pregnant and Parenting Students

In alignment with Title IX of the Education Amendments of 1972, and with the California Education Code, Section 66281.7, Santa Clara University provides reasonable accommodations to students who are pregnant, have recently experienced childbirth, and/or have medical needs related to childbirth. Pregnant and parenting students can often arrange accommodations by working directly with their instructors, supervisors, or departments. In addition, the Office of Accessible Education will provide reasonable accommodations for pregnancy-related impairments which impact a major life activity.

Discrimination and Sexual Misconduct (Title IX)

Santa Clara University upholds a zero-tolerance policy for discrimination, harassment and sexual misconduct. If you (or someone you know) have experienced discrimination or harassment, including sexual assault, domestic/dating violence, or stalking, I encourage you to tell someone promptly. For more information, please consult the University's Gender-Based Discrimination and Sexual Misconduct Policy at http://bit.ly/2ce1hBb or contact the University's EEO and Title IX Coordinator, Belinda Guthrie, at 408-554-3043, bguthrie@scu.edu. Reports may be submitted online through the Office of Student Life https://www.scu.edu/osl/report/ or anonymously through EthicsPoint https://www.scu.edu/hr/quick-links/ethicspoint/

In-Class Recordings

The Student Conduct Code (p. 13) prohibits students from "(m)aking a video recording, audio recording, or streaming audio/video of private, non-public conversations and/or meetings, inclusive of the classroom setting, without the knowledge and consent of all recorded parties," except in cases of approved disability accommodations. The Student Conduct Code also prohibits the "falsification or misuse, including non-authentic, altered, or fraudulent misuse, of University records, permits, documents, communication equipment, or identification cards and government-issued documents." Dissemination or sharing of any classroom recording without the permission of the instructor would be considered "misuse" and, therefore, prohibited. Violations of these policies may result in disciplinary action by the University. At the instructor's discretion, violations may also have an adverse effect on the student's grade.

Schedule:

Tentative course Topics*:

Week #	Date	Topic	Reading
1	Sep 23-27	Introduction Security Principles	Chapter 1
2	Sep 30 - Oct 4	Authentication and biometrics	Chapter 2
3	Oct 7-11	Encryption	Chapter 1 & 8
4	Oct 14-18	Memory Safety	
5	Oct 21-25	Attacks Midterm Exam	
6	Oct 28-Nov 1	Malware	Chapter 4
7	Nov 4-8	Network security	Chapter 5
8	Nov 11-15	Network security	Chapter 6
9	Nov 18-22	Web security	Chapter 7
10	Nov 25-29	Academic holiday	
11	Dec 2-6	Project Presentations Review	
12	**Dec 11**	**Final Exam**	**9:10 AM – 12:10 PM**

*The order of topics may change