

## CS 6890 - 001: Usable Security/Privacy Spring 2019

Class Time	Monday, Wednesday, Friday: 2:30 PM - 3:20 PM
Class Location	Engineering 304
Instructor	Dr. Mahdi Nasrullah Al-Ameen
Office Hours	Monday, Wednesday: 12:30 PM - 2:00 PM
Office Location	Old Main 401F
E-mail	mahdi.al-ameen@usu.edu
TA	Apoorva Chauhan
TA Office / Hours	TBA
Website	Canvas
Reading Materials	Will be provided in class, or through Canvas.  Textbooks (optional): <ul style="list-style-type: none"><li>- Simson Garfinkel and Lorrie Cranor. <i>Security and Usability: Designing Secure Systems that People Can Use.</i></li><li>- Simson Garfinkel and Heather Richter Lipford. <i>Usable Security: History, Themes, and Challenges.</i></li></ul>

### Prerequisites:

Any CS graduate student can enroll in this course. CS undergraduate students with grade B or better may enroll with the permission from the instructor.

### Course Overview and Objectives:

There is a growing recognition that technology alone does not provide solutions to our security and privacy issues in Cyber world. *Human factors* play an important role in these areas, and it is important to have an understanding of how people interact with the systems we develop. This course is designed to introduce the students to a variety of usability and user-interface problems related to digital privacy and security, and to give them on-hand experiences in understanding and designing user studies to evaluate the usability issues in security and privacy systems.

By the end of this course, students are expected to learn about the following topics:

- Basic concepts on usability, security, and privacy
- Methodologies for evaluating usable security
- User attitudes and perceptions on existing security systems
- Usability and security issues in authentication schemes, like textual, graphical, biometric, geographic location-based, and brainwave-based authentication
- Usable and secure mechanisms to prevent phishing & social engineering attacks
- Desired security and usability features for smartphones
- Usability and security solutions for Internet of Things (IoT)
- Security and usability concerns with emerging technologies, including augmented reality, virtual reality, drones, and autonomous vehicle.
- Security & privacy visualization techniques in social networks (e.g., Facebook)
- Application of games and comics in improving security and privacy awareness
- Graphic-based security indicators and warnings in computing environment
- Security and privacy for the people with special needs (e.g., older adults, people with visual impairment, and users with cognitive limitations)

**Course Components and Grading Policy:** The course will include in-class lectures, presentations, quizzes, assignments, and group-based term project.

Course Components	Grade Percentage
Quiz	20%
Presentations	25%
Assignments and Project	45%
Attendance and Class Participation	10%

Final grades will be based on the following percentages:

Letter Grade	Range
A	93% - 100%
A-	90% - Less than 93%
B+	87% - Less than 90%
B	83% - Less than 87%
B-	80% - Less than 83%

C+	77% - Less than 80%
C	73% - Less than 77%
C-	70% - Less than 73%
D+	67% - Less than 70%
D	60% - Less than 67%
F	Less than 60%

### **Schedule of Quiz, Assignment, and Presentation:**

All of the quizzes and presentations will take place during regular class hours. The schedule/deadline for assignments, quizzes, and presentation will be announced in the class.

### **Late Policy:**

The assignments must be turned in by their due date and time. An assignment that is turned in after that time, even just 1 second after, will be considered late. So, be wise and submit your assignments well in advance of the deadline. You can turn in assignments up to two days late with a 25% penalty for each day.

Quizzes may not be made up except in extreme circumstances, and the Instructor must be notified prior to the quiz; as soon as reasonably possible in such an event.

### **Add Policy:**

The last day to add this class is January 28, 2019. Attending this class beyond that date, without being officially registered, will not be approved by the Dean's Office. Students must be officially registered for this course. No assignments or tests of any kind will be graded for students whose names do not appear on the class list.

### **Drop Policy:**

The last day to drop this class without notation on transcript is January 28, 2019.

### **Withdrawal Policy and "I" Grade Policy:**

Students are required to complete all courses for which they are registered by the end of the semester. In some cases, a student may be unable to complete all of the coursework because of extenuating circumstances, but not due to poor performance or to retain financial aid. The term 'extenuating' circumstances includes: (1) incapacitating illness which prevents a student from attending classes for a minimum period of two weeks, (2) a death in the immediate family,

(3) financial responsibilities requiring a student to alter a work schedule to secure employment, (4) change in work schedule as required by an employer, or (5) other emergencies deemed appropriate by the instructor.

### **Plagiarism:**

Plagiarism includes knowingly "representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials." The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling.

### **Department Cheating Policy:**

All forms of cheating are absolutely prohibited. Please read the department's [policy](#). Anyone caught cheating will receive negative points equal in magnitude to the possible points on the assignment or test. Repeated offenses will result in an automatic F.

### **Learning Aids:**

Lecture notes and other useful information will be available in electronic form on the class's section of the Canvas system. Please check the class's news and notes sections on a regular basis. The Computer Science Department is a member of the Microsoft's DreamSpark program. Through this program, students in CS courses can obtain and use a number of Microsoft's operating and software packages. If you are interested in downloading any of this software for your use, please follow the directions found on the department's website.

### **Academic Integrity – "The Honor System":**

Each student has the right and duty to pursue his or her academic experience free of dishonesty. The Honor System is designed to establish the higher level of conduct expected and required of all Utah State University students.

The Honor Pledge: To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity." A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

- Espouses academic integrity as an underlying and essential principle of the Utah State University community.

- Understands that each act of academic dishonesty devalues every degree that is awarded by this institution.
- Is a welcomed and valued member of Utah State University.

### **Students with Disabilities:**

The Americans with Disabilities Act states: "Reasonable accommodation will be provided for all persons with disabilities in order to ensure equal participation within the program. If a student has a disability that will likely require some accommodation by the instructor, the student must contact the instructor and document the disability through the Disability Resource Center (797-2444), preferably during the first week of the course. Any request for special consideration relating to attendance, pedagogy, taking of examinations, etc., must be discussed with and approved by the instructor. In cooperation with the Disability Resource Center, course materials can be provided in alternative format, large print, audio, diskette, or Braille."

### **Sexual Harassment:**

Sexual harassment is defined by the Affirmative Action/Equal Employment Opportunity Commission as any "unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature." If you feel you are a victim of sexual harassment, you may talk to or file a complaint with the Affirmative Action/Equal Employment Opportunity Office located in Old Main, Room 161, or call the AA/EEO Office at 797-1266.

### **Academic Freedom and Professional Responsibilities (Faculty Code):**

Academic freedom is the right to teach, study, discuss, investigate, discover, create, and publish freely. Academic freedom protects the rights of faculty members in teaching and of students in learning. Freedom in research is fundamental to the advancement of truth. Faculty members are entitled to full freedom in teaching, research, and creative activities, subject to the limitations imposed by professional responsibility. Faculty Code Policy #403 further defines academic freedom and professional responsibilities: [USU Policies Section 403](#).