SYSC 5807W: Human-centric Security and Privacy

Course Outline—Winter 2023

Calendar description

Introduction to human-centric research with a focus on security and privacy. Topics include: privacy and security for different types of users, integrating privacy and security in software development, privacy and security in IoT devices from users' perspective, the design and development of secure systems, users' perception of and attitudes towards privacy and security, ethical considerations for human-centric research.

Instructor

Prof. Hala Assal (hala.assal@carleton.ca) https://sce.carleton.ca/faculty/assal/
Office hours: TBA

Material and content

Weekly reading material will be posted on the course website (on BrightSpace). Most research papers will be openly accessible, otherwise you can access them on digital libraries through Carleton Library.

This is a research-based course. It will require you to carefully read and deeply think about the problems addressed in the assigned research papers.

Assessment Plan

Students' grade in this course will be based on the following:
- **20%**: Reading responses
- **15%**: In-class participation
- **25%**: Paper discussion lead
- **40%**: Project

Reading response: Each student is expected to submit a review of each paper we discuss. This will be submitted on the course website. This review should include a short summary of the paper; the paper's strengths and weaknesses; and the student's opinion of the paper's motivation, methodology, findings, and ethical considerations. The review for each paper should be a maximum of 1 column. It is highly recommended to use LaTeX to generate your reading response, but you can also use any other document-generating tool. Use the template here using the ***conference*** mode: https://www.ieee.org/conferences/publishing/templates.html

In-class participation: Students are expected to engage in the discussion (e.g., ask questions, and provide feedback on the topics discussed by the presenter). The in-class participation mark is distributed equally across all student-led classes.

Paper discussion lead: Each student is expected to present and lead the discussion of a number of research papers listed on the course website. The exact number of papers each student is required to present will be finalized after the first week of the course. Students should email the instructor with their choice of papers to present; this is on a first-come first-served basis. The paper discussion lead will be assessed based on the quality and clarity of the presentation. The presentation should provide a summary of the paper and all the main sections (e.g., motivation, methodology, results, and discussion). Students should rehearse their presentation and ensure it is feasible to complete within 30-45 minutes.

Term project: Students will conduct user-centric research to explore a privacy or security topic. Detailed information on this deliverable can be found under the "Project" module on BrightSpace.

University Policies

Unauthorized Dissemination
It is a violation of the standards of academic integrity to publish, disseminate, or otherwise make available to a third-party instructional material where the instructor has explicitly prohibited their dissemination. Posting course material on websites such as CourseHero is an example of unauthorized dissemination.

Plagiarism:
The University Academic Integrity Policy defines plagiarism as *"presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one's own."*

Examples of plagiarism include, but are not limited to:
- any submission prepared in whole or in part, by someone else;
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another's data or findings without appropriate acknowledgement;
- failing to acknowledge sources through the use of proper citations when using another's work and/or failing to use quotations marks.

Plagiarism is a serious. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of "F" for the course or even suspension or expulsion from the University.

Unauthorized co-operation or collaboration:
Students shall not co-operate or collaborate on academic work unless authorized by the instructor. Failure to follow the instructor's directions in this regard is a violation of the standards of academic integrity.

Misrepresentation:
Students shall not submit or present false assignments, research, credentials, or other documents or misrepresent material facts for any academic purpose. Examples of misrepresentation include but are not limited to:

- falsified research or lab results and data;
- falsified facts or references;
- falsified medical or compassionate certificates; and
- falsified dates or times of submission.

Pregnancy obligation: Contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For accommodation regarding a formally-scheduled final exam, you must complete the Pregnancy Accommodation Form: https://carleton.ca/equity/contact/form-pregnancy-accommodation/

Religious obligation: Contact the instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. Find more details here: https://carleton.ca/equity/focus/discrimination-harassment/religious-spiritual-observances/.

Academic Accommodations for Students with Disabilities: The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

Survivors of Sexual Violence
As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be

tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: https://carleton.ca/equity/sexual-assault-support-services

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation will be provided to students who compete or perform at the national or international level. Write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf