

COMP 5210A: HCI Models, Theories, and Frameworks  
School of Computer Science  
Carleton University, Ottawa, Canada  
Course Outline Winter 2021

**Instructor:**

Elizabeth Stobert

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Office Location: HP 5127

Office Hours: Available for Zoom meetings by appointment.

Primary method of contact: Email

**Meetings:**

Term: Winter 2021

Times: 8:35–11:35 AM Tuesdays, January 12 – April 13

(Class cancelled February 16 for Winter break)

All meetings will be conducted online using Zoom.

**Online Resources:**

All course material, assignment submissions, and other resources will be available online through CUlearn. Use your Carleton ID and password to log into <http://culearn.carleton.ca>.

University of Ottawa students can apply for access to CUlearn at this link:

<https://carleton.ca/its/all-services/accounts-and-passwords/#sect4>

**Course Objective:**

Students completing this course should gain a deep understanding of the application of theory to user interface design. We will review the main theories of human behaviour relevant to HCI, and their application to the design and development of interactive systems. We will also cover methodologies for empirical analysis in HCI.

**Topics:**

Main topics will include:

- Distributed Cognition
- Embodied Cognition
- Situated Cognition

- Ecological Interface Design
- Activity Theory
- Cognitive Dimensions of Notation
- Mental Models
- GOMS
- HCI methodology
- Quantitative and qualitative data analysis

**Assessment:**

Assessment will be based on work including: participation (including presentation and discussion (both in-class and online) of papers from the literature, and participation in class activities); a usability evaluation project, a literature survey project, and a final exam.

Participation: 15%

Usability Study Assignment: 15%

Literature Survey Project: 30%

Final Exam: 40%

The majority of class meetings will be discussion-based. The course will be delivered in a hybrid format, with about 90 minutes of synchronous meeting per week (over Zoom), and a small online discussion activity to be completed during the week. We will cover three readings from the literature per week, and one student will be responsible for leading the discussion of each reading (both in-class and on CULearn). Students are expected to read all papers, and take turns leading discussions. The grade for paper presentation and discussion will be based on student presentations and discussion of assigned readings.

**Textbooks:**

There will be no set textbook. Instead, papers from the literature and online resources will be made available as appropriate through CULearn.

## University Policies:

**Student Academic Integrity Policy:** Every student should be familiar with the Carleton University student academic integrity policy. A student found in violation of academic integrity standards may be awarded penalties which range from a reprimand to receiving a grade of F in the course or even being expelled from the program or University. Some examples of offences are: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found in the Undergraduate Calendar.

**Plagiarism:** As defined by Senate, “plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one’s own”. This can include:

- reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source;
- submitting a take-home examination, essay, laboratory report or other assignment written, in whole or in part, by someone else;
- using ideas or direct, verbatim quotations, or paraphrased material, concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another’s data or research findings;
- failing to acknowledge sources through the use of proper citations when using another’s works and/or failing to use quotation marks;
- handing in “substantially the same piece of work for academic credit more than once without prior written permission of the course instructor in which the submission occurs.

Plagiarism is a serious offence that cannot be resolved directly by the course’s instructor. 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. All cases of suspected plagiarism will be referred to the Office of the Dean of Graduate Studies.

**Unauthorized Co-operation or Collaboration:** Senate policy states that “to ensure fairness and equity in assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis”.

Please refer to the Carleton Academic Integrity Policy for additional details.  
<https://carleton.ca/registrar/academic-integrity/>

**Pregnancy obligation:** Please 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 more details, visit the

Equity Services website: <https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>

**Religious obligation:** Please 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 more details, visit the Equity Services website: <https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf>

**Academic Accommodations for Students with Disabilities:** If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC 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 your instructor as soon as possible to ensure accommodation arrangements are made. <https://carleton.ca/pmc>

**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 is 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/sexual-violence-support>

**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 must be provided to students who compete or perform at the national or international level. Please 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. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: <https://students.carleton.ca/course-outline>