

COMP 3008A – Human-Computer Interaction

School of Computer Science, Carleton University
Course Outline

Main course details

Overview

- *Course instructor:* Dr. Nadine Moacdieh
- *Email:* nadine.moacdieh@carleton.ca
- *Office hours:* Mondays and Wednesdays from 10:30 to 11:30 am; you can drop by HP 5135 or join on Zoom (Meeting ID: 975 6182 1006)
- *Classroom:* Room location is posted on the public class schedule
- *Lecture times:* Mondays and Wednesdays from 8:35 to 9:55 am
- *Course website:* [On Brightspace](#)

Teaching assistants (TAs)

A list of teaching assistants and their email/office hours will be posted to Brightspace once the course starts.

Description

Fundamentals of the underlying theories, design principles, development and evaluation practices of human-computer interaction (HCI). Topics may include: theories of interaction, user interface frameworks, desktop, web, mobile, and immersive applications, usability inspection and testing methods, and qualitative and quantitative approaches to HCI research. Prerequisite(s): (COMP 2404 or SYSC 3010 or SYSC 3110) and (COMP 2406 or SYSC 4504).

Materials

- *Textbook:* Interaction Design: Beyond Human-Computer Interaction (5th edition) by Helen Sharp, Yvonne Rogers, and Jenny Preece. Wiley Publishing, 2019 (available at the Carleton University Bookstore and from online retailers like Amazon)
- *Other course resources:* Additional materials will be available on Brightspace throughout the term. Preliminary course slides will be posted to Brightspace before class. The complete slides will be posted after class.
- Note that all materials created for this course (including, but not limited to, lecture notes, in-class examples, assignments, and exams) remain the intellectual property of the instructor. These materials are intended for the personal and non-transferable use of students registered in the current offering of the course. Reposting, reproducing, or redistributing any course materials, in part or in whole, without the written consent of the instructor, is strictly prohibited.

Content and topics

Human-computer interaction (HCI) is a field of study related to the evaluation and design of interfaces that maximize efficiency, accuracy, and safety for users in different situations. Topics covered in this course include user-centered design principles, basics of human cognition, interface design principles, gathering information about the user via interviews, surveys, and other techniques, quantitative and qualitative data analysis approaches, basic experiment design, prototyping, and usability testing.

Week	Date	Course outline
1	W Sep. 7	Introduction Basic concepts Human cognition
2	M Sep. 12	
	W Sep. 14	
3	M Sep. 19	Assignment 1 at 5 pm
	W Sep. 21	
4	M Sep. 26	Understand the user
	W Sep. 28	
5	M Oct. 3	Assignment 2 at 5 pm
	W Oct. 5	
6	M Oct. 10	<i>No class</i>
	W Oct. 12	Interface design
7	M Oct. 17	
	W Oct. 19	Assignment 3 at 5 pm
8	M Oct. 24	<i>No class</i>
	W Oct. 26	
9	M Oct. 31	Midterm review
	W Nov. 2	Midterm during class time
10	M Nov. 7	Test and evaluate
	W Nov. 9	
11	M Nov. 14	Assignment 4 at 5 pm
	W Nov. 16	
12	M Nov. 21	Test and evaluate
	W Nov. 23	
13	M Nov. 28	Project (part 1) at 5 pm
	W Nov. 30	
14	M Dec. 5	Research trends
	W Dec. 7	Final review
	F Dec. 9	Project (part 2) at 5 pm

Learning objectives

Upon completing COMP 3008, you will be able to:

- Explain the importance of usability in the context of interface design
- Describe the different steps and key aspects of a user-centered design process

- Describe different types of human cognition, their limitations, and factors that affect them as related to human-computer interaction
- Identify the types of errors that people can make and how those can be overcome in design
- Carry out a heuristic evaluation using well-known interface design principles
- Gather and analyze user and context information using techniques such as interviews, focus groups, and surveys
- Create different types of conceptual models and prototypes
- Select and conduct the appropriate form of usability testing to evaluate a design
- Design a formal usability experiment, including the necessary ethical considerations
- Analyze quantitative experiment data using basic statistical techniques

Assessment scheme

Component	Notes
Assignments (40%)	<ul style="list-style-type: none"> • Four individual assignments (10% each) to be submitted through Brightspace. • Assignments have to be submitted by the given due date. You are allowed to submit one late assignment during the semester, as long as it is within one week of the given deadline. There is no need to contact your TA and you will not lose any points. Any subsequent late assignment will lose 10 points (out of 100) for each hour that it is late. • You have one week after an assignment grade is posted to contact your TA with any questions or concerns about your assignment grade; after one week, no requests can be made and all grades are final
Midterm (30%)	<ul style="list-style-type: none"> • The exam will take place in class during class time • It is an open-book, open-notes exam; you may bring the textbook as well as any notes or summaries with you but no electronic devices • You have one week after the midterm grade is posted to contact your TA or instructor before all grades are final.
Project (30%)	<ul style="list-style-type: none"> • The project deliverables will consist of a recorded presentation (15%) and a report (15%). • You can choose to do the project either individually or in groups of 2 or 3. You can form your own groups as needed. • All project deliverables have to be submitted on time, otherwise the student or team will lose 10 points (out of 100) for every hour it is late

Note that while attendance is not required nor tracked, there is the possibility of earning bonus points (up to 3%) by participating in select in-class activities.

Course policies

Communication

- Please ask all questions related to lecture material, course policies, assignments, the midterm, and the project using the appropriate discussion forums on Brightspace
- You can also attend instructor or TA office hours to ask questions or discuss further
- Email your TA if there is a matter related to an assignment or exam grade; please do not post these to a forum. Any deferral requests (see Deferral section below) should also be communicated by email
- Email your instructor in the case of confidential information, personal matters, or to request an appointment if you have a conflict with office hours

Deferral

If you would like to request a deferral for a missed exam or assignment/project deadline (apart from the one-time assignment extension available to everyone), please fill in the [self-declaration form](#) and contact your TA within three working days after the work was due. You will then be informed about the next steps (a new deadline or make-up exam date). Note that this should only be used for short-term concerns; if you are experiencing chronic, ongoing challenges, consider reaching out to the Paul Menton Centre and/or the Care Support team (see the University Policies section).

Collaboration

- Individual assignments have to be done alone. You can discuss ideas with your classmates but you have to turn in your own work and ideas. In other words, you cannot share your work with classmates or copy their work
- You cannot share information across groups in the project
- Cheating during an exam is strictly prohibited, where cheating includes copying another person's work during the exam, sharing your work with another person during the exam, or in any way conspiring to get a grade in a dishonest way
- You cannot post questions/answers online (to sites like Chegg, CourseHero, etc.). You are never permitted to share or upload course materials without explicit permission from your instructor.
- All cases of plagiarism or cheating will be pursued through official university channels. Academic integrity offences are reported to the office of the Dean of Science. Penalties for such offences can be found on the [academic integrity webpage](#). If you are unsure of the expectations regarding academic integrity, please ask your TAs or instructor

Respect and inclusion

The course instructor and TAs in this course are committed to fostering a learning environment that is inclusive for everyone. All students in the class, the instructor, TAs, and any guests should be treated with respect during all interactions, including any communications in class, through email, during office hours, or on any forum. Please feel free to contact your instructor via email or in person if you have any experiences in this class that made you feel uncomfortable.

School of Computer Science policies

Laptop policy

Everyone enrolled in a 1st year COMP course after the 2020/21 school year is required to have a laptop. This applies to students enrolled in a 1st year COMP course, which includes COMP1001, 1005 and 1006. For more information please visit [SCS Laptop Requirement - School of Computer Science](#).

Undergraduate academic advisor

The Undergraduate Advisor for the School of Computer Science is available in HP 5302C or by email at scs.ug.advisor@cunet.carleton.ca. The undergraduate advisors can assist with information about prerequisites and preclusions, course substitutions/equivalencies, understanding your academic audit and the remaining requirements for graduation. The undergraduate advisors will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services and Writing Tutorial Services.

Computer Laboratory

SCS students can access one of the designated labs for this course. The lab schedule can be found [here](#). All SCS computer lab and technical support information can be found at the [technical support page](#). Technical support is also available in HP 5161 on Monday to Friday from 9:00 until 17:00 or by emailing SCS.Tech.Support@cunet.carleton.ca.

University policies

Land acknowledgement

Here at Carleton University, it is important that we acknowledge that the land on which we gather is the traditional and unceded territory of the Algonquin nation.

University dates and deadlines

For information about Carleton's academic year, including registration and withdrawal dates, see [Carleton's Academic Calendar](#).

Grading

In accordance with the Carleton University Undergraduate Calendar Regulations, the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 57-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A- = 80-84	B- = 70-72	C- = 60-62	D- = 50-52
F = <50			

WDN = Withdrawn from the course; DEF = Deferred ; FND = (Failed, no Deferred)

Accommodations

Carleton University is committed to providing access to the educational experience in order to promote academic accessibility for all individuals. Academic accommodation refers to educational practices, systems and support mechanisms designed to accommodate diversity and difference. The purpose of accommodation is to enable students to perform the essential requirements of their academic programs. At no time does academic accommodation undermine or compromise the learning objectives that are established by the academic authorities of the University. For more information about accommodations, please check out Carleton's [Academic Accommodations page](#).

- **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 [Equity Services](#).
- **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, please see [here](#).
- **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 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. For more details, visit the [Paul Menton Centre](#) website.
- **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 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 the [sexual violence support page](#).
- **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. See [the policy](#) for more information.
- **Addressing human rights concerns.** The University and all members of the University community share responsibility for ensuring that the University's educational, work and living environments are free from discrimination and harassment. Should you have concerns about harassment or discrimination relating to your age, ancestry, citizenship, colour, creed (religion), disability, ethnic origin, family status, gender expression, gender identity, marital status, place of origin, race, sex (including pregnancy), or sexual orientation, please contact the Department of Equity and Inclusive Communities at equity@carleton.ca.
- **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. Examples of punishable offences include: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found [here](#).

- **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". Such reported offences will be reviewed by the office of the Dean of Science. Standard penalty guidelines can be found [here](#).
- **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 course outline statement or the instructor concerning this issue.

Special information for pandemic measures

- It is important to remember that COVID is still present in Ottawa. The situation can change at any time and the risks of new variants and outbreaks are very real. There are a number of actions you can take to lower your risk and the risk you pose to those around you including being vaccinated, wearing a mask, staying home when you're sick, washing your hands and maintaining proper respiratory and cough etiquette.
- Feeling sick? Remaining vigilant and not attending work or school when sick or with symptoms is critically important. If you feel ill or exhibit COVID-19 symptoms do not come to class or campus. If you feel ill or exhibit symptoms while on campus or in class, please leave campus immediately. In all situations, you must follow Carleton's symptom reporting protocols.
- Masks: Carleton has paused the COVID-19 Mask Policy, but continues to strongly recommend masking when indoors, particularly if physical distancing cannot be maintained. It may become necessary to quickly reinstate the mask requirement if pandemic circumstances were to change.
- Vaccines: Further, while proof of vaccination is no longer required as of May 1 to attend campus or in-person activity, it may become necessary for the University to bring back proof of vaccination requirements on short notice if the situation and public health advice changes. Students are strongly encouraged to get a full course of vaccination, including booster doses as soon as they are eligible, and submit their booster dose information in cuScreen as soon as possible. Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus.
- All members of the Carleton community are required to follow requirements and guidelines regarding health and safety which may change from time to time. For the most recent information about Carleton's COVID-19 response and health and safety requirements please see the University's COVID-19 website and review the Frequently Asked Questions (FAQs). Should you have additional questions after reviewing, please contact covidinfo@carleton.ca.

Support

We are all navigating a tricky time in coming back to campus. Make sure to reach out for help when you need it from your TAs or instructor! You can also consider reaching out to a [Science Student Success Mentor](#) or using one of Carleton's many [mental health resources](#).