

CSC318H1 F

The Design of Interactive Computational Media

Fall 2024 Syllabus

Course Meetings

CSC318H1 F

Section	Day & Time	Delivery Mode & Location
LEC0101	Wednesday, 11:00 AM - 1:00 PM	In Person: BA 1160
	Friday, 11:00 AM - 1:00 PM	In Person: BA 1160
LEC0201	Wednesday, 3:00 PM - 5:00 PM	In Person: SF 1105
	Friday, 3:00 PM - 5:00 PM	In Person: MP 202
LEC2001	Wednesday, 3:00 PM - 5:00 PM	In Person: SF 1105
	Friday, 3:00 PM - 5:00 PM	In Person: MP 202

Refer to ACORN for the most up-to-date information about the location of the course meetings.

Course Contacts

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Phone: 4169784761

Office Hours and Location: Friday 1-2PM, BA7268

Course Overview

User-centred design of interactive systems; methodologies, principles, and metaphors; task analysis. Interdisciplinary design; the role of graphic design, industrial design, and the behavioural sciences. Interactive hardware and software; concepts from computer graphics. Typography, layout, colour, sound, video, gesture, and usability enhancements. Classes of interactive graphical media; direct manipulation systems, extensible systems, rapid prototyping tools. Students work on projects in interdisciplinary teams.

User-centered design results in robust solutions that successfully address real human problems. In this course, students will learn about methods and principles of user-centered design to explore a problem space and the people within that space, identify users' needs, system constraints and requirements, and ultimately design solutions that incorporate all those components. Designs will be iterated from initial concepts to really valuable solutions by gathering feedback and usability testing prototypes with users throughout the course. The course project will culminate with the development of a robust design that addresses the

identified problem. Final project presentations will take place at the end of the course; this course has no final exam.

The delivery of this course will be different from standard lecture-based courses. Students will sit through a handful of lectures and complete in-class activities to get hands-on experience with the content. This subset of lectures will prepare them for an intermediate group project milestone. Students will then work within their groups during the scheduled tutorial sessions and outside of the course hours to complete a project report. Once the project milestone has been passed, the students will sit through another set of lectures, and the process will repeat.

Course Learning Outcomes

This course is designed to provide students with the foundations necessary for understanding and applying user-centered design to address real-world problems. The learning objectives are:

1. to practice research methods for understanding user needs and practices.
2. to interpret raw data and create design artifacts (e.g., personas, scenarios).
3. to brainstorm, sketch and design prototypes that solve real user problems.
4. to evaluate prototypes (one's and others') for usability, learnability, and usefulness.
5. to work in multidisciplinary design teams.

Prerequisites: Any 0.5 credit in CSC/ [ESC180H1](#)/ [ESC190H1](#)/ [APS105H1](#)/ [APS106H1](#)

Corequisites: None

Exclusions: CSC318H5, CSCC10H3. NOTE: Students not enrolled in the Computer Science Major or Specialist program at A&S, UTM, or UTSC, or the Data Science Specialist at A&S, are limited to a maximum of 1.5 credits in 300-/400-level CSC/ECE courses.

Recommended Preparation: CSC300H1 provides useful background for work in CSC318H1, so if you plan to take CSC300H1 then you should do it before CSC318H1

Credit Value: 0.5

Course Materials

[Chapter 6](#)

The Design of Everyday Things
(by Don Norman)

[User Need Statements: The 'Define' Stage in Design Thinking](#)

(by Nielsen Norman Group)

[Chapter 9](#)

Observing the User Experience
(by Mike Kuniavsky)

[Chapter 4](#)

Learning from Strangers
(by Robert Weiss)

[Chapter 10](#)

Ways of Knowing in HCI
(by Hendrik Müller, Aaron Sedley, and Elizabeth Ferrall-Nunge)

[Chapter 11](#)

Experience Maps
(by James Kalbach)

[Chapter 1](#)

Understanding Critiques
(by Connor & Irizarry)

[Chapter 2](#)

What Critique Looks Like
(by Connor & Irizarry)

[Chapter 4](#)

Sketching the User Experience: The Workbook
(by Greenberg et al.)

[Chapter 4](#)

Paper Prototyping
(by Carolyn Snyder)

[Chapter 15](#)

Interaction Design
(by Rogers, Preece & Sharp)

[Usability Test Plan Toolkit](#)

(by D. Travis)

[Chapter 9](#)

Don't Make Me Think, Revisited: A Common Sense Approach to Web & Mobile Usability
(by Steve Krug)

[CSC318 Workbook](#)

(by Chevalier, Truong, Huynh & Holinaty)

Marking Scheme

Assessment	Percent	Details	Due Date
L1 In-class Activity	2%	To be started Sep. 4, 2024. Due: Sep. 9, 2024.	2024-09-09
L2 In-class Activity	2%	To be started Sep. 6, 2024. Due: Sep. 9, 2024.	2024-09-09
L3 In-class Activity	2%	To be started Sep. 11, 2024. Due: Sep. 16, 2024.	2024-09-16
L4 In-class Activity	2%	To be started Sep. 13, 2024. Due: Sep. 9, 2024.	2024-09-16

Assessment	Percent	Details	Due Date
L5 In-class Activity	2%	To be started Sep. 18, 2024. Due: Sep. 23, 2024.	2024-09-23
L7 In-class Activity	2%	To be started Oct. 9, 2024. Due: Oct. 14, 2024.	2024-10-14
L8 In-class Activity	2%	To be started Oct. 11, 2024. Due: Oct. 14, 2024.	2024-10-14
L9 In-class Activity	2%	To be started Nov. 6, 2024. Due: Nov. 11, 2024.	2024-11-11
L1 & L2 Quiz	1%	Covers materials from lectures 1 & 2	2024-09-09
L3 & L4 Quiz	1%	Covers materials from lectures 3 & 4	2024-09-16
L5 & L6 Quiz	1%	Covers materials from lectures 5 & 6	2024-09-23
L7 & L8 Quiz	1%	Covers materials from lectures 7 & 8	2024-10-14
L9 & L10 Quiz	1%	Covers materials from lectures 9 & 10	2024-11-11
SP1-SP3: Studio project presentations	10%	Three times this term, during studio, each group presents project work up to date for 10 minutes and then discusses Q & As	2024-09-25,2024-10-16,2024-11-13
SE2: Studio expert evaluation session	3%	Each student will provide expert evaluations for other students work during studio.	2024-10-23
SP1-SP3 critiques	15%	Three times this term, after studio, each student will provide a written critique of another team in their studio based on the content of their SP1-SP3 presentations.	2024-09-27,2024-10-18,2024-11-15

Assessment	Percent	Details	Due Date
A0-A4: Individual Forms	1%	For group assignments, students will also be required to fill out short forms (i.e. a short bio for A0, and peer-feedback forms for A1-A4). These are used to support group formation, and evaluation of group work.	2024-09-09,2024-10-07,2024-11-04,2024-11-25,2024-11-27
A0: Team Formation & Team Charter	2%	Students will form project groups and submit two forms. A form describing their team, and a form which sets clear expectations about how they will collaborate with one another throughout the term.	2024-09-20
A1: Formative Study	15%	Students will submit a written report discussing their understanding of the target users and the problem that their group project will try to address.	2024-10-07
A2: Design Concepts & Prototypes	15%	Students will submit a written report presenting the design space of the potential interfaces for their system and low-fidelity prototypes of their project.	2024-11-04
A3: Summative Evaluation	13%	Students will submit a written report discussing a summative evaluation of a high-fidelity prototype of their project and assess whether their prototype meets its design goals.	2024-11-25
A4: Final presentation	5%	Students will improve their high-fidelity prototype and share their project with others.	2024-11-27

In-Class Activities: A significant portion of each lecture will be dedicated towards completing an activity related to the content being covered that day. Although these activities may seem small and tedious, they serve a number of purposes: (1) to help you "learn by doing", (2) to give you practice for your group project, and (3) to ensure that there is a sufficient individual component to your grade.

Quizzes: Every pair of lectures will be followed by a brief quiz. These quizzes are "open notes" (i.e., you may refer to the course materials while completing them), but you can only complete them once.

Group assignments A0–A4: Throughout the semester, you will go through the iterative design process in a small team of 5-6 students to create a high-fidelity prototype that addresses a problem of your choosing. There will be periodic milestones to ensure that progress is being made throughout the semester. Each team will submit a single report per milestone, and the grade that is given for that report will be shared by all team members. However, each report will contain a summary of each group member's contribution, and individuals' grades will be adjusted in the case of imbalanced contributions.

In-studio group presentations and critiques: Some of the studios will be used as feedback sessions. During these times, groups present their progress to the rest of the class and receive feedback from their peers. After those sessions, students will be assigned a team for whom they have to provide a written critique based on the content of their presentations.

Individual forms: For group assignments, you will also be required to fill out short forms (i.e. a short bio for A0, and peer-feedback forms for A1-A4). These are used to support group formation, and evaluation of group work.

Expert evaluation - individual contribution: Mid-way through the term, we will run a paper prototype evaluation session. This component evaluates your individual preparedness and contributions to helping your team, and other groups run a usability evaluation.

Late Assessment Submissions Policy

All assignments are due at the specified deadlines for all students, regardless of when they enroll in the course. On-time submissions are graded as normal. Late submissions will incur a penalty: Submissions < 24 hours late incur a 10% penalty. Submissions < 48 hours late incur a 30% penalty. Submissions more than 48 hours late earn 0%.

Course Schedule

PART 1. DESIGN THINKING & FORMATIVE RESEARCH

Sept 4, 2024 - Lecture 1: Design Thinking

Sept 6, 2024 - Lecture 2: User Research

Sept 11, 2024 - Lecture 3: Observations

Sept 13, 2024 - Lecture 4: Interview & Questionnaires

Sept 18, 2024 - Lecture 5: Job Stories, Experience Maps, Requirements

Sept 20, 2024 - Lecture 6: Collaboration & Communication

Sept 25, 2024 - Studio Sp1: Studio Presentations & Critiques

- Sp1: Group Presentation
 - Sp1: Critique
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Sept 25, 2024 - Studio So1: Open Session

- Come to your studio section to work with your team on your project assignments
 - Instructors will be happy to answer any questions, provide feedback and advice to your team upon request, to help you best prepare for your upcoming project milestone
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Oct 9, 2024 - Lecture 7: Sketching the user experience: From Ideation to Prototyping

Oct 11, 2024 - Lecture 8: Discount Evaluations

Oct 16, 2024 - Studio Sp2: Studio Presentations & Critiques

- Sp2: Group Presentation
 - Sp2: Critique
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Oct 23, 2024 - Studio Se2: Expert Evaluations of Paper Prototypes

- Come to your studio section to perform paper prototyping testing using other groups as your evaluators.
 - See Paper Prototype: Sign-Up & Evaluation Materials
 - See Paper Prototype: Evaluation: Participation & Peer-Review Form
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Nov 6, 2024 - Lecture 9: High-Fidelity Prototyping & Usability Testing

Nov 8, 2024 - Lecture 10: Recap & Guest Speakers

Nov 13, 2024 - Studio Sp3: Studio Presentations & Critiques

- Sp3: Group Presentation
 - Sp3: Critique
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Nov 20, 2024 - Studio So3: Expert Evaluations of Paper Prototypes

- Come to your studio section to work with your team on your project assignments
 - Instructors will be happy to answer any questions, provide feedback and advice to your team upon request, to help you best prepare for your upcoming project milestone
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Nov 27, 2024 - Studio Sp4: Final Project Presentations

Policies & Statements

Late/Missed Assignments

All assignments are due at the specified deadlines for *all* students, regardless of when they enroll in the course. On-time submissions are graded as normal. Late submissions will incur a penalty:

- Submissions < 24 hours late incur a 10% penalty.
- Submissions < 48 hours late incur a 30% penalty.
- Submissions more than 48 hours late earn 0%.

Please note that *no* exceptions will be granted for any sort of submission error. You are expected to submit at least one full day before the actual due date. Make sure you start early and have a good understanding of the assignment requirements to avoid any foreseeable or unforeseeable issues.

Students with Disabilities or Accommodation Requirements

This course is guided by the University of Toronto's goal to create a community that is inclusive of all persons and treats all members of the community in an equitable manner. In creating such a community, the University aims to foster a climate of understanding and mutual respect for the dignity and worth of all persons. Please find details here: <https://www.utoronto.ca/accessibility>.

Students with diverse learning styles and needs are welcome in this course. If you have a disability or a health consideration that may require accommodations, please register with [Accessibility Services](#) at the beginning of the academic year by visiting <http://www.studentlife.utoronto.ca/as/new-registration>. Accessibility Services will assess your situation, develop an accommodation plan with you, and support you in requesting

adequate accommodation for your course work by issuing a [Letter of Accommodation](#). Only after you have registered will Accessibility Services verify your situation with your instructors, and the instructors will then be advised about your accommodation needs and the appropriate accommodations. An accessibility letter can then be provided to the teaching team 1-2 business days before a deadline for accommodations & special considerations to be arranged. The process of accommodation is private: Accessibility Services will not share details of your needs or condition with any instructor, and your instructors will not reveal that you are registered with Accessibility Services. Note that it is your responsibility to forward the accessibility letter to the instructor, and request accommodations in a timely manner as indicated in the letter issued by Accessibility Services.

Students who have missed class time and/or are experiencing challenges that prevent them from being able to complete course work on time, can request special consideration. Making a request does not guarantee that you will always be granted special consideration. Additionally, before making your request, make sure you also familiarize yourself with the Deliverable Extension Policy below.

If you are experiencing difficulties that affect your learning due to a disability, or if you believe that you may have a disability; you should register with the University of Toronto's [Accessibility Services](#). Accessibility Services staff are available by appointment to assess needs, provide referrals, and arrange appropriate accommodations. After registering with Accessibility Services, please forward the accessibility letter to the instructor, and request accommodations in a timely manner as indicated in the letter issued by Accessibility Services.

Students who have missed class time may declare an absence using the [Absence Declaration Tool in ACORN](#). The ACORN Absence Declaration Tool is intended to be used in the following circumstances: a health condition or injury (e.g., illness, serious physical harm, mental health issue, scheduled surgery); a personal or family emergency (e.g., unanticipated and unavoidable familial incident beyond the student's control); bereavement (e.g., the death of a student's immediate family member or close friend). Immediately after declaring absence on ACORN, please submit your absence form to the instructor and request special consideration specific to the missed academic obligation (e.g., deadline, quiz, studio). Requests submitted after the last day of the absence period will be rejected.

Students who are ill or suffer from an injury (and cannot provide an absence declaration because they have already declared an absence this term) should obtain a Verification of Illness Form (download it [here](#)) and submit the completed form to the instructor to request special consideration specific to a missed academic obligation (e.g., deadline, quiz, studio). The VOI form indicates the impact and severity of the illness, while protecting your privacy about the details of the nature of the illness. You can submit a different form (such as a letter from a doctor), as long as it is an original document, and it contains the same information as the VOI form. Please note, the form can only be completed and signed if you were seen by your practitioner during the time of your illness or injury, not after the fact. Thus, it is important to see your practitioner as soon as possible.

In the case of personal extenuating circumstances that are not related to an absence or disability and which incur challenges in participating to course work (e.g. financial struggle, housing crisis, etc...), we encourage you to contact your [College Registrar](#) to seek counselling

and advice. Where appropriate, your College Registrar will issue a letter with recommendations of accommodations for instructors to implement, which you can forward when contacting the instructor to request for accommodation.

Late enrolment

All students are expected to follow the course along as if they are enrolled in the course. This includes completing and submitting assignments at the deadlines, so that they will not lose points for not having completed works due prior to their enrolment into the course. To do this, students without Quercus access must email csc318-2024-09@cs.toronto.edu their full name (which they used to enrolled at UofT with), UofT email address, Quercus Login ID, and SIS ID, with "[CSC318] Student Needing Quercus Access" as the email subject.

Contact

You are always welcome to come talk to the instructor **after** class, and/or during office hours. For written communication, this course uses dedicated channels for different purposes. If you would like to contact us about:

- Questions about the lecture materials, in-class activities, and group assignments should be posted in their respective Quercus discussions.
- Questions about personal matters like accommodations, absences, or re-mark requests should be sent as an email to csc318-2024-09@cs.toronto.edu.

When emailing the instructors and/or the TAs, begin your subject line with "[CSC318]" and follow it with a meaningful phrase. All correspondence must happen with official University of Toronto email addresses. Please allow up to 72 hours for a reply. Emails that do not follow these instructions may not receive a reply.

Resources and reference materials

Lecture slides, announcements, and assignments will all be posted to Quercus. It is your responsibility to check Quercus and your emails regularly for course communications and updates.

We will be using a collection of different resources as reference materials in this course. The reference materials will be posted on Quercus. All of the materials are required readings. Your are required to complete all of the readings listed prior to class.

Re-marking Policy - Timeline and Protocol

Any requests to have your work remarked must contain a written justification for consideration to the course instructors using the remark request form below. In this course, we distinguish between grading *errors*, and grading *judgements*. For grading errors, a regrade should indeed be requested as soon as possible. But for grading judgements, a regrade is **not** advisable and might well lead to a **lower** grade.

- *Grading errors* arise when the grader makes an actual mistake, usually due to being in a rush. Examples of grading errors include: adding up the grades incorrectly, copying a grade incorrectly, thinking that the student(s) did not explain something, when they had

actually explained it elsewhere in their solution, etc. Such grading *errors* should be brought to the instructor's attention as soon as possible, to be corrected appropriately.

- *Grading judgements* involve the grader deciding, as best as they can, how many points a component of the work is worth based on its quality. Unless the component's requirement is absolutely perfect, and also perfectly explained, then some judgement is required to determine how many marks should be awarded. Examples of grading judgements include: if a component is included but is not well explained, does it deserve just one point to be taken off? Or two? Or three? Or more? If a component is on the right track but contains some minor errors, should it receive half marks? More? Less? Etc. These are grading *judgements*, for which regrades should usually **not** be requested. The reason is that there is no perfect guideline for how many marks a partially correct or poorly explained solution should receive. Furthermore, the grader can only grade based on what is written on the page, not what was going on in your head. The graders do their best to be fair and consistent in their grading. There will always be some questions where you feel you deserved a few more marks, and others where you were lucky to get as many marks as you did. This is all part of the usual grading practice, and is unavoidable. It is **not** a basis for a regrade.

Re-marking requests must be made within one week of receiving the graded work. Requests past this timeframe will be automatically rejected. The request must include a written explanation as to why the students believe the work was incorrectly marked. Re-evaluation appeals are at the discretion of the instructors. Note that adjustments in marks will be rare and could equally result in a lowering or raising of the mark. If a re-evaluation is completed by the instructors, the student must accept the resulting mark as the new mark, whether it goes up or down or remains the same. When appealing a re-evaluation decision, the student accepts this condition.

Writing quality

All assignments should be written with proper English spelling and grammar. For the group project reports specifically, documents should be written with university-level prose and structure. Documents in violation of these expectations are subject to a penalty of up to -10%. If you are concerned about meeting these expectations should refer to the university's [Writing Centres](#) and the course's policy on generative AI (see below).

Academic Integrity

Honesty and fairness are fundamental to the University of Toronto's mission. Violations of the Code of Student Academic Integrity, including cases of suspected plagiarism and cheating, are treated very seriously. This will result in direct reporting to the department and upwards. Disciplinary action will be pursued to resolution. This is an unpleasant process for all involved, so please do not put yourself in this situation. Here are a few guidelines to help you avoid committing academic misconduct.

You are responsible for knowing the content of the [University of Toronto's Code of Behaviour on Academic Matters](#).

All the work you submit must be done by you (individually or within your group), and your work must not be submitted by anyone else and/or copied from other sources. As a general rule, we encourage you to discuss course material with each other and ask others for advice. However, it is not permitted to share complete solutions for anything that is to be handed in. You are allowed to look at online resources, tutorials, and Q&A websites while working on your assignments. However, the submitted work must be constructed by yourself (and your teammates when applicable). Submitting AI generated content is strictly forbidden and any violation will be persecuted with the fullest extent of the regulation (see the course's policy on generative AI below for more detail).

You should also review this document regarding plagiarism in the context of CS: <http://www.cs.toronto.edu/~fpitt/documents/plagiarism.html>. "How Not to Plagiarize" and other advice on documentation format and methods of integrating sources are available on the "[Writing at UofT website](#)".

If you have any questions about what is or is not permitted in this course, please do not hesitate to post your question in Discussions and/or contact the instructors.

Use of Generative AI (e.g., ChatGPT)

User-centered design requires individuals to critically examine a problem beyond what can be summarized in a single text prompt. However, generative AI can help individuals expand their thinking and examine a problem from multiple perspectives. Therefore, the use of generative AI is permitted as a supplementary tool for (1) exploring new ideas or (2) copyediting of written materials. Generative AI is not permitted for creating design artifacts (e.g., questionnaires, storyboards) or for completing quizzes.

Understand that its intended use is to help you learn the course material, and not do the work for you. E.g., you may look at the generated content, but then write your own version of the solution. Directly copying the generated content from ChatGPT will not help you with mastery of the course content.

It is your responsibility to critically evaluate the content generated and to regularly assess your own learning independent of generative AI tools. Please be warned that these tools have not been vetted by the University of Toronto and might not meet University guidelines or requirements for privacy, intellectual property, security, accessibility, and records retention. Generative AI may produce content that is incorrect, misleading, or inconsistent with the expectations of this course. They may even provide citations to sources that don't exist—and submitting work with false citations is an academic offense.

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