

CIS 4300 – Human-Computer Interaction (Fall 2019), 0.5 credits

Lectures: TTh 1:00-2:20pm, ANNU 156

Laboratories: n/a

Instructor: Prof. Stacey D. Scott, Associate Professor, School of Computer Science (*Pronouns: She / Her*)
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Office Hours: Mondays 1-3pm

Teaching Assistants: TBD

Email: ta4300@socs.uoguelph.ca

Contact: Use email ta4300@socs.uoguelph.ca email for all course-related concerns. Use CourseLink discussion boards for general coursework or content questions. Stop by Prof. Scott's Office Hours (see above) or make an appointment with her or the TAs. (For emergency issues, email, call, or contact Prof. Scott in person)

Course Website: <http://courselink.uoguelph.ca> (Login with Central login ID and password)

The course website will be used to provide:

- **informational materials** (e.g., course notes, assignment handouts, course updates, course contacts)
- **electronic drop boxes** for non-programming course deliverable submissions
- **course discussion boards** for asking questions and discussing issues related to course material

Course Communications:

To facilitate timely and accurate communication between people with busy schedules (you, professor, TAs) we will use both electronic and face-to-face communication:

1. For **lecture, course deliverables, or general course questions**, post to the “CIS 4300 Course Questions” Discussion board on the course website. Or, talk to Prof. Scott in person before/after lectures, or email your TAs. It's recommended that you “subscribe” to this discussion board so that you don't miss any course-related discussions.
2. For **personal issues**, email or talk in person to Prof. Scott. The best time to chat with her is immediately before/after class or during her office hours (see above).

When communicating with fellow students, TAs or the professor, **you are expected to use professional practices, including respectful, clear messages, especially via email**. See “Email Policy” section below.

Required Texts

Sharp, H., Preece, J., Rogers, Y. (2019). *Interaction Design: Beyond Human-Computer Interaction*, 5th edition, Wiley. (NOTE, earlier editions *may* be OK; it is your responsibility to research differences between versions.)

* Digital version of the book is freely available via UofG Library's Ares course reserve system, with this link: <https://ares.lib.uoguelph.ca/ares/ares.dll?Action=10&Form=60&Value=32274>. Note you will have to be on campus and login using your Central UofG ID to access the book. From home you can [VPN](#) in to access the library resources. If you would like to purchase the print version, it is available through the UofG Bookstore.

Recommended Books and Web Resources:

- Buley, L. (2013). *The User Experience Team of One*, Rosenfeld, New York.
- Sharon, T. (2016). *Validating Product Ideas: Through Lean User Research*, Rosenfeld, New York.
- Interaction Design Foundation Website (Large source for high-quality open-source UX Design resources) <https://www.interaction-design.org/>

Calendar Description:

This course examines the methods for user interface software design, including interface representations and testing. Topics which will be studied include the evaluation and design of sample application systems, impacts of computer-based information systems on individuals and organizations, implementation and testing tools, and planning of learning stages and design of assistance subsystems.

*Prerequisites: CIS*3110, (CIS*3750 or CIS*3760)*

Course Objectives:

CIS 4300 aims to provide students with a strong foundation in **human-computer interaction principles, tools, and techniques** as they apply to **human-centred design and evaluation of computer systems**. Students will learn a variety of data collection and analysis techniques commonly used to evaluate the impact of technology on its users, from a **usability** and **user experience** perspective. By the end of the course, you should be able to:

- Explain* and *Justify* the benefits and drawbacks of human-centred design;
- Select* and *Use* appropriate tools and techniques for communicating design concepts and for evaluating system usability and user experience;
- Explain* the relevance and process for conducting ethical research with human subjects;
- Analyze* user data collected from system evaluation and *Interpret* the design implications of the results;
- Describe* effective design team behaviours and dynamics and *Evaluate* your contributions;
- Understand* basic human-centred design concepts through self-teaching from the textbook and other resources.

The true challenge of user-centred design and evaluation lies in learning to creatively adapt a data collection method or analysis technique to the design context while still maintaining the integrity of the method. Whether you are interested in becoming a user researcher, usability or user experience specialist, or just want to be a wiser designer, this course will supply you with a range of practical as well as theoretical knowledge.

Course Content:

Figure 1 shows the basic iterative design process that will be taught in this course. This process features human-centred design that iterates through four main activities (Discovering Requirements, Designing Alternatives, Prototyping, and Evaluation) towards a final design product. We will also discuss engaging stakeholders and users throughout the design process. In this course, you will learn the key methods, and the theory and rationale behind these methods, for applying human-centred design to the design of interactive systems.

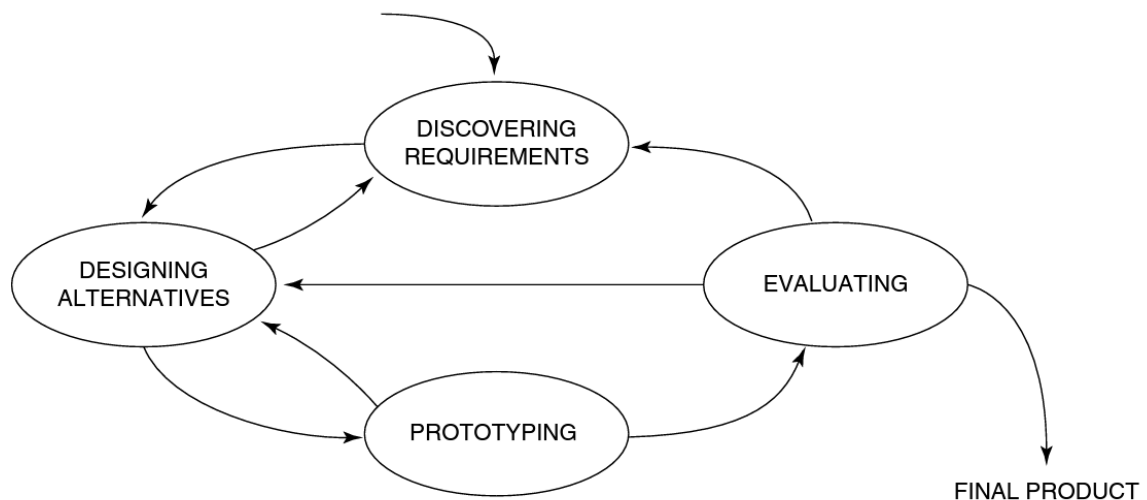


Figure 1. A basic iterative process for designing interactive systems (Sharp et al., 2019).

Grading Scheme:

The following table describes the grading scheme, and the corresponding learning objective.

			Learning Objective					
	Marking Scheme		a	b	c	D	E	f
Evaluated through:	Indiv.	Team	HCI Process	Tools & Tech.	Ethics	Analyze & Interpret User Data	Team Dynamics	Self-teaching
Exams/Quizzes	50%							
Midterm Exam	15%		x	x	x	x	x	
Final Exam	25%		x	x	x	x	x	
Online Quizzes	10%		x	x	x	x	x	x
Course Deliverables	15%	35%*						
5 Minute Teachable Presentation & Slides		5%					x	x
<u>Team Term Project</u>								
<i>Team Contract & Study Plan</i>		2%	x	x			x	x
<i>Ethics Certification & Ethics Documents</i>	2%	5%	x		x		x	x
<i>Initial Data Analysis Report</i>		5%	x	x		x	x	x
<i>Final Project Presentation</i>		8%	x	x		x	x	x
<i>Final Project Report</i>		10%	x	x		x	x	x
<i>Peer Critiques (x2)</i>	4%		x	x		x		
<i>Indiv. Accountability</i>	6%		x	x	x	x		
<i>Peer Assessments (x2)</i>	3%						x	
Total	65%	35%						

NOTES: *Due to significant group work required for team deliverables, the instructor reserves the right to apply a fraction of the grade to an individual group member without sufficient evident of contribution to the group effort. See Required Coursework Policies below for more detail.

**Peer Assessment marks will consist of a two-part mark: one part for the quality of submitted peer assessments (as assessed by the instructors) and one part for assessed teamwork contributions (as assessed by one's teammates).

Estimated Weekly Course Commitment (10-12 hours per week for this 0.5 credit course):

- 3 hours lectures
- 3-4 hours course preparation (e.g. readings, academic tasks)
- 3 + 1-2 hours labs + lab preparation (lab activities will typically support your assignment work)

University of Guelph expects students to spend 10-12 hours per week on a 0.5 credit course. This time commitment represents student workload rather than contact hours. In CIS 4300, a key learning vehicle are the course deliverables (including the team project). **Individual accountability reports** are designed to assess **individual reflection and learning** during team-based coursework, as well as **individual accountability** for team-based deliverable submissions. Participation in all in-class presentations, and peer critique activities is **mandatory**.

Policies on Required Coursework:

Late or Missed Assignments/Deliverables:

- **0%** will be given for any late or missed team-based assignments or deliverables. **No extensions** will be given after a submission date.

Missed Exam:

- **0%** will be given for a missed **midterm exam**. If accommodation is warranted under the “Accommodation” policy below, the midterm mark allocation (15%) will be redistributed to the final exam (i.e. the final exam will then be worth 40% instead of its original 25% for one missed midterm, or worth 65% for two missed midterms).
- If you miss the **final exam**, you must talk with your academic counsellor and follow University of Guelph policies on this matter. Prof. Scott is not allowed to handle this situation directly.

Marking of Team-Based Deliverables:

- By default, marks for all team-based deliverables will be applied to all group members. However, the **instructor reserves the right to assign individual students a fraction of the total group mark** on any team-based deliverable without sufficient evidence of that student’s contribution to the group effort. The **onus is on each individual student** to provide evidence of their individual contribution to the team effort. The instructor reserves the right to apply fractional grading **retroactively at the end of the term** to one or more team deliverables if **individual accountability reports, peer assessments, or team deliverables** lack sufficient evidence of contribution to team-based deliverables.
- If a team feels that lack of effort by one or more group members is negatively impacting the group’s ability to meet the expected outcomes for the course, the situation **MUST be identified to the course instructor or TAs PRIOR to any impacted deliverable** to be considered for accommodation in deliverable grading. Otherwise, default grading criteria will be applied (e.g., the submitted deliverable will be assessed on the basis of a full team effort). Group members must submit a written request for accommodation, PRIOR to the deliverable deadline, detailing the situation. Note that submission of an accommodation request is not in and of itself approval.
- **It is the responsibility of ALL team members to ensure the accuracy and quality of all aspects of submitted team-based deliverables.** Therefore, any academic integrity offences arising from a team-based deliverable will impact ALL group members.

Re-grading of Marked Components:

- Any request for re-grading of a marked course component must be **submitted in writing no later than 1 week** following return of the marked component. A detailed rationale for the request must be included in the written request. The instructor reserves the right to re-grade the entire deliverable component, not just the requested aspect.

Accommodation:

- If you are unable to meet a course requirement due to medical, psychological, or compassionate reasons, please make an appointment to meet Prof. Scott. Please see below for specific details and consult the undergraduate calendar for information on regulations and procedures for Academic Consideration: <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>
- If you are unable to meet a course requirement due to religious obligations, please email Prof. Scott **within two weeks of the start of term** to make alternative arrangements. See the undergraduate calendar for information on regulations and procedures for Academic Accommodation of Religious Obligations:
<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-accomrelig.shtml>

Calculation of Final Grade / Failed Final Exam or Individual Portion of the Course:

You must obtain a final grade of **50% or more** to pass this course. Your final grade is the weighted sum of all marked coursework as shown in the Grading Scheme table on page 3, unless: a) you **fail the final exam** (i.e. obtain less than 50%), in which case your final grade will be your final exam grade, to a maximum of 45%, b) you obtain **less than 50% on the combined average of the seven individual coursework components** (Midterm Exam, Final Exam, Online Quizzes, Ethics Certification, Peer Critiques, Individual Accountability Reports, Peer Assessments), in which case your final grade will be your combined mark for these seven individual course components.

In summary, your final grade will be calculated as follows:

if (you fail the final exam)

then final grade = final exam grade, to a maximum of 45%

else if (you fail the individual portion of the course)

then final grade = (weighted sum of individual components in Grading Scheme) * 100/65

// note individual components = Midterm Exam, Final Exam, Online Quizzes, Ethics Certification,

// Peer Critiques, Individual Accountability Reports, Peer Assessments

else // (you passed the final exam AND the individual portion of the course)

then final grade = weighted sum of all components in Grading Scheme

Use of Laptops / Personal Computing Devices during Lectures:

Use of laptops, tablets, and other personal computing devices during lectures will be at the instructor's discretion. These devices can be highly distracting to both the student using the device and other students in the class. Use of these devices must be **restricted to course related activities** (note taking, viewing course materials, etc.). Distractions resulting from use of these devices may result in a student being asked to leave the classroom.

Email Policy:

All course email should follow the following guidelines:

- **Always use your uoguelph.ca email account** when emailing Prof. Scott or the TAs (i.e. when emailing ta4300@socs.uoguelph.ca). This provides an authentic email address. Also, always **include the course number (CIS 3250)** along with a relevant topic in the subject line.
- Address your email appropriately (i.e. “Dear Prof. Scott / Professor / Akshay / Ross / Jingjing ...”)
- Sign your email with your first and last name, and your student number. If you have a nickname, include that also, e.g., Yu-Ling (Betty) Chang.
- Use **professional and respectful language**. Email containing crude or coarse language will not be answered.
- Allow 24-48 hours for a response to your email. Emailing the ta4300@uoguelph.ca will give you the fastest response, as multiple members of the instructional team monitor this account.
- Email should be used for brief questions that can be answered quickly. Please drop by Prof. Scott’s office hours or make an appointment to see Prof. Scott or a TA for detailed discussions.

Roles, Responsibilities, and Expected Behaviour

Recording of materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter (instructor, classmate, or guest lecturer). Permitted recorded material is restricted to use for this course and may not be posted on any public space unless further permission is granted.

Instructional Team’s Role and Responsibility to Students

The instructional team’s (instructor and TAs) role is to develop and deliver course material in ways that facilitate learning for a variety of students. Selected notes will be made available to students on the course website but are not intended to be stand-alone. During lectures and labs, the instructional team will expand and explain the content of notes and provide example problems that supplement posted notes. Scheduled classes and labs will be the principal venue to provide information and feedback for exams and assignments.

Students’ Learning Responsibilities

Students are expected to take advantage of the learning opportunities provided during lectures, labs, and help sessions. Students, especially those having difficulty with the course content, should also make use of other resources recommended by the instructor. Students who fall behind due to illness, work, or extra-curricular activities are advised to keep the instructor informed as early as possible. This will allow the instructor to recommend extra resources in a timely manner and/or provide consideration if appropriate.

Ethical Behaviour¹

Ethical conduct in the classroom and in academic work are critical to a healthy learning environment. Ethical conduct in all areas of University work is taken very seriously at the University of Guelph.

¹ This “Ethical Behaviour” section is based on content developed by SoCS’s professor Dr. A. Hamilton-Wright, which was in turn developed based on the citizen code of conduct available via <http://citizencodeofconduct.org>, and is distributed under a Creative Commons Attribution-ShareAlike license (<http://creativecommons.org/licenses/by-sa/3.0/>).

Code of Conduct

Our learning environment must be a friendly, safe and welcoming environment for all, regardless of ethnicity, gender, sexual orientation, ability, socioeconomic status, and religion (or lack thereof). As we wish to facilitate and encourage the fullest participation from everyone, this code of conduct outlines the expectations for all participants (including the instructor and other staff). This code of conduct is aligned with the University of Guelph's policy on Non-Academic Misconduct (<https://www.uoguelph.ca/secretariat/office-services/student-judicial-services/non-academic-misconduct/policy-non-academic-misconduct>).

Expected Behaviour

- Participate in an authentic and active way. In doing so, you contribute to the health and value of this community.
- Exercise consideration and respect in your speech and actions.
- Attempt collaboration before conflict.
- Refrain from demeaning, discriminatory, or harassing behaviour and speech.
- Be mindful of your surroundings and of your fellow participants. Alert community leaders (for example, your instructor) if you notice a dangerous situation, someone in distress, or violations of this Code of Conduct, even if they seem inconsequential.

Citizenship and Participation

Communities mirror the societies in which they exist and positive action is essential to counteract the many forms of inequality and abuses of power that exist in society. If you see someone who is making an extra effort to ensure our community is welcoming, friendly, and encourages all participants to contribute to the fullest extent, we want to know.

Unacceptable Behaviour

Unacceptable behaviours include: intimidating, harassing, abusive, discriminatory, derogatory or demeaning speech or actions by any participant in our community, either in person, online, at any related events, or in one-on-one communications carried out in the context of community business. **Harassment includes:** harmful or prejudicial verbal or written comments related to race, religion, disability, gender, sexual orientation; inappropriate use of nudity and/or sexual images in public spaces (including computer labs and presentation slides); deliberate intimidation, stalking or following; harassing photography or recording; sustained disruption of talks or other events; inappropriate physical contact, and unwelcome sexual attention.

Consequences of Unacceptable Behaviour

Unacceptable behaviour from any community member, including the course instructor and those members with decision-making authority, will not be tolerated. **Anyone asked to stop unacceptable behaviour is expected to comply immediately.** If a community member engages in unacceptable behaviour, action will be taken to ensure that such behaviour ends, beginning with action on the part of the course instructor, and escalating if necessary. Additional information on University policy regarding harassment, conduct and human rights is available at the following web page: <https://www.uoguelph.ca/diversity-human-rights/>

If You Witness or Are Subject to Unacceptable Behaviour

If you are subject to or witness unacceptable behaviour, or have any other concerns, **please notify the course instructor as soon as possible.** If you feel that the course instructor cannot or will not provide remedy for the situation, please contact any of these alternate resources:

- Associate Director (Undergraduate) <ugraddir@socs.uoguelph.ca>
- Director of the School <director@socs.uoguelph.ca>
- Associate Dean (Academic) <kgordon@uoguelph.ca>
- Office of Diversity and Human Rights <dhrinfo@uoguelph.ca> or extension 53000
- Sexual Violence Support Services <svinfo@uoguelph.ca> or extension 53020
- Campus Community Police at extension 52245

Academic Integrity

Just as ethical and inclusive behaviour is required in inter-personal communications for course-based activity, the university community requires ethical behaviour in the performance of all academic activity. All forms of academic misconduct are dealt with quite seriously at University of Guelph. Plagiarism and other forms of academic fraud are offensive activities pursued vigorously by the University.

It is **your responsibility to read and be familiar with the academic regulations** of the University as presented in the Calendar. Ensure you have a complete understanding of the concepts as described in the “Academic Misconduct” subsection within Section VIII “Undergraduate Degree Regulations and Procedures” in the Calendar: <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>. It is your responsibility to accurately and clearly indicate the work of **any and all contributing people**, including yourself, in all presented and submitted materials. By handing in any work for this course, unless you have specifically identified any other authorship, **you are claiming that the sole authorship is your own.**

Please note: Whether or not you intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse you from responsibility for verifying the academic integrity of your work before submitting it – this includes submitted team-based deliverables. If you are in any doubt as to whether an action on your / your team’s part could be construed as an academic offence you should consult with your course instructor.

Mental Health

University of Guelph course instructors and student services cooperate to assist in helping students manage course and life stressors. Help is also available through counselling services. Please see the Mental Health Resources page for details: <https://wellness.uoguelph.ca/counselling/mental-health-resources>.

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability, or for a short-term disability should contact Student Accessibility Services (SAS) as soon as possible. SAS may be contacted at: phone: 519-824-4120 ext. 56208, email: csd@uoguelph.ca, or see their website: <http://www.uoguelph.ca/csd>.

Course Timetable/Content Schedule (tentative; check CourseLink for updates)

Wk – Dates	Topics (and Readings) [see CourseLink for updates]	Deliverables / Exams At the end of each team deliverable, all individual team members must submit a “Individual Accountability Report” to CourseLink (see CourseLink for details)
1–(short wk) Sep 7	Introduction to Course and Human-Computer Interaction (Sharp: Ch 1)	
2–Sep 10, 12	Design: Interaction Design & Process (Sharp: Ch: 2)	Online quiz (Mon, Sep 9)
3–Sep 17, 19	Requirements: Data Gathering Methods (Sharp: Ch 11.4 - 11.5, 8.1 - 8.5)	Online quiz (Mon, Sep 16) Project Teams Assigned
4–Sep 24, 26	Requirements: Data Analysis Methods (Sharp: Ch 9.1 - 9.4)	Online quiz (Mon, Sep 13) Thu, Sep 26: Team Contract & Study Plan due
5–Oct 1, 3	Evaluation: Evaluation Basics, Ethics, and Types (Sharp: Ch 14)	Online quiz (Mon, Sep 30)
6–Oct 8, 10	Evaluation: Usability Testing & Experiments (Sharp: Ch 15.1 – 15.3)	Online quiz (Mon, Oct 7) Thu, Oct 10: Ethics Certification (ind.) & Ethics Docs (team) due
7–Oct 15 , 17	Oct 15: Fall Study Break (following Thanksgiving on the 14 th) NO CLASSES these days. Lectures resume Oct 17 Midterm Prep & Review	
8–Oct 22, 24	Midterm & Evaluation: Field Studies & Observations (Sharp: Ch 15.4, 8.6)	Tues, Oct 22: Midterm Exam Online quiz (Fri, Oct 25) (note different day-of-week)
9–Oct 29, 31	Evaluation: Analytic Approaches & A/B Testing (Sharp: Ch 16)	Online quiz (Mon, Oct 28)
10–Nov 4, 6	Prototyping Methods (Sharp: Ch 12)	Online quiz (Mon, Nov 3) Thu, Nov 6: Initial Data Analysis Report due Fri, Nov 7: Peer Assessment #1
11–Nov 12, 14	5 Minute Teachable Presentations	Nov 12 or Nov 14: Teachable Slides due on presentation day Fri, Nov 15: Data Analysis Peer Critique due
12–Nov 19, 21	Understanding Users: Socialization, & Emotional Interaction (Sharp: Ch 4.1 - 4.3.1, 5.1 - 5.2, 5.3, 6.1 – 6.3)	Online quiz (Mon, Nov 18)
13–Nov 26, 28	Note, Nov 28 is running a Tuesday schedule (due to Fall Study Break) Team Project Presentations; Course Wrap-up	Thu, Nov 28: Final Project Report due Fri, Nov 29: Peer Assessment #2
Final Exam Period		Final Exam: Dec 11, 11:30am-1:30pm Check WebAdvisor for changes, and location.