CIS*2250
Software Design II -- Winter 2021

What is it?

This course introduces students to techniques to work in groups on software projects, do collaborative design in which students will identify, evaluate and refine important aspects of existing and new designs in the context of discussed problems.

Skills

Mind Map of Group Work + Programming, Communication, Understanding Data, Software Tools and Design Analysis

Instructors

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Courselink

courselink.uoguelph.ca

Meetings

Class: 1:30-2:20pm
M/W/F

Labs (2hr):
Mon @ 3:30pm,
Tue @ 7pm,
Thu @ 11:30am,
Thu @ 7pm
You must attend your assigned lab section.

Land Acknowledgement

The University of Guelph occupies Anishnaabe territory – this is the land of the Missisaugas of the Credit, and, through Treaty No. 3, of the Haudenosaunee peoples. While these words cannot remedy the historical injustices committed here, we recognize, acknowledge and abhor those acts, with a commitment to working for a fairer future.

By joining with the understanding of the ancient Treaty of the Dish with One Spoon tied to this land, we acknowledge, respect, and share the resources around us and the ideas within us. We recognize that the value of our coming together in this place is to work to benefit all, fairly share in the rewards, and with all our hands build a brighter future.

Caregiving while Learning

This classroom recognizes that caregiving is a community task, and that our classroom community will extend to children and other dependants of classmates. We acknowledge that members of the class may be caring for others, and we support each other in these tasks. We recognize that dependents and other household members of classmates may have needs that must be met during class time, and we recognize that all class members are likely sharing their learning environment with others.

Books

T. Brown	**Change by Design, Revised and Updated: How Design Thinks Transforms Organizations and Inspires Innovation** Harper Business. ISBN: 978-0-062-33738-2	2019
C. Rudder	**Dataclysm** Broadway Books. ISBN: 978-0-385-34739-6	2015
A. Hamilton-Wright, K. Raymond, & D.A. Stacey	**Collaborative Design Fundamentals For Software Engineers: Online Textbook for CIS*2250/2021 Edition** University of Guelph, School of Computer Science	2020

We will be doing regular readings from these books, beginning with *Change by Design* and moving to *Dataclysm*. Copies are available via the University Bookstore and other sellers. The *Online Textbook* is provided in the Courselink website.

Course Format

This course will be offered fully online, for the physical safety of all members. We will meet using the online collaboration technology "Zoom." The CourseLink class website (see sidebar for link) has links for all of our class meetings, as well as a link to a shared Google calendar that you can import into your favourite calendar tool. This calendar will contain meeting links and times (be sure to import the calendar corresponding to your lab section).

In the CourseLink site is a "Discussion" forum tool, where questions about the course may be asked and will be answered. If you have a need for one-on-one discussion, you can contact all the teaching staff via cis2250@socs.uoguelph.ca, or if you wish to contact the instructors about more personal matters, please write to instruct2250@socs.uoguelph.ca.

All of the course content is provided to you in the Online Textbook listed above. We will spend two days a week discussing this material, and every Friday we will have a Design Challenge where we will examine a case study and discuss how design can be used to improve the situation and change the outcome for the better. The timeline for course topics is provided in the CourseLink site under the name "Activities by Week."

Learning Outcomes

Students successfully completing this course will be able to:

● critically assess design ideas found in contemporary everyday use;

◑ critically assess the utility and implementation of design ideas; within the context of simple programs, tabular and record based data, and human interface examples;

○ create and critique software designs for file based data analysis tasks

◑ select appropriate software tools for a variety of data-driven tasks;

cooperate and contribute to team-driven software projects;

● establish a professional working relationship based around team-based design;

◑ evaluate, manage and push forward common projects towards a team-based goal;

○ analyze, critically evaluate and iteratively improve their own and their team-members participation in group-based work; and

◑ evaluate program code produced by themselves and others.

Grading Breakdown

Assignments:		35 %
Lab	Weeks 1-5 (begins Jan 11) : 15 %	
Team	Feb 10 (in Week 5) : 10 %	
Individual	Apr 9 (in Week 12) : 10 %	
Team Project: (all due during your lab slot)		35 %
Milestone I	Week 8 (March 8-11) : 10 %	
Milestone II	Week 9 (March 15-19) : 10 %	
Milestone III	Week 11 (March 22-26) : 15 %	
Examinations:		30 %
Quizzes	Jan 22,29;Feb 5,12;Mar 5,12,19,26 : 10 %	
Midterm	Week 6 (Feb 26) : 15 %	
Final	Due by April 24 @ 5pm : 20 %	

A student must attempt all three major course elements (Assignments, Team Project and Examination) and achieve a passing grade (50%) in each element. If $> 50\%$ is achieved in all elements, the final grade assigned will be the weighted average of all grades as per the table above. Otherwise, the final grade will be the lesser of the weighted average above and the minimum grade in any failing element.

Midterm and Final Exam

The midterm exam will be administered via CourseLink and our programming environment, `https://repl.it`. In order to provide for the various time zones students are in, the midterm may be written at any point during the 24 period of Feb 26, Eastern Time. Once you begin the midterm, you will have 1.5 hours to complete both sections.[1] One section will be administered via CourseLink, and a programming component will be administered via `https://repl.it`. Further instructions regarding midterm procedure will be distributed closer to the date of the exam.

The final exam will be a "take home" final. This means that you will be presented with questions that you will consider in depth, and write a well thought out answer. The final submission is due at the deadline given above. You will have at minimum one week to work on this exam after being provided the questions, so both time zone and any accommodation considerations are accounted for with this format.

Deadlines and Submitting Work

All assignments will be submitted electronically through Courselink. **All deadlines fall at the beginning of class** on the day indicated in the case of submitted material. Demonstrations are due during your lab time. Materials are not accepted after the indicated date and time.

Labs

Labs will be organized using the `https://repl.it` tool. Be sure to sign up for an account with this tool using your University email address so that we can identify and grade your work.

Labs prior to the midterm will have a graded lab exercise that is expected to be completed in the lab time while working in pairs. Lab time held after the midterm will be used to assess milestones in the work towards the group project. A final grade for the project is assigned based on milestones presented by the group during labs in week 8, 9 and 11, with the final demonstration of the completed project in week 11.

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[1] If registered for time based accommodation, please contact the instructor *prior* to the midterm date.

Inclusion and Accessibility

We are committed to an open and inclusive environment in this course.

Students with accessibility needs are invited to discuss how your needs may best be met with the instructor. This complements any discussion or accommodation presented through Student Accessibility Services (`uoguelph.ca/sas`).

In particular, anyone who finds barriers to inclusion in the classroom, regardless of the reason, are invited to discuss the situation with the instructor or other teaching staff.

Pre-Requisites
CIS*1250, CIS*1300

Restrictions
Restricted to BCOMP.SENG majors

Code of Conduct

Our learning environment must be a friendly, safe and welcoming environment for all, regardless of ethnicity, gender, sexual orientation, age, 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).[2] This policy is aligned with the larger *University policy on 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 (*e.g.*, teaching staff) 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, sex, 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.

A noteworthy example: **group members are not obligated to go on dates with members of their group, and asking for this will be viewed as sexual harassment.**

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 University Human Rights Office.

If You Witness or Are Subject to Unacceptable Behaviour

If you are subject to or witness unacceptable behaviour, or have any other concerns, please

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[2]This code of conduct is based upon 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/`)

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) <**cpesada@**uoguelph.ca>
Office of Diversity and Human Rights <**dhrinfo@**uoguelph.ca> or extension **53000**
Campus Community Police at extension **52245**

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study. Faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

In particular, **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 (or any) course, unless you have specifically identified any other authorship, **you are claiming that the sole authorship is your own**. Including work from any other person without directly indicating the source of such work constitutes academic fraud of some type.

If you have any questions about what academic fraud such as plagiarism entails, or about any other forms of academic misconduct, please ask your course instructor.

University Wide Course Outline Information

Winter 2021

1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

- Undergraduate Calendar - Academic Consideration and Appeals
- Graduate Calendar - Grounds for Academic Consideration
- Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

- Undergraduate Calendar - Dropping Courses
- Graduate Calendar - Registration Changes
- Associate Diploma Calendar - Dropping Courses

4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

- For Guelph students, information can be found on the SAS website
  https://www.uoguelph.ca/sas
- For Ridgetown students, information can be found on the Ridgetown SAS website

6   Academic Integrity

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Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

- Undergraduate Calendar - Academic Misconduct
- Graduate Calendar - Academic Misconduct

7   Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

8   Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

- Academic Calendars
  https://www.uoguelph.ca/academics/calendars