

CIS*2250

Software Design II -- Winter 2024

Land Acknowledgement and Obligation

The University of Guelph occupies the traditional lands of the Mississaugas of the Credit, and of the Hodinöhsö:ni'. This is treaty land, and we have responsibilities because of this.

The Haldimand Treaty* and the larger Between the Lakes Purchase (Treaty No. 3 of 1792)[†] took this land from the Mississaugas of the Credit,[‡] for whom it was their ancestral territory, and gave this land to the to the people of the Haudenosaunee Confederacy[§] in consideration for the loss of their original home lands while fighting on behalf of the Crown.

The Hodinöhsö:ni' fought as nation-to-nation allies to defend the independence of what is now Canada against American revolutionaries, who at the time were intent on expanding their newly forming country across North America. Due to the loss of their ancestral home in this war, this land, and the entirety of the Haldimand Tract, was granted to the Hodinöhsö:ni' "for their use *for ever*."[¶] The University of Guelph now occupies a portion of this treaty land.

All of us who use this land—regardless of how we came to be here—have a responsibility to protect and share that which is here and defines this place. This has not been the history of the occupied use of this land. We recognize and acknowledge the injustice of the occupation and our responsibility to address it. These words do not provide remedy for the ongoing injustice we see: *we have a treaty obligation* to work hard to find a fairer future.

Since ancient times, this land has been governed by the Treaty of the Dish with One Spoon,^{¶,◇} an agreement made in the time of Hiawatha and the Great Peacemaker[▷] and handed down to us to guide our use of this land. This ancient treaty states the responsibilities we take on by coming here. By gathering together in this place we agree that: we must *protect its abundance*; we must *share its resources*; we must *respect each other*.

We meet here to use this land as a place of learning. To respect the land, the ancient treaty, and ourselves, our use of this place requires us to gather here to share our expertise and ideas, working with all our hands: together, and for all – upholding our responsibility to each other, and to those generations yet to come.

Responsibilities Within this Course

This course is, fundamentally, a study in responsibility. As designers, we take on a responsibility for the use of our designs. The must be fit for their purpose, meeting the goals of those for whom they are intended, and they must not cause harm to others.

We also take on responsibilities to each other. In this course we work together, in pairs and in groups. The responsibility that we thereby take for each other's success is a central theme of this course.

We will learn how to communicate these responsibilities to those we work with, and, equally, learn how to communicate and respond when someone is not meeting their responsibility to us. We do this by active participation during all class and lab periods. Clear communication must be the focus of all of your activities in this course.

*R. Matthews, Six Nations: "The Haldimand Treaty of 1784." <https://www.sixnations.ca/LandsResources/HaldProc.htm>

[†]Dr. Brittany Luby, Dr. Alison Norman *et al* (2019): "Treaty No. 3 (1792)." <https://theontario.ca/2019/03/28/treaty-no-3-1792/>

[‡]Mississaugas of the Credit First Nation (2023): "About Us," [Official Website](https://mncfn.ca/). <https://mncfn.ca/>

[§]Haudenosaunee Confederacy (2023): "Who We Are," [Official Website](https://www.haudenosauneeconfederacy.com/who-we-are/). <https://www.haudenosauneeconfederacy.com/who-we-are/>

[¶]Hamilton Civic Museums, Mississaugas of the Credit First Nation, Darin Wybenga and Caitlin LaForme (2021): "Between the Lakes Treaty (No. 3)." <https://hamiltoncivilmuseums.ca/exhibition/treaties/between-the-lakes-treaty-no-3/>

[◇]Leanne Simpson (2008): "Looking after Gdoo-naaganinaa: Precolonial Nishnaabeg Diplomatic and Treaty Relationships," *Wicazo Sa Review* 23:2, pp. 29–42. <https://nandogikendan.com/wp-content/uploads/2018/04/69b9f-23-2-simpson.pdf>

[▷]Lorrie Gallant, Jasmine Wong, Erez Zobary (2020): "The Dish With One Spoon Wampum," *Facing Canada*, Webinar 2. <https://facingcanada.facinghistory.org/the-dish-with-one-spoon-wampum>

[§]Haudenosaunee Confederacy (2023): "Confederacy's Creation," [Official Website](https://www.haudenosauneeconfederacy.com/confederacy-creation/).

<https://www.haudenosauneeconfederacy.com/confederacy-creation/> (all pages accessed May 2023)

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

A. Hamilton-Wright,
K. Raymond
instruct2250@
socs.uoguelph.ca

Courselink

courselink.uoguelph.ca

Labs

You must attend your assigned lab section.

Lab activities will be identified each week. It is your responsibility to arrive at your assigned lab section promptly, and have read and be familiar with the goals of the lab when you arrive so that you are ready to begin work.

Unprepared arrival disrespects your peers — you should expect to be graded accordingly.

Course Format

The main focus of this course is **collaborative design** through **group activities**. For first half of the course we will engage in **pair-programming**. For the second half of the course students we will design and build a substantial software system in project groups.

During the classroom activities we will discuss and review course tools provided in our On-line Textbook on Mondays and Wednesdays, and most weeks we will have **Design Challenges** in which we examine a real world case study. During these we will examine a situation to which we can apply our design skills – a scenario in which the success of a resolution of the underlying issues is related to how well design strategies were applied, or can be applied. You are expected to be present and participate actively during class.

The full course schedule is available in the CourseLink document “Activities By Week”.

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.

Be sure to use these email addresses to contact the course staff. **Do not email any of the teaching staff directly.** Emailing the course accounts ensure that we will see it, and be able to respond quickly and appropriately.

Grading Breakdown

Assignments:		⇅	31 %
Lab	7× weekly beginning Jan 15 due during lab :	21 %	
Team	Feb 13 at 1pm (start of class) :	✓ 10 %	
<i>Report</i>		: 8 %	
<i>Peer</i>		: 2 %	
Team Project: (due at the start of your lab slot)		⇅	31 %
Milestone I	Week 8 (March 5–8) :	✓ 3 %	
<i>Report</i>		: 3 %	
Milestone II	Week 9 (March 12–15) :	✓ 7 %	
<i>Prototype Demo (3 min max)</i>		: 2 %	
<i>Report</i>		: 4 %	
<i>Peer</i>		: 1 %	
Milestone III	Week 10 (March 19–22) :	✓ 3 %	
<i>Prototype Demo (3 min max)</i>		: 2 %	
<i>Peer</i>		: 1 %	
Milestone IV	Week 9 (Apr 2–5) :	✓ 18 %	
<i>Demo</i>		: 8 %	
<i>Report – due two days after demo</i>		: 7 %	
<i>Peer – due two days after demo</i>		: 3 %	
Examinations:		⇅	38 %
Quizzes (8 @ 1 %)	Jan 18,25; Feb 1,8,15; Mar 7,14,21 :	8 %	
Midterm Exam	Feb 29, in class :	15 %	
Final Exam (location TBD)	April 13, 8:30am :	15 %	

To successfully complete the course, a student must achieve a passing grade (50% or greater) in **each one** of the three major course elements listed above (Assignments, Team Project and Examination).

If $\geq 50\%$ is achieved in every element, the final grade assigned will be the weighted average of all grades as per the table above. If $< 50\%$ is achieved in one or more elements, the final grade will be the lesser of the weighted average above and the minimum grade in any failing element.

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.

Your grade for all team based elements will depend on group effort. Proficiency in team-based skills form the basis for several of the learning outcomes for this course. Engaged and committed participation to group success is expected of all group members.

- It is your responsibility to **support and invite collaboration**;
- It is **NOT** your responsibility to carry the weight for members who do not collaborate.

If a member is not collaborating, you **must** let the instructors know. *We can and will help you resolve this problem.* See also “The Ghost” Pair Programming Problem Partner Type in the Online Textbook (section 2.7.5).

For peer grading, 50% of the score is assigned based on the quality of constructive feedback you give your peers, and 50% based on the score your peers give you on your work.

The spring break occurs between weeks 6 and 7 of the term and is not numbered in the course schedule.

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 unless an extension has been agreed upon with the course instructor **before** the indicated due date.

Note that much of this course is done **collaboratively** which means that if you cannot make a deadline, not only do you need to tell the course instructor, but you **also** need to communicate with the rest of your team. Don't leave your team hanging – we call this “being a ghost” (see the course textbook). Bring up any circumstances that may affect successfully meeting a deadline as soon as these arise, and make sure that everyone knows, both the instructor and your team.

Books

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| T. Brown | Change by Design, Revised and Updated: How Design Thinking 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 / 2024 Edition
University of Guelph, School of Computer Science | 2024 |

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.

Labs

Labs prior to the break week will have a graded lab exercise that is expected to be completed and submitted **in the lab time** while working in pairs. Lab time held after the break will be used for the group project, both as assessment time, and to provide you time during which help is available from teaching staff to assist you in your project work.

A final grade for the team 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, and a final report due 48 hours after the completion of your demo.

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

Software Engineering Lab

The room in which we meet for our labs – our lab workspace – is available to you and other Software Engineering students for work on project tasks when other classes are not scheduled.

Use of this room is dedicated **solely** to students in this program.

Code of Conduct*

Our learning environment must be a friendly, safe and welcoming environment for all, regardless of ethnicity, gender, sex, 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 community members (including the instructor and other staff). 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 or speech. Be mindful of your surroundings and of your fellow community members. Alert community leaders (e.g., teaching staff) if you notice a dangerous situation, someone in distress, or violations of this Code, 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 community members 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 members 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; posting (or threatening to post) other people's personally identifying information (a.k.a.: "doxxing"); sustained disruption of talks or other events; inappropriate physical contact, and unwelcome sexual attention.

An example: no one is obliged **to go on a date** with their team members. Such a demand is **sexual harassment** and completely unacceptable.

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* or the *Sexual Violence Support Centre*.

This Code of Conduct does not limit the right of any community member to seek additional support or redress for unacceptable or dangerous behaviour.

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)
cpesada@
uoguelph.ca

Office of Diversity and
Human Rights
dhrinfo@
uoguelph.ca
or extension **53000**

Sexual Violence
Support and Education
Coordinator
svinfo@
uoguelph.ca
or extension **53020**

Campus Community
Police at extension
52245

*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 (CC BY-SA 3.0)

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.

Including the work of others:

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.

As long as the **true authorship of all materials is clearly indicated**, you will never have a problem with plagiarism.

Requesting grades based on personal circumstances:

Grades are given based on demonstrated proficiency in the course material.

Personal circumstances may interfere with opportunities to demonstrate this proficiency. Course accommodations in terms of adjusted or alternate methods to demonstrate proficiency may be arranged, **WELL IN ADVANCE OF DUE DATES** with SAS or the course instructor. Please discuss these at the earliest possible opportunity if the need arises.

Personal circumstances **NEVER** result in a change of grading after the fact, under any conditions whatsoever. In fact, requesting a change to a grade based on personal circumstances is a type of **academic fraud**, and will be referred for discipline under academic misconduct.

Note the difference here:

- accommodation for personal circumstances to allow proficiency to be demonstrated **is supported** as the proficiency is showcased, if under different circumstances than originally planned
- requests for direct grade changes when the proficiency has not been demonstrated **is fraud.**

The consequences of any type of academic fraud at the University are significant, and all cases that arise are submitted to the Dean's office for judicial review.

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, the library, or any other faculty. We will be quite happy to help you understand this important concept.

Anti-plagiarism Tools

Note that all materials submitted for grading will be evaluated using the "MOSS" (Measure of Software Similarity) and "TurnItIn" tools.

These tools detect plagiarism, illicit collaboration and reuse of materials, all of which constitute academic misconduct.

All academic misconduct will be referred to the Dean's office for action.

If you are unsure whether some activity is academic misconduct **just ask!**

University Wide Course Outline Information

University of Guelph

January 7, 2024

Abstract

The text below has been provided by the University of Guelph central administration, and is required to be distributed with course outlines provided for course guidance.

The information in this document is common to ALL courses offered by the University of Guelph. It has been collected here to make these common features of all courses distinct from the course specific instructions that have been given in the previous pages, and ensure that you can distinguish between that material authored by your course instructor, as separate from that required as part of University regulations.

- 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

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

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 re-submit 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 Ridgeway students, information can be found on the Ridgeway SAS website

6 Academic Integrity

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 encourages academic integrity. 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.

- 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>

9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

10 Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g., final exam or major assignment).

11 Further Information

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campus/how-u-of-g-is-preparing-for-your-safe-return/>
- <https://news.uoguelph.ca/return-to-campus/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.