CIS*2520
Data Structures -- Fall 2023

Land Acknowledgement and Obligation

The University of Guelph occupies the traditional lands of the Missisaugas of the Credit, and of the Hodinöhsö:ni'. This is treaty land, and we have a responsibility to it.

The Between the Lakes Purchase (Treaty No. 3 of 1792)[*] purchased this land from the Missisaugas of the Credit[†] and gave this land to the to the people of the Haudenosaunee Confederacy[‡] "for their use *for ever*"[◁] in consideration for the loss of their original home lands while fighting on behalf of the Crown. The Hodinöhsö:ni' fought, not to preserve their own interests, but as nation-to-nation allies working 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. 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, we all 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: 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 coming together in this place: 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 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.

Caregiving while Learning

We recognize that members of the class may be caring for others, and we support each other in these tasks. We acknowledge that children and dependants of classmates may have needs that must be met during class time. Parenting activities to care for infants and young children—such as nursing or other feeding, changing, and communication with children and other people under our care—are necessary and important community activities and we celebrate these as part of the foundation and fabric of our world.

Course Safety

This course has been constructed as a hybrid model. This means that you can attend the course remotely or in person.

If you are sick – for **any** reason – **DO NOT PHYSICALLY COME TO CLASS**. It is impossible to determine why you are sick, and it really doesn't actually matter – simply stay away until you are well. Be considerate of others and this class will go well.

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

[†]Missisaugas of the Credit First Nation (2023): "About Us," Official Website. https://mncfn.ca/

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

[◁]Hamilton Civic Museums, Missisaugas of the Credit First Nation, Darin Wybenga and Caitlin LaForme (2021): "Between the Lakes Treaty (No. 3)." https://hamiltoncivicmuseums.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/confederacys-creation/ (all pages accessed May 2023)

Course Format

This course focuses on **individual work** designed to support your growth as a programmer and program designer.

All submitted course works **must be your own efforts**, based on the supplied tools and examples.⊕

Lab activities during the first half of the semester will give you familiarity with the course tools and provide you guided tasks that will help build your programming skills and provide the fundamentals that you will require to do the assignments.

Lab periods that have no assigned activity are valuable periods of time at which you can discuss programming related issues with the teaching staff, receive feedback on your programming strategies and get help with problems you may be encountering. Feel free to bring your code to these sessions for direct one-on-one feedback from the teaching staff, especially if you are having problems.

Hybrid Delivery

This course is being delivered in **hybrid mode**. This means that all lecture material will be available for participation both remotely and in person. **Most** labs will also have a hybrid participation option, however we do not have sufficient staff to off all labs in this mode. Lab sections 04 and 09 will **NOT** support hybrid participation.

Grading Breakdown

Labs:		⚐	**20 %**
Lab week 1	week of September 11 :	2 %	
Labs weeks 2-6	weeks of September 18, 25 and : October 2, 23, 30 :	5×3.6 %	
Assignments:		⚐	**40 %**
Assignment 1	due Tuesday September 26 @ 2:30pm :	10 %	
Assignment 2	due Friday October 13 @ 5pm :	10 %	
Assignment 3	due Thursday November 9 @ 2:30pm :	10 %	
Assignment 4	due Thursday November 30 @ 2:30pm :	10 %	
Exams:		⚐	**40 %**
Midterm	Friday October 20 @ 6pm (90 min)⊠ :	20 %	
Final	Wednesday December 6 @ 2:30pm (2h)⊛ :	20 %	

Deadlines and Submitting Work

All assignments and all labs will be submitted electronically through Courselink. Assignments are due at the date and time indicated above. Lab work will be done during the lab period and submitted at the end unless otherwise announced during the 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.

Barring **truly exceptional** circumstances, "late" work is not accepted. There is no "late penalty" in this course.

Learning Outcomes

Students successfully completing this course will be able to:
▶ Describe and implement common data structures for solving complex programming problems including algorithms for the creation, insertion, deletion, searching, and sorting of each data structure.
▶ Analyse the space and time efficiency of algorithms including algorithms for the creation, insertion, deletion, searching, and sorting of data structures discussed.
▶ Select and correctly use the appropriate abstract data type for programming problems.

Hybrid Format

All class meetings will support remote/hybrid participation. Hybrid participation will be supported in all lab sections **except** sections 4 and 9 (Mondays and Wednesdays at 8:30).

⊕See **Academic Misconduct** for more on this topic.

⚐There will be no class on Thursday October 19 as the midterm is being held outside of class time the next day.

⊠If there is any mismatch between dates or times given here and those dates and times supplied in WebAdvisor, then WebAdvisor is the authoritative source.

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 participants (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 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; 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.

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**

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 accommodation 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 very happy to help you understand this important concept.

Anti-plagiarism Tools

Note that all materials submitted for grading will be evaluated using "MOSS" (Measure of Software Similarity) and "TurnItIn" tools, which detect plagiarism, illicit collaboration and reuse of materials, all of which constitute academic misconduct.

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

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*2500, (CIS*1910 or ENGG*1500)