instructor
Dr. Judi McCuaig
Pronouns: she/her

2430jm@socs.uoguelph.ca
MS-Teams:@judi
twitter:@drjmc

teaching assistants
tba

land acknowledgment

The Dish With One Spoon Covenant speaks to our collective responsibility to steward and sustain the land and environment in which we live and work, so that all peoples, present and future, may benefit from the sustenance it provides. As we continue to strive to strengthen our relationships with and continue to learn from our Indigenous neighbours, we recognize the partnerships and knowledge that have guided the learning and research conducted in and for this class. We acknowledge that the University of Guelph resides in the ancestral and treaty lands of several Indigenous peoples, including the Attawandaron people and the Mississaugas of the Credit, and we recognize and honour our Anishinaabe, Haudenosaunee, and Métis neighbours. We acknowledge that the work we do here occurs on their traditional lands so that we might work to build lasting partnerships that respect, honour, and value the culture, traditions, and wisdom of those who have lived here since time immemorial.

course description

CIS*2430 is a .5 credit course.

This course introduces the Object Oriented (OO) approach to programming and algorithm design. Topics will include the creation and use of objects from class libraries, user defined objects, inheritance, modularity, generic code, components, collections and containers, and an introduction to OO design methodologies.

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

learning outcomes

By the end of this course, you should be able to:

- Identify the major characteristics of different programming paradigms (procedural, functional, logical, and object-oriented)
- Differentiate between procedural and object-oriented paradigms
- Design and implement classes for an object-oriented program demonstrating correct use of encapsulation, constructors, method overloading, class invariants, accessors, mutators, instance variables and class variables.
- Construct class hierarchies that maximize code reuse through inheritance while accommodating differences through method overriding.
- Describe polymorphism and identify situations in which it is used in an OO program. .
- Use polymorphism, abstract methods/classes, and interfaces effectively to produce generic code
- Read and understand class diagrams written in UML (Unified Modeling Language)
- Compare event-driven programming with control-driven programming

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prerequisites & restrictions

CIS*2500	**Intermediate Programming** 2430 relies on a strong understanding of memory allocation and function pointers

times

Lecture	**M/W/F 4:30 pm - 5:20 pm** Zoom Meeting
Study Group	**Weekly: to be scheduled first week of class** Study group meets with a TA every week
Final Exam	**December 12, 11:30 a.m.** Online with a take home component

Lecture content will be presented as a series of single-topic mini lectures each focusing on a single topic. All lectures will be recorded. Most mini-lectures will be scheduled during the synchronous class time. The weekly Mini lecture schedule will be available at the beginning of each week.

Every student will be placed in a study group of approximately five students. You are required to meet with your study group and a TA once per week for approximately 15 minutes instead of attending scheduled labs. During this time the TA will answer your questions about the weekly lab exercise.

communication

The primary mode of communication for this course is via email.
You are responsible for checking your email at least twice per day.

email	**2430judi@socs.uoguelph.ca** Do not use instructional team personal email addresses use this email address for all course email
forums	**MS-Teams group for CIS*2430**
website	**moodle.socs.uoguelph.ca** enrolment key:
appointments	**judimccuaig.youcanbook.me** -->Judi **Moodle Scheduler** -->TAs

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textbooks

Suggested   **Zybook: Object Oriented Programming**
learn.zybooks.com
code: UOGUELPHCIS2430MccuaigFall2020

weighted assessments schedule

Each assignment builds from the previous so all assignments must be done. Lab exercises must be completed on your own before the lab due date.

20%	**Labs** 11 Labs; 2% each; Drop lowest Due: weekly on Fridays 11:59 pm
15%	**Assignment One (A1)** October 5 9:00 AM
15%	**Assignment Two (A2)** November 2 9:00 AM
20%	**Assignment Three (A3)** November 30 9:00 AM
30%	**Final Exam** December 12, 11:30 a.m.

unweighted assessments schedule

Unweighted activities are assessed on a **0-1 scale**.

0-1	**Independent Practice (IP)** 11 auto-graded quizzes- due Dec 4, 11:59 pm 11 auto-graded practice activities- due Dec 4, 11:59 pm Weekly Study Group participation
0-1	**Competence Interview One(CI1)** Week of October 5
0-1	**Competence Interview Two (CI2)** Week of November 2
0-1	**Competence Interview Three (CI3)** Week of November 30

grade calculation

Your final grade is calculated according to the following formula

$$CourseGrade = (labTotal * avgIPScore) + (A1 * CI1) + (A2 * CI2) + (A3 * CI3) + finalExam$$

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topics by date

WEEK	TOPICS COVERED	Dates
Week 0	**Introductions, Course Description**	S10-S13
Week 1	**Software Tools & Java Basics**	S14-S20
Week 2	**OO Basics: Memory, References, Objects**	S21-S27
Week 3	**OO Programs: Message Passing**	S28-O4
Week 4	**Input/Output, Procedural vs OO languages** - Assignment One due 9 am Oct. 5 - Competence Interview One	O5-O11
Week 5	**Exceptions & Testing with Junit** - University closed Oct 12 and Oct 13	O12-O18
Week 6	**Collections**	O19-O25
Week 7	**User Defined Classes & Single Responsibility Principle**	O26-N1
Week 8	**Polymorphism via Interfaces** - Assignment Two due 9 am Nov. 2 - Competence Interview Two	N2-N8
Week 9	**Polymorphism via Inheritance**	N9-N15
Week 10	**UX/UI Design Intro & Event Driven Programming**	N16-N22
Week 11	**Graphical User Interfaces (Swing)**	N23-N29
Week 12	**Generics & Functional Processing** - Assignment Three due 9 am Nov. 30 - Competence Interview Three	N30-D6

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computing requirements

All homework will be completed using the Java programming language. Third party libraries and frameworks may be used only with explicit approval of the course instructor. Work submitted for grading will be graded using Debian Linux. Keep reliable backup copies of all assignments as you may be asked to resubmit work at any time.

In particular we will use the following programming tools and languages

- Open JDK (all code must be compatible with Java 11)
- Gradle
- Gitlab
- Junit 4

You will be expected to understand how to create and run java programs without the use of an IDE. An IDE hides much of the process from beginners and prevents learning. We recommend using an editor, such as Sublime, or a smaller IDE such as VS-Code.

You must have access to a computing device and internet connection that allows you to share your screen in online meetings while having a voice conversation. While sharing your screen you will be asked to run your java programs so the device you use must be capable of compiling and running your java assignments.

A video feed is nice for online meetings but is not required. Screen sharing is required.

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 discourages misconduct. All students who take a SOCS course must pass the Academic Integrity Self Test.

For educational purposes, instructors impose conditions on assignments that may limit students' permission to collaborate with others or to utilize external sources (including, but not limited to, software, data, images, text, etc.). Any permitted utilization must be done with proper references. Aiding and abetting is a punishable offence; students must be careful not to help others commit offences by giving out solutions or providing to access computer accounts. Instructors may use automated tools to detect possible cases of academic misconduct.

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.

- The Academic Misconduct Policy is detailed in the Undergraduate Calendar here.
- The SOCS Academic Integrity Unit is here. Login with your central login credentials.

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policies

- **Regrades**: If errors were made in the grading of your work, you must, in writing, present your case to the instructor within 5 days of receiving your grade. Be specific about what you believe was graded incorrectly. Your submission will be completely regraded. This could result in your grade being reduced. It is not a grading error if you simply got a lower grade than you were expecting.

- **Missed or Late Assessments**: If you are unable to meet an in-course requirement due to medical, psychological, or compassionate reasons, please contact the Instructor and explain the situation. Include any evidence you have to support your case. If you merit academic consideration for one of the assessments, you will be given an alternate assessment. Please remember, however, that each of the homework assignments builds from the previous one. This means that if you do not submit an earlier assignment you will still have to complete it in order to do the subsequent assignments.

  Please consult the undergraduate calendar for information on regulations and procedures for Academic Consideration.

- **Communication & Email Policy** Major announcements will be posted to the course website. It is your responsibility to check the course website regularly. As per university regulations, all students are required to check their mail.uoguelph.ca e-mail account regularly: e-mail is the official route of communication between the University and its students.

- **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, whether the instructor, classmate, or guest lecturer. Material recorded with permission is restricted to use for that course and may not be posted on any public space unless further permission is granted.

- **Accommodation of Religious Obligations**: if you are unable to meet an in-course requirement due to religious obligations, please email the instructor **within two weeks of the start of the semester** to make alternate arrangements. See the academic calendar for information on regulations and procedures for Academic Accommodation of Religious Obligations.

- **Instructor's Role and Responsibility to Students** The instructor's role is to develop and deliver course material in ways that facilitate learning for a variety of students. A variety of materials, including notes and recorded lectures, will be made available on the course website.

- **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 inform the instructor about their situation as early as possible. This will allow the instructor to recommend extra resources in a timely manner and/or provide consideration if warranted.

- **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.

  For more information, contact SAS at 1.519.824.4120 ext 56208 or accessibility@uoguelph.ca or wellness.uoguelph.ca/accessibility.

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code of conduct

Our learning environment must be a safe, and welcoming environment for all, regardless of ethnicity, gender, sexual orientation, ability, socioeconomic status, and/or religion (or lack thereof). This code of conduct outlines the expectations for all participants [1].

- **Expected Behaviour:** Members of our learning community are expected to:
  - participate in an authentic and active way, and in doing so, contribute to the health and value of our community,
  - exercise consideration and respect in their speech and actions,
  - attempt collaboration before conflict,
  - refrain from demeaning, discriminatory, or harassing behaviour and speech,
  - be mindful of your surroundings and your fellow participants, and alert community leaders (e.g. your instructor) if you notice a dangerous situation, someone in distress, or violation of this Code of Conduct, even if it seems inconsequential.

- **Citizenship & 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 here.

- **If You Witness or Are Subject to 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 (click here to email),
  - Director of the School (click here to email),
  - Associate Dean, Academic (click here to email),
  - Office of Diversity and Human Rights (click here to email, or ext 53000),
  - Campus Community Police (ext 52245).

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[1] Based on citizen code of conduct, distributed under a Creative Commons Attribution-ShareAlike license

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health & wellness

All members of campus play a role in fostering and promoting a safe, supportive environment, as well as good physical, emotional, spiritual, cultural, and mental health and wellness.
COVID-19 has required all of us to adjust our work habits and our expectations of ourselves. I cannot change the expectations for you, but if you are struggling because of challenges related to COVID-19, please contact me and I will try to help you identify a path to success.

If you are sick, heartbroken, or exhausted, go home. Work is not more important than your health. -Dr. Max Liboiron

If you are experiencing any challenges, please do not hesitate to contact the instructor, and know that there are resources on campus set up to help you out.

Medical concerns? Student Health Services at x52131

Threats of violence, personal safety? Campus police at x2000

Psychological or emotional concerns? Counselling services at x53244

Accessibility concerns? SAS at x56208

Sexual assault? Campus police at x2000, or counselling services at x53244

Mental Health concerns? Please see the Mental Health Resources page here.

Students who are also parents often face the barrier of exhaustion in the evening once children have finally gone to sleep. While I maintain the high expectations for all students in my classes regardless of parenting status, I am happy to problem-solve with you in a way that makes you feel supported as you strive for school-parenting balance.

Other sources of help can be found at the following links:

- Student Health Services, Monday to Friday, 8:30am-4:30pm, x52131, J.T. Powell Building
- Couselling Services, Monday to Friday, 8:15am-4:15pm, x53244, Level 3, University Centre
- Wellness Education Centre, Monday to Friday, 8:30am-4:30pm, x53327, J.T. Powell Building
- Student Support Network, Monday to Friday, 12:00pm-10:00pm, Raithby House
- Campus Community Police, 24/7, x2000, Trent Building
- Good2Talk, 1.866.925.5454
- Here 24/7, 1.844.437.3427