CIS*2430 (Fall 2021) Object-Oriented Programming

Instructor: Dr. Fei Song
Email: fsong@uoguelph.ca
Office Hours: Mon 2:30 – 3:30 pm, Wed 3:30 – 4:30 pm, and Fri 2:30 – 3:30 pm (Virtual)
Lecture Hours: Mon, Wed, and Fri: 9:30 – 10:20 am (Virtual)

Teaching Assistants: Benjamin Carlson, Jordan Cartlidge, Liam Fayle, Nadeem Howlader, Parth Miglani, and Linda Ngo
Email: 2430fs@socs.uoguelph.ca
Office Hours: Mon. 5:30 – 6:30 pm; Tue. 2:30 – 3:30 pm; Wed. 4:30 – 5:30 pm; Thu. 3:30 – 4:30 pm, 5:30 – 6:30 pm; and Fri. 4:30 – 5:30 pm (Virtual)
Lab Hours: Virtual during the following hours:

Section 0101	Mon, 11:30 am – 1:20 pm	Liam
Section 0102	Tue, 11:30 am – 1:20 pm	Jordan
Section 0103	Wed, 11:30 am – 1:20 pm	Linda
Section 0104	Wed, 1:30 pm – 3:20 pm	Parth
Section 0105	Thu, 11:30 am – 1:20 pm	Benjamin
Section 0106	Fri, 12:30 pm – 2:20 pm	Nadeem
Section 0107	Tue, 3:30 pm – 5:20 pm	Nadeem
Section 0108	Mon, 3:30 pm – 5:20 pm	Jordan

Overview: As an introductory course on Object-Oriented Programming (OOP), it assumes that students already know the basics of a procedural programming language like C and can write stable programs independently either through previous courses or working experience. It is also desirable that students have basic understanding of simple data structures such as arrays, linked lists, and hash tables. The course focuses on the fundamental concepts and techniques for object-oriented programming but also covers other useful language features such as exception handling and event-driven programming. All the programming assignments and exercises will be done in the Java programming language. Students will have ample opportunities to demonstrate their understanding and improve their development skills through regular assignments and exams as well as lab exercises.

Preequisite(s): CIS*2500

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

Evaluation Scheme:

Programming Assignments (52%)
- Three assignments @ 14% each (due on Oct. 18, Nov. 8, and Nov. 29, respectively)
- Five lab exercises @ 2% each (due in two weeks after each exercise is introduced)
- One competency test (to be scheduled individually for one of the five lab exercises)

Exams (48%)
- Two online quizzes @ 10% each (Oct. 6 and Nov. 12 during the lecture times)
- One online final exam @ 28% (Dec. 16 between 8:30 and 10:30 am)

Textbook and Course Website

Text: Walter Savitch. ***Absolute Java***. Sixth Edition. Pearson Higher Education, 2016.

Course website: https://courselink.uoguelph.ca/

Policies and Requirements

- A reliable internet connection is required for this course. Otherwise, you will not be able to view or download lectures and ther course materials. Nor is it possible to attend online advising hours and take online exams.
- Lecture attendance is important. The textbook and lecture notes will not necessarily provide adequate coverage for the course materials, especially the discussions and question answering that are conducted during the classes.
- Lab attendance is required for lab tutorials and exercises. In addition, the competency test will be based on one of the lab exercises so that we can verify your understanding and development skills to avoid potential academic misconducts. All students are required to take the competency test and if there are noticeable discrepancies between the evaluations and the performance of the submitted lab exercises, further investigation will be conducted.
- Late assignments are not accepted for grading and will receive a mark of zero. You can, however, submit a partially completed assignment in time in order to get partial marks for your work. Once the marking is done, any related remarking requests will only be handled in the following two weeks during the TA office hours.
- Object-oriented programming is about code reuse. However, undocumented use of other people's code is plagiarism, which is not tolerated at the University of Guelph. Any infraction incurs severe penalty as per the rules on Academic Misconduct: https://www.uoguelph.ca/registrar/calendars/undergraduate/current/. Code reuse will be discussed further in class and all use of libraries and third party code must adhere to the coding conventions for the required programming assignments/exercises.

Disclaimer about Covid-19 from the University

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.

7.10 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).

7.11 For information on current safety protocols, follow these links:

https://news.uoguelph.ca/return-to-campuses/how-u-of-g-is-preparing-for-your-safe-return/

https://news.uoguelph.ca/return-to-campuses/spaces/#ClassroomSpaces

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