Object-Oriented Programming

CIS*2430 (Fall 2016)

Instructor: *Fei Song* (Reynolds 215, ext. 58067)
Email: fsong@uoguelph.ca
Office Hours: Mondays and Fridays, 2:30 – 4:30 pm (Instructor's office)
Lecture Hours: Mon, Wed, Fri: 12:30 – 1:20 pm (MACN 105)
Lab Hours: Section 1: Wed: 2:30 – 4:20 pm (THRN 2420)
Section 2: Tue: 12:30 – 2:20 pm (THRN 2420)
Section 3: Thu: 12:30 – 2:20 pm (THRN 2420)
Section 4: Fri: 9:30 – 11:20 am (THRN 2420)
Section 5: Thu: 9:30 – 11:20 am (THRN 3401)
Section 6: Tue: 9:30 – 11:20 am (THRN 3401)
Section 7: Mon: 9:30 – 11:20 am (THRN 3401)

Teaching Assistants: *TBA*

Overview

As an introductory course on Object-Oriented Programming (OOP), it assumes that students already know the basics of a procedural programming language such as C and can write computer programs independently either through previous courses or working experience. It is also desirable that students have some 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 features such as exception handling and event-driven programming in the Java programming language. Students will have good opportunities to demonstrate their understanding and improve their development skills through regular assignments and exams as well as lab exercises.

Preequisite(s): CIS*2500

Policies

- 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 we conduct during the classes.

- Lab attendance is required for tutorials and five in-lab assignments. The students will have two week time to complete each lab assignment and need to attend at least one of the two related sessions to have your lab assignment marked by a TA.

- Late assignments are not accepted for grading and will be given a mark of zero. A reasonable portion of assignment marks is given for documentation, test plans, and coding style. You will be further ahead to submit a partially completed assignment

on time than to spend effort asking for an extended submission date. Unless otherwise specified, assignments are due on or before the midnights of the due dates.

- Any requests for the remarking of assignments and exams should be submitted by emails (along with the hardcopies if relevant) within 5 business days. Any later requests will not be considered.

- 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 in the Undergraduate Calendar: http://www.uoguelph.ca/undergrad_calendar. Code reuse will be discussed at length in class and all use of libraries and third party code must adhere to the coding conventions for this class.

Evaluation

Programming Assignments (55%)
- Three assignments @ 15% each (due on Oct. 17, Nov. 9, and Nov. 30, respectively)
- Five in-lab assignments @ 2% each

Exams (45%)
- Two quizzes @ 10% each (scheduled on Oct. 7 and Nov. 4, respectively)
- One final exam @ 25% (scheduled on Dec. 10, 7:00 to 9:00 pm)

Textbook and Course Website

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

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

Topics to be Covered

- OOP introduction
- Class design in terms of variables and methods
- Information hiding and encapsulation
- Inheritance, polymorphism, and overloading
- Data structures such as Arrays, ArrayLists, and HashMaps
- Exception handling and event-driven programming
- UML modeling and OO design patterns
- Containers and iterators
- Swings and GUI's
- OO analysis and design techniques