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Course Outline

CPSC1181-W03 Object-oriented Computing

Spring 2021

Section – W03 – M W F 8:30 – 10:20

Course Format: Online Lectures hours: 4.0, Online Lab hours: 2

Credits: 3.0

Transfer Credit: For information, visit bctransferguide.ca

Course Description

Introduces the fundamental concepts of programming from an Object Oriented (OO) perspective: abstraction; objects; classes and class hierarchies; methods; parameter passing; encapsulation and information hiding; inheritance; polymorphism. OO design with modeling tools (e.g. class diagram). Application of simple container/collection classes; event-driven programming; exception handling; GUI; multi-threading; and networking.

There is an emphasis on good software engineering principles using the Object Oriented Language Java.

Prerequisites:

A minimum grade of "C" in one of CPSC 1150 or CPSC 1155; or permission of department. Prerequisites are valid for only three years.

Learning Outcomes:

Upon successful completion of this course, a student is expected to be able to:

- Design, develop, implement efficiently, and document properly programs for various applications of intermediate difficulty using the Object Oriented Programming approach.
- Program correctly and efficiently under time constraints.
- Explain encapsulation, information hiding, inheritance and polymorphism.
- Use modeling tools, such as UML, to design and communicate program structure

Instructor: Hengameh Hamavand

Email: hhamavan@langara.ca

Virtual Office Hours: Mondays and Wednesdays 12:30 – 13:20
Tuesdays, Thursdays, and Fridays 10:30 – 11:20

Textbook and Course Materials:

Big Java, Early Object, Brief Edition, Cay Horstmann, 7th EditionThe Java™ Tutorials

Requirements: This is an online course and students need:

- A decent reliable computer.
- A good internet connection.
- Java Development Kit (JDK) software
- An Integrated Development Environment such as InteliJ.

Students who do not have access to the required equipment can use the computer labs open on campus. The open labs are **L103** and the A Building MAC Lab **A110**. These labs are open to students **Monday to Friday and 8:00 am - 5:00 pm**.

Assessments and Weighting:

- **Programming Assignments 30%**
- **Labs 10%**
- **Quizzes 5%**
- **Midterms (2) 25%**
- **Final Exam 25%**
- **Participation 5%**

Grading Scale:

A+	**90-100%**	**B+**	**76-79%**	**C+**	**64-67%**	**D**	**50-54%**
A	**85-89%**	**B**	**72-75%**	**C**	**60-63%**	**F**	**<50%**
A-	**80-84%**	**B-**	**68-71%**	**C-**	**55-59%**		

- Your assigned grade may differ from your calculated grade up to one letter grade category due to instructor discretion

Detailed Course Schedule:

The schedule is flexible, i.e. various topics may or may not be given on the dates shown above and all the dates (including the dates for the midterms) are subject to change.

Week	Lecture Topic	Midterms
WK1	Java Data Types, Strings	
WK2	Using Objects. Implementing and Testing classes	
WK3	Arrays, ArrayLists	
WK4	Exception Handling. Inheritance	
WK5	Inheritance, Polymorphysm, Interface	
WK6	Designing classes, UML	Midterm1
Spring Break		
WK7	Graphical Applications – Shape Classes	
Wk8	Graphical Applications – Events - Layout	
WK9	Event Driven programming - Animation	
WK10	Multi-threading, Networking	Midterm2
WK11	Race Condition & Deadlock	
WK12	Streams	
WK13	Review for final	

College Policies:

E1003 - Student Code of Conduct

F1004 - Code of Academic Conduct

E2008 - Academic Standing - Academic Probation and Academic Suspension

E2006 - Appeal of Final Grade

F1002 - Concerns about Instruction

E2011 - Withdrawal from Courses and Deferred Standing

Departmental Policies:

See http://langara.ca/programs-and-courses/courses/CPSC/

Course Policies:

- ✓ Lectures will be delivered live using Zoom.
- ✓ Lectures will be recorded and posted on Brightspace.
- ✓ All lab and assignment work submissions and the exams will be online.
- ✓ **Labs and Assignments:**
  - We will use Brightspace as a repository for lecture information, course handouts, lab and assignment submissions, Quizzez, Midterms and Final exam. You will find help with Brightspace and more at https://iweb.langara.bc.ca/lts/
  - Discussions on lab and assignment work among students are encouraged **but** direct copying of another student's work is strictly prohibited.
  - Students should submit their assignments/labs using Brightspace before the due date and time.
    - Students can submit the late assignments to Brightspace up to 48 hours after the assignment due time. Up to 20% will be deducted from the late assignment (1% deduction per hour up to 20%).
    - After 48 hours of the assignment due time, students cannot submit anything to Brightspace for that specific assignment.
    - Students can submit the late Labs to Brightspace. Up to 10% will be deducted from the late Labs (1% deduction per hour).

- ✓ **Attendance:** To do well in this course, you need to attend promptly and regularly.
  If you miss a lab, you are responsible for completing any missed activities.
  You are encouraged to ask someone who was in class to teach you the work we did—this benefits both of you.
  A score of zero will be given for missed exams, labs, tests, etc. Make up exams will not be permitted, except in circumstances of serious, well-documented illness or injury, or the death of a close family member.

- ✓ **Plagiarism:** Plagiarism is the representation of another person's ideas, code or words as being one's own. Plagiarism is not acceptable in assignments submitted for this course and is a serious education offences in any teaching environment. These offences may result in failure of an assignment, quiz, term project, exam, or course.
  For more details, please refer to Langara's Code of Conduct in the course calendar or Student Policies and Procedures on Langara's website: www.langara.ca. Other forms of cheating will also result in serious penalties.