Langara College
100 West 49th Avenue, Vancouver, BC, Canada V5Y 2Z6
604.323.5511 langara.ca

Course Outline

CPSC1150 Program Design

Year and semester: Spring 2024

Section: 007 – Lecture: Mon/Wed 6:30 – 8:20 pm (A274)
Lab: Thurs 6:30 – 8:20 pm (A275)

CRN: 11326

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

Credits: 3 for transfer credit information, visit bctransferguide.ca

Course Description:

Program design entails building and implementing an algorithm in a programming language (such as Java) using good software development principles. Students develop problem-solving techniques while learning the basics of algorithm development, procedural abstraction, and data representation.

Prerequisites, and Corequisites:

For information, visit http://langara.ca/programs-and-courses/courses/CPSC/1150.html

Learning Outcomes:

Upon successful completion of this course, students will be able to

1. Represent data in various numbering systems
2. Design and develop an algorithm for a given problem
3. Utilize appropriate control structures and variables (including arrays) to implement a solution
4. Use procedural abstraction to implement structured programs
5. Trace, debug and test the correctness of code
6. Find and use appropriate libraries, resources and documentation
7. Write maintainable code in the current standard coding style of the programming language, including internal and external documentation
8. Describe given searching and sorting algorithms including their time complexity
9. Trace recursive functions

A good programmer spends 80% of his/her time on planning, analysis and design, and 20% on coding, testing, and debugging. Remember a great finish starts with a good beginning

Instructor(s): RUSHDI ALSALEH, PHD

Office: B253j
Email: ralsaleh@langara.ca
Office Hours:

Drop-in room B253j on

Mondays**: 5:00 - 6:30 pm**
Thursday**: 5:30 - 6:30 pm**

Or

Online through the link:
https://calendly.com/ralsaleh/15-min-gn
Mondays**: 5:00 - 6:30 pm**
Tuesday**: 2:30 – 4:00 pm**
Saturday: **12:00 - 1:00 pm & 8:00-9:00 pm**

Or

Anytime by appointment

Textbook and Course Materials:

Introduction to Java Programming, brief Version, Y. Daniel Liang, Pearson Education

Note: This course may use an electronic (online) instructional resource that is located outside of Canada for mandatory graded class work. You may be required to enter personal information, such as your name and email address, to log in to this resource. This means that your personal information could be stored on servers located outside of Canada and may be accessed by foreign government authorities, subject to federal laws. Where possible, you may log in with an email pseudonym as long as you provide the pseudonym to me so I can identify you when reviewing your class work.

Assessments and Weighting:

- ✓ Programming Assignments 20%
- ✓ Labs 5%
- ✓ Quizzes 10%
- ✓ 2 Midterms 30%
- ✓ Final Exam 35%

Grading Legend

Grades, Grade Points, & Notations

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%	

NOTE:

- ✓ It is your responsibility to know the minimum grade required in this course to meet prerequisite and/or Program requirements. If you are not sure, please check the Langara website program information pages.
- ✓ your assigned grade may differ from your calculated grade up to one letter grade category due to instructor discretion and items not explicitly accounted for in the evaluation scheme.

Detailed Course Schedule:

Module or Week	Week Starting	Topics	Homework/Assignments/ Assessments/Exams
1	Jan 3rd	Introduction to Computers, programs & java	
2	Jan 8th	Java Elementary Programming	
3	Jan 15th	Algorithms, Selections	
4	Jan 22nd	Loops, Mathematical functions	
5	Jan 29th	String, Methods, review for midterm	
6	Feb 5th	Top down design, More methods	Midterm1
7	Feb 12th	Number System (2's complement), Arrays	
8	Feb 19th	**Spring Break (College Closed)**	
9	Feb 26th	More Arrays, pass by value, Pass by reference, two-dimensional arrays	
March 2nd, 2024 LAST DAY TO WITHDRAW FOR REGULAR COURSES (BEFORE 2100 HOURS VANCOUVER TIME)			
10	Mar 4th	File I/O, Review for midterm	
11	Mar 11th	Sort Algorithms	Midterm2
12	Mar 18th	Searching & Sorting, Recursion	
13	Mar 25th	Review for final	
14	April 1st	April 1st: College closed. Easter Monday	
		April 5th: Last day of classes.	
FINAL EXAMINATION PERIOD: Check the final exam schedule on the Langara website for the exact date and time. The college requires you to be available to sit final examinations during this period. If you miss the final examination, you will receive an 'N' on your permanent academic transcript.			
15-16	April 9th-20th	April 9 – 20: Final Exam Period.	Final Exam Policy
		April 25: Final grades available online.	
		April 30: End of Semester	

The schedule is flexible, i.e. various topics may or may not be given on the dates shown above.

Policy

As a student at Langara, you are responsible for familiarizing yourself and complying with the following policies:

College Policies:

Student Code of Conduct - E1003

Academic Integrity - F1004

Academic Standing - Academic Probation and Academic Suspension - E2008

Appeal of Final Grade - E2006

Concerns about Instruction - F1002

Withdrawal from Courses and Deferred Standing - E2011

Departmetal Policies:

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

Course Policies:

- ✓ PowerPoint presentations and in class codes will be shared with the students on BrightSpace.
- ✓ **Labs and Assignments:**
  - We will use Brightspace as a repository for lecture information, course handouts, lab and assignment submissions. You will find help with Brightspace and more at https://iweb.langara.ca/lts/brightspace/
  - Discussions on lab and assignment work among students are encouraged but direct copying of another student's work is strictly prohibited. Plagiarism is not tolerated in any circumstance.
  - 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.
  - Attendance: To do well in this course, you need to attend promptly and regularly. If you miss a lecture/lab, you are responsible for completing any missed activities. 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.