

SAMPLE COURSE OUTLINE

Course Code, Number, and Title:

CPSC 1155: Program Design for Engineers

Course Format:

[Course format may vary by instructor. The typical course format would be:]

Lecture 4.0 h + Seminar 0.0 h + Lab. 2.0 h

Credits: 3.0

Transfer Credit: For information, visit bctransferguide.ca

Course Description, Prerequisites, Corequisites:

This course concentrates on the key elements of good programming and C++ using a multitude of interesting and appropriate engineering and scientific examples. It covers the features of C++ needed for writing engineering programs including procedural abstraction using functions. The course also presents fundamentals of numerical methods that represent commonly used techniques for solving engineering and scientific problems.

Students will receive credit for only one of CPSC 1150 or 1155.

Prerequisite(s): One of the following: MDT 85; a minimum "B" grade in Precalculus 12; a minimum "C-" grade in MATH 1171, 1173/1183, or 1174; a minimum "C" grade in CPSC 1040 or 1045; or a minimum "B" grade in CPSC 1050. Prerequisites are valid for only three years.

Learning Outcomes:

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

- Understand the basics of computer architecture and how hardware interacts with computer software to execute a specific program or application.
- Develop and document algorithms as expressed in pseudo-code or in the C++ programming language as solutions to computational problems.
- Develop computed solutions to stated problems using common program design and development skills including levels of abstraction and top-down design.
- Understand the basic procedural structures of a programming language, including sequences of instructions, conditional execution, repetition, and invocation.
- Use common development tools used in programming including text editors, compilers, linkers, command line environments, and integrated development environments.
- Develop, write, debug, and run C++ programs using standard input/output and error streams that can be compiled and run on any computer. (Graphical User Interfaces are not covered in this course).
- Internally and externally document a program for later use and modification by others.

Instructor(s): TBA
Office: TBA
Office Hours: TBA

Phone: (604) 323-XXXX
Email: TBA

Textbook and Course Materials:

[Textbook selection may vary by instructor. An example of texts and course materials for this course might be:]

For textbook information, visit https://mycampusstore.langara.bc.ca/buy_courselisting.asp?selTerm=3|8

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 U.S. 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:

Final Exam 35%

Other Assessments 65%

[An example of other assessments might be:]

Quizzes 10%

Labs 10%

Assignments 15%

Midterms 30%

Grading System:

Specific grading schemes will be detailed in each course section outline.

Information unavailable, please consult Department for details.

Topics Covered:

[Topics covered may vary by instructor. An example of topics covered might be:]

- Introduction to Computers and Programming Elementary Programming
- Selections Statements
- Math Functions, Characters, Strings
- Repetition Statements
- Functions
- Arrays

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

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](#)

Departmental/Course Policies:

Information unavailable, please consult Department for details.

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