COMP-322: Introduction to C++ Winter 2011

Tuesday 14:35-15:25, ENGTR 0070

1 Introduction & Motivation

C++ is a common implementation language for many practical programming tasks, and is a language of choice for many industrial programming jobs.

This 1-credit course aims to give students an introduction to the C++ language, from basic constructs to program structure to advanced programming concepts. This will enable students to use the language effectively in their own courses, research and future work.

2 General Information

Instructor: Milena Scaccia
Email: mscacc@cs.mcgill.ca
Office: ENGMC 229
Office hours: Tuesday 13:00 - 14:00

Teaching Assistants:

- Sevan Hanssian
  Email: shanss@cs.mcgill.ca
  Office: ENGMC 229
  Office hours: Wednesday 12:00 - 13:00

- Zineng Yuan
  Email: zineng.yuan@mail.mcgill.ca
  Office: ENGTR 3103
  Office hours: Friday 10:00 - 11:00

- Yancheng Xiao
  Email: yancheng.xiao@mail.mcgill.ca
  Office: ENGMC 229
  Office hours: Thursday 11:00 - 12:00

The official course URL is http://www.cs.mcgill.ca/~mscacc/comp322/. This page will be updated with announcements, lecture notes and assignments.

3 Prerequisites

This course requires that you have already completed at least one of COMP 202, or COMP 250, or COMP 206, or COMP 208. Familiarity with the C programming language is assumed.

If you have not met all of these prerequisites, you should not take this course.

4 Textbook

There is no fixed text book for this course. Students are free to use any standard reference text, where one such text is *The C++ Programming Language: 3rd Edition* by Bjarne Stroustrup.

5 Assessment and Grading

Course assessment will be done with two assignments, and two in-class tests. Each item will count equally (25 *per cent* each) toward the final grade. Note that this evaluation method is tentative, and may be adjusted according to changing circumstances.

While you may discuss the homework problems with your classmates, assignments must be done on an **INDIVIDUAL BASIS**. Assignments must be submitted electronically via *myCourses* by the due date. For late assignments, 10 *per cent* will be deducted from the grade for every late day, for the first three days. No late assignments will be accepted if submitted more than three days late, unless you have a medical reason.

Assignments will consist primarily of programming problems. Assignment code should be well documented. You will be evaluated both on the quality and the functionality of the code.

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

6 Programming tools

Although there exist several C++ compilers, the course assignments must be coded using the GNU C++ compiler (g++), version 3.4 or above. This restriction is due to the fact that there are differences in the way each compiler adheres to the standards and using one compiler uniformly will minimize issues related to assignment evaluations. The School of Computer Science has g++ installed

on all machines in the Trottier labs. It is strongly recommended you obtain an account on those machines.

7　Schedule

Course content includes the following topics. This is a tentative schedule only. It may be revised as the semester progresses.

Topic	Week
Course Introduction	1
Basic Language Features (Assignment 1 out)	2
Pointers and References	3
Memory Management	4
C++ I/O streams	5
Class Structure (Assignment 1 due)	6
Test 1	7
Study Break	-
Operator and function overloading	8
Inheritance (Assignment 2 out)	9
Exceptions	10
Templates and STL	11
Test 2	12
Optional Topic (Assignment 2 due)	13

8　Academic Integrity

McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see http://www.mcgill.ca/integrity for more information).