Computer Science 211 Syllabus
Fall 2017

Instructors: Dr. Alayev (Lecture) & Mr. Abreu (Lab)
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Old website as reference: venus.cs.qc.edu/~alayev/cs211
Class Schedule: TTH 8:30 – 9:20PM   Lab Schedule: MW 7:30 – 8:20PM
Office Room: SB A201

Required Texts: Walter Savitch
                       Absolute C++ (5th or 6th Ed)
                       Addison Wesley
                       ISBN 10: 013283071X
                       ISBN 13: 9780132830713

Some additional references for those who are interested:
                       For Unix and emacs and vi editors:
                       UNIX in a Nutshell
                       O'Reilly, ISBN 1-56592-001-4

                       For C++:
                       www.cplusplus.com

                       Free electronic Book by Bruce Eckel (Thinking in C++)
                       http://www.ibiblio.org/pub/docs/books/eckel/

Grading Scheme:
Quizzes 15%: During the semester, there will be 4 quizzes given during the lab. The goal of the quizzes is to prepare students for the midterm and final, and to highlight important problems covered during the semester.

Homeworks, Projects, In-lab assignments 15%, 10%, 10%: There will be three kinds of assignments given over the course of the semester. The first kind will be referred to as "homeworks", the second will be known as "projects", and the third "in-lab assignments." Homeworks will generally be assigned weekly, and the goal is to reinforce and practice with concepts covered in lecture. Homeworks should be done individually, and instructions for how to submit them will be given with each assignment. Projects will be assigned two times during the semester and be developed and gone over in the lab. In-lab assignments will be assigned during lab sessions and gone over in the lab.

Midterm: A mid-term exam will be given in lecture. The exam is counted **20%**. **There will be no make-up exam!** If you miss an exam, the grade is 0 for the exam.

Final Exam: Cumulative final exam counted as **30%**.

NOTE: It is the policy of the Computer Science Department to issue a failing grade to any student giving or receiving aid during any examination.

Topics to be covered:
- Review of material from previous semester, Data Types, Structures. (Savitch 1-6.1, 9, 12)
- Introduction to Classes, Classes and Functions, Public and Private Members, Structs vs. Classes (Savitch 6.2)
- Declare - Define - Use approach to writing classes, .h and .cpp files, Stages of Compilation, Macros and Preprocessor Directives, Separate Compilation of a program (Savitch 11.1)
- Constructors and Destructors, static functions and variables (Savitch 7.1, 7.2)
- Inline function definitions, Constants, Constants as Parameters (Savitch 7.2)
- Overloading Operators as members and as non-members, Friend Functions (Savitch 8.1, 8.2, 8.3)
- Pointers and References, Arrays and Pointers, Pointer Arithmetic (Savitch 10.1)
- Functions and Pointers, Constants and Pointers, Constants and References, Dynamic Allocation, Two dimensional pointers (Savitch 10.2)
- Classes and Dynamic Allocation (Savitch 10.3)
- **Midterm**
- (Optional) Exception Handling, Throwing an Exception, Try-Catch Blocks (Savitch 18)
- Recursion (Savitch 13)
- Inheritance (Savitch 14)
- Polymorphism (Savitch 15)
- Introduction to Templates, Function Templates, Class templates, Templates and Inheritance, Templates vs. Inheritance (Savitch 16.1, 16.2)
- Introduction to Standard Template Library: vector and basic_string, Selection Sort, Linear Search, Binary Search (Savitch 16.3, 7.3)
- (Optional) Linked Lists and STL (Iterators, Containers, Stacks, Queues) (Savitch 17, 19)
- **Final Exam**

Important Dates:

September 4	Monday	Labor Day – College is closed
September 19	Tuesday	Classes follow Thursday schedule
September 20,21	Wed, Thur	No Classes – College is open
October 9	Monday	Columbus Day – College is closed
November 10	Friday	End of P/NC and Unevaluated Withdrawal period
November 21	Tuesday	Classes follow Friday schedule
November 23	Thursday	Thanksgiving – College is closed
December 12	Tuesday	Last Day of Classes
October 5, 12	Thursday	Cancel Lecture