CSC-216 Intermediate C++ Programming

Three Rivers Community College

Syllabus

Spring 2011

Instructor Information:

- Instructor: Joe Johnson
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- Office hours: Tuesday, Thursday: 1:00 – 2:30 pm
- Office Location: 205W

Learning Outcomes:

- After successful completion of this course, the student should have an understanding of the following: object-oriented principles including classes, objects, polymorphism, inheritance, and encapsulation, and the ways in which these principles are implemented in the C++ programming language. The student should also have an understanding of memory structures including the stack and the heap, memory management, and the C++ syntax for conducting memory management, specifically, using pointers. Finally, the student should also have an introductory understanding of data structures (arrays, linked lists, trees, and hash tables), their associated algorithms for searching, inserting, and deleting, and the relative performance of these algorithms.

Texts:

- Walter Savitch, Absolute C++ (4th Edition), Pearson Publishing, ISBN 0136083811 (Required)

Course Requirements:

- Regular programming assignments based on the topics covered in class (weekly or biweekly, depending on the topic) (40%)
    - It is extremely important you stay current with the material as it is cumulative – it builds on itself. Therefore, an assignment 1 week late will be subject to a 10 point penalty. After that, it will not be accepted. We will review the solutions to the problems in class after the late hand-in date.
- Midterm Exam (20%)
- Final Exam (Cumulative) (30%)
- Participation in classroom/online discussions (10%)

Pre-requisites

- K108 - Intro to Programming with C++

Schedule

Week	Date	Topic	Reading Assignment
1	01/20	Review of Fundamentals: Part I: C++ Basics, Flow of Control, Function Basics	Chapters 1, 2, 3
2	01/27	Review of Fundamentals: Part II: Parameters and Overloading, Arrays	Chapters 4, 5
	02/03	****** College Professional Day – NO CLASS *****	
3	02/10	Structures and Classes	Chapter 6
4	02/17	Constructors and Other Tools	Chapter 7, excluding 7.3 Vectors
5	02/24	Operator Overloading, Friends, and References	Chapter 8
6	03/03	Strings	Chapter 9
7	03/10	**Midterm Exam**,	Chapter 10, 7.3

		Pointers, Dynamic Arrays, and Vectors	Vectors
	03/17	****** Spring Recess – NO CLASS *******	
8	03/24	Separate Compilation and Namespaces	Chapter 11
9	03/31	Streams and File I/O, Recursion	Chapter 12, 13
10	04/07	Inheritance,	Chapters 14
11	04/14	Polymorphism, Virtual Functions	Chapters 15
12	04/21	Algorithms and Data Structures	Chapter 17
13	04/28	Standard Template Library	Chapter 19
14	05/05	**Final Exam**	
15	05/12	Make-up	

Academic Integrity

- Three Rivers' catalog defines various forms of academic dishonesty and procedures for responding to them. All forms are violations of the trust between students and teachers. Students should familiarize themselves with the penalties for plagiarism and other forms of cheating.