

CSC-K216 Intermediate C++ Programming

Three Rivers Community College

Syllabus

Fall 2011

Course Information:

- Title: CSC-K216 Intermediate C++ Programming
- Class Meeting Times: Lecture: TR 1:00 – 2:15 pm, Lab: 2:16 – 3:55 PM
- Location: Lecture: E221, Lab: E119

Instructor Information:

- Instructor: Joe Johnson
- Telephone: 860-823-2818 (Office), 860-805-3670 (Cell)
- Email: jjohnson@trcc.commnet.edu
- Office hours: Tuesday: 12:30 – 1:00, Thursday: 9:00 – 11:00, 12:30 – 1:00
- 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:

- Tony Gaddis, Starting Out with C++: From Control Structures Through Objects (7th Edition), Addison Wesley, ISBN 132576252 (Required)

Course Requirements:

- Regular programming assignments will be the focus of this course (weekly or biweekly, depending on the topic) (50%)
 - It is extremely important you stay current with the material as it is cumulative – it builds on itself. Homework **MUST** be handed in **ON TIME AT THE BEGINNING OF CLASS** (not after the lab of the due date). No late homework will be accepted.
 - Do not procrastinate. My strong recommendation is try the homework after it is assigned on Tuesday **BEFORE** class on Thursday. If you are having problems with it, ask questions either during class or during lab on Thursday (for individual help).
 - Depending on the difficulty level of the assignment, we will review the solutions to the problems in class after they're due.
- Midterm Exam (20%) - online via Blackboard Vista
- Final Exam (Cumulative) (20%) - online via Blackboard Vista
- Participation in classroom/online discussions (10%)

Pre-requisites

- CSC-K108 - Intro to Programming with C++

Schedule

Week	Date	Topic	Reading Assignment Programming Assignment
1	08/30, 09/01	Review of Fundamentals: Computer, C++, Expressions	Chapters 1, 2, 3
2	09/06, 09/08	Review of Fundamentals: Control Structures – Branching, Looping,	Chapters 4, 5, 6 Assignment 1 (Hello World)

		Functions, Files	due
3	09/13, 09/15	Arrays – Intro	Chapter 7
4	09/20, 09/22	Arrays – Searching and Sorting	Chapter 8 Assignment 2 (Birthday) due
5	09/27, 09/29	Pointers	Chapter 9
6	10/04, 10/06	Characters, c-Strings, and the string Class	Chapter 10 Assignment 3 (Hot Dog Stand) due
7	10/11, 10/13	Structured Data – structs, unions, enums	Chapter 11 Assignment 4 (Rational Class) due
8	10/18, 10/20	Advanced File I/O, 10/20 - Midterm Exam	Assignment 12 (Strings) Due
9	10/25, 10/27	Classes – Intro	Chapter 13 Assignment 6 (Polynomial Class) due
10	11/01, 11/03	Classes – More Fun	Chapter 14
11	11/08, 11/10	Inheritance, Polymorphism, Virtual Functions	Chapter 15 Assignment 7 (File IO) due
12	11/15, 11/17	Exception, Templates, STL	Chapter 16
13	11/22, 11/24	Linked Lists, 11/24 – no class	Chapter 17 Assignment 8 (Figures) due
14	11/29, 12/01	Stacks and Queues	Chapter 18
15	12/06, 12/08	Recursion	Chapter 19 Assignment 9

			(Spell Checker) due
16	12/13, 12/15	Binary Trees, 12/15 – Final Exam	Chapter 20

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.