



Department of Computer Science
CMPT 238 Data Structures
Course Syllabus Fall 2015

Instructor

Dr. Ankur Agrawal

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Office Hours: MR 3:00 pm – 4:00 pm or by appointment in RLC 203

Class Hours: Section 01 - MR 12:00 pm – 1:15 pm in RLC 107, Section 02 – MWR 5:30 pm - 6:20 pm in RLC 102

Overview

This course will introduce fundamental data structures and algorithms of computer science such as lists, stacks, queues, sorting, searching, recursion, and binary trees. It will also introduce students to the mathematical analysis of algorithms.

Prerequisites

CMPT 102 or CMPE 202 or EECE 202

Textbook

Starting Out with C++: From Control Structures through Objects, 7/E by Tony Gaddis

Course Objectives

- Understand and use pointers, structures and classes in C++
- Select appropriate and efficient data structures and algorithms to solve a problem
- Compare data structures and algorithms for efficiency using algorithm analysis and experiments
- Implement and use linear data structures, including stacks, queues, lists
- Implement and use search algorithms including binary search and search trees
- Implement sorting algorithms and compare their performance
- Able to write and understand recursion

Tentative List of Topics

- Pointers, structures and classes
- Linked lists
- Stacks
- Queues
- Recursion
- Searching algorithms
- Sorting algorithms
- Binary Trees

Grades (Method of Evaluation)

- Two midterms worth 40%
- One final exam worth 30%
- Assignments and quizzes worth 30%

You have to pass the final exams in order to pass the class. Dates for exams will be announced in the class. Final grades will be based on the following scale: A (95-100), A- (90-94), B+ (85-89), B (80-84), B- (75-79), C+ (70-74), C (65-69), C- (60-64), D (50-59), F (<50). The instructor reserves the right to adjust the grading percentages and scale if necessary.

Success in Class

- Read the assigned pages in the book as per the class discussion.
- Do as many exercises as possible even if they are not assigned.
- Ask questions about parts of reading or lecture which you do not understand.

Get help before you are completely lost. I am available to help you via e-mail, in the classroom, or in my office.

Attendance Policy

Attendance in every lecture is mandatory. Being in the class on time is equally important too. Any absence for valid reason will be required to be supported with proper documentation.

Cheating Policy

Cheating on a programming assignment will result in zero credit for all students involved. Programming assignments may not be solved in collaboration, unless specifically stated in the assignment. Cheating on an exam will result in an "F" in the course. You may discuss problems with each other. Where does discussion end and cheating start? You may not copy lines of code from anybody or anywhere. You may not use code in your assignments that you did not write. As a general rule, if you don't understand the code and can't explain the code, you can't use the code.

Center for Academic Success

Tutoring and support to students is offered in the Learning Center (DLS 206), Leo Learning Center (Leo 117) and the Writing Center (Mig 203). For more information please visit:

<http://manhattan.edu/academics/center-academic-success>

Policy on Students with Disabilities

Students with Disabilities should contact the Specialized Resource Center with their appropriate documentation, to obtain an "Academic Adjustment/Auxiliary Aid" form. When the student presents this completed form to the professor, the professor will then confer with the student on the fulfillment of the adjustments/aids listed on the form.

Academic Integrity Expectation

In accordance with the Manhattan College policy on Academic Integrity, students are expected to do their own work. If they use somebody else's work, then that fact should be documented. Individual work is to be done individually and not copied from others and it is expected that you will perform all



exams without consulting others and do your own work on any assignments. Consulting with others on general approaches to take in an assignment is considered acceptable, but copying assignments from others or working the majority of the assignment together is not acceptable. Of course group work is done in a group. See <http://manhattan.edu/community-standards-and-student-code-conduct> for more information on Manhattan College policy on Academic Integrity.