

CSCI 244 Data Structures and Analysis of Algorithms
Fall 2008
MWF 2:20 – 3:30 PM, HOSCI 123

Instructor: Sun Chung
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Office Hours: MWF 9 – 10, TR 10 – 11, and by appointment

Course Description (from the Catalog): An examination of issues dealing with static and dynamic aggregates of data. Topics covered include logical characteristics of various data organizations, storage structures implementing structured data, design and implementation of algorithms to manipulate such storage structures, and classical applications of data structures. Representative data structures include stacks, queues, ordered trees, binary trees, and graphs. Both contiguous and linked storage implementations are considered and performance issues discussed. Prerequisite: CSCI 121 and Mathematics 170 (or 106-166).

Textbooks: 1. Sanjoy Dasgupta, Christos H. Papadimitriou, and Umesh Vazirani, *Algorithms*, 1st edition, McGraw-Hill, 2006.
2. John Lewis, Peter J. DePasquale, and Joseph Chase, *Java Foundations, Introduction to Program Design & Data Structures*, 1st edition, Addison-Wesley, 2008.

Goals include the following:

By the time you complete the course, you will be able to

1. compare classical data structures and determine appropriate choices for different applications.
2. analyze the time complexity and space requirements of algorithms.
3. demonstrate more advanced object-oriented design and implementation skills.
4. develop and test larger programming projects.

<u>Grading:</u>	Quizzes & Assignments	45
	Midterm 1	15
	Midterm 2	15
	Final	<u>25</u>
	Total	100

Makeup tests will be given only for documented emergencies.

If you have disabilities, please let me know and I will do my best to provide you with adequate accommodations. In addition, please note the following policy of the College: “Students who wish to request accommodations in this class for a disability should contact Mr. Joe Kempfer, Assistant Director of Learning Services for Disability Support, 1307 Main Street (extension 1510). Accommodations cannot be provided until authorization is received from the office of Learning Services.”

Attendance: I expect perfect attendance. However, if you have to miss class, you are responsible for all material covered that day, so be sure to check with someone in the class.

Assignments: There will be a number of programming assignments. In addition, there will be problem solving homework. Some of the assignments will be done individually, and others in pairs or groups. Programs must be handed in by 11:59 PM on the due date for full credit. A penalty of 25% will apply if the assignment is handed in the next day (and 50% for another day). After that, the assignment will not receive any points. A total of three grace days are given. A program must compile to be graded.

Academic Honesty: I feel very strongly that you do your own work. Copying another program will earn a zero for both the copier and the source. Merely changing the names of the variables or reordering a few instructions is not original work and will be considered a copy.

Legal ways to help others in the class include:

1. talking in general terms on how to design the program (not specific instructions).
2. helping extensively on “systems” questions (naming files correctly, using the compiler, printing out programs, etc.).
3. finding syntax errors.
4. debugging running programs (or crashing programs) by helping someone find the place where the error occurs and giving suggestions on how to fix the error. Giving suggestions means giving general ideas and does not include mailing your code, writing down instructions, or otherwise writing the program for your classmate.
5. acting as a tutor by showing someone a different example and working with them on solving a different problem.

The syllabus is subject to change.