CSC 221 A
Data Structures and Algorithms I

T Th 1:30 - 2:45pm Spring 2009

Instructor

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Course

Text:
Data Structures and Algorithms in C++, Drozdek

Grading:

3 Tests	30%
Programming assignments	30%
Homework and quizzes	10%
Final exam	30%

Prerequisites: CSC 112 and Unix.

Attendance: Regular attendance of class and lab is expected.

Tests, Quizzes, and the Final Exam: Three tests will be administered during class. The tests will cover the material from the assigned readings, lectures, and lab. All tests and exams will be closed book. Make-up tests will be administered only for **University excused absences**.

Homework: Homework will be assigned at least once a week. Homework will always be due before class the following lecture. **No** late homework will be accepted.

Programming assignments: There is no regularly scheduled lab for this course. Programming exercises and assignments **must be done** using the Sun workstations in the programming laboratory, 246 Manchester Hall. You will be required to turn-in electronic and printed copies of your work. Each assignment will have a specific due date, late work will be **penalized 10 points per day late**.

Academic Integrity: All tests, programs, and homework must be done independently by each student. Copying of partial or complete work will not be tolerated and will be referred to the University Judicial System. Do not throw away or recycle any notes until the end of the semester. Should a question of authorship arise you will be expected to produce hand-written and printed documents that trace the development of your work.

Disabilities and special accommodations: If you have a disability that may require an accommodation for taking this course, then please contact the Learning Assistance Center (758-5929) within the first two weeks of the semester.

Lecture Schedule

The following is the tentative lecture schedule for this course. Dates and topics may change during the semester!

Date	Lecture	Text
1/15	Course overview and C++ review	
1/20	C++ review: dynamic memory, classes, first class objects	
1/22	C++ review: inheritance and polymorphism	1
1/27	Linked lists	3.1
1/29	Doubly and circular linked lists	3.2 - 3.3
2/3	Self organizing and sparse tables	3.5 - 3.6
2/5	Complexity analysis	2.1 - 2.4
2/10	Complexity analysis	2.4 - 2.9
2/12	**Test 1**	
2/17	Stacks and queues (**last day to drop course 2/18**)	4.1 - 4.2
2/19	Linked stacks and queues	4.3
2/24	Recursion principles	5.1 - 5.2
2/26	Recursion backtracking	5.3 - 5.7
3/3	Recursion look-ahead	5.8 - 5.9
3/5	**Test 2**	
3/17	Sorting	9.1 - 9.3
3/19	Sorting	9.3 - 9.4
3/24	Binary and AVL trees	6.1 - 6.8
3/26	Multiway trees	7.1
3/31	Multiway trees	7.1
4/2	Tables	10.1
4/7	Tables and hashing	10.2
4/9	Hashing	10.4 - 10.5
4/14	**Test 3**	
4/16	Hashing	10.3
4/21	Hashing	10.4 - 10.5
4/23	Graph representation	8.1 - 8.2
4/28	Graphs traversal	8.3 - 8.5
5/5	Final exam 2:00pm	