

Course Syllabus
COMP 550-001 (old 122) – Algorithms and Analysis
Spring 2009

Meeting Place: FB007
Meeting Time: 11:00 - 12:15 TuTh

Instructor: Prof. David Plaisted
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Text: *Introduction to Algorithms*, Cormen, Leiserson, Rivest, and Stein, McGraw Hill, 2001.

Prerequisites: COMP 411-001 (old 120) and COMP 410-001 (old 121).

Grading: Homework	30%
Midterm Exams	38%
Pop Quizzes	2%
Final Exam	30%

The first mid semester exam will be on Thursday, February 12 during class. The second mid semester exam will be on Thursday, March 26 during class. The final exam will cover the entire course. All exams are closed book and closed notes.

There will be about 8 homework assignments. Some of the homework assignments may be time-consuming. Homework assignments are due at the beginning of class on the due date given. Homeworks turned in during class but after the beginning of class will be penalized 10 percent. Homework turned in after class but on the same day will be penalized 20 percent. Homeworks turned in the next day will be penalized 30 percent. Homeworks turned in on subsequent days will be penalized 40 percent or more.

There will also be 5 or more pop quizzes. These do not count much, but help me to see how well the class is learning the material and help you to remember the material better.

We will use power point slides prepared by Mark Foskey, Dinesh Manocha Ming Lin, and Jack Snoeyink, together with my notes from a previous class offering.

The course web page is at www.cs.unc.edu/~plaisted/comp122 and includes power point slides, homework, and practice exams.

Please observe basic courtesy in class. If you yawn, try to do so quietly. If you need to leave the room, it is not necessary to do so while my back is turned. Class participation may influence your grade, especially if it is on the borderline. I make a check mark next to the students who I remember have participated and this could affect the boundary between grades. Students who do not come to class often, tend to get lower grades unless they have exceptional ability in abstract thinking.

You should be aware that the honor code, which prohibits the giving or receiving of unauthorized aid on exams and homework, is in effect.

Topics: The list of topics I plan to cover is given below.

Topics Covered	Classes
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Chapter 2 -- Introduction, Program Correctness	1
Chapter 3, Appendix A -- Asymptotic notation, sums, functions	1
Chapter 2.3, 4 -- Recurrences, Divide and Conquer	2
Appendix C, Chapter 5 -- Counting and Probability	2
Chapter 6 -- Heapsort	1
Chapter 7 -- Quicksort	1
Chapter 8.1 -- Decision Trees	1
Exam 1	1
Chapter 8 -- Sorting in Linear Time	2
Chapter 9 -- Selection	2
Chapter 11 -- Hash Tables	2
Chapter 12 -- Binary Search Trees	1
Chapter 13 -- Red-Black Trees	1
Advanced Design and Analysis Techniques	
Chapter 15 -- Dynamic Programming	1
Exam 2	1
Chapter 15 -- Dynamic Programming	1
Chapter 16 -- Greedy Algorithms (will skip 16.4 and 16.5)	2
Graph Algorithms	
Chapter 22,23 -- Graph Algorithms	3
Chapter 24,25 -- Shortest Paths	2
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TOTAL	28