1 Course Summary

- The course begins with a short review of basic analysis techniques: approximating functions asymptotically, bounding sums, and solving recurrences. We will study problems that are efficiently solvable, focusing on design techniques such as divide-and-conquer, dynamic programming, amortization, and greedy algorithms. Algorithms for sorting, graph algorithms, and geometric algorithms will serve to illustrate these concepts. The emphasis of this class will be on learning algorithm design: the ability to synthesize correct and efficient procedures for new problems.

- Prerequisites: CS 3343 Analysis of Algorithms

- Lectures: 8:30pm - 9:45pm in SB 2.02.06

2 Instructor and TAs

Instructor:
- Matt Gibson
  - Office: SB 4.01.34
  - Phone: 210-458-8732
  - Email: gibson[at]cs.utsa.edu
  - Office Hours: TR 7:00 - 8:30 or by appointment

TA:
- TBA

3 Meeting Times

Lectures: 8:30pm - 9:45pm in SB 2.02.06

4 Required Textbooks

- Introduction to Algorithms, 3rd Edition
  - Cormen, Leiserson, Rivest, and Stein.
5 Grading

Homeworks. There will be 11 homework assignments of equal weight which are usually due within one week. The lowest homework will be dropped from the overall homework score. Homeworks will mostly consist of written problems but may occasionally contain programming assignments. Only a subset of the homework questions will be graded for credit.

You are allowed, and in fact encouraged, to turn in homeworks in groups of two. You only need to submit one solution with both names on it; however you need to alternate the person who writes up the solution and you need to clearly indicate the name of the scribe. You may discuss rough ideas and thoughts about a homework assignment with your other classmates, but you have to write up your solution on your own (with your group partner). You are not allowed to read, copy, or rewrite the solutions written by others (in this or previous terms or from the web).

Exams. There will be two tests and a final exam. All tests as well as the final exam will be closed-book and closed-notes (no electronic devices allowed). For each exam you are allowed to bring one "cheat sheet": Half a single-sided letter paper page. The tests will be non-comprehensive, but the final exam will be comprehensive.

- 20% Homeworks (11 total Homeworks, lowest score is dropped)
- 20% Test 1
- 20% Test 2
- 20% Final (Tuesday May 7, 8:00pm - 10:30pm)
- 20% Best score of Test 1, Test 2, and Final

No makeup exams or assignments are given. If you must miss an announced exam or an assignment deadline, you should let me know in advance.