CS 584 Algorithms: Design and Analysis
Fall term 2019

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Time: Lectures: W 10:00-12:50 in FL 320.

Text: There is one required text book for this course, *Introduction to Algorithms, 3rd Edition* by Cormen, Leiserson, Rivest and Stein. A copy of this book is put on reserve in the library. The instructor may supply additional materials to supplement the text.

Goals of the course: This course covers the design, analysis and proofs of correctness of algorithms. Examples are drawn from algorithms for many areas. Analysis techniques include asymptotic worst case and average case, as well as amortized analysis. Average case analysis includes the development of a probability model. Techniques for proving lower bounds on complexity are discussed, along with NP-completeness. Prerequisites: an undergraduate knowledge of discrete mathematics, probability and data structures.

Specific requirements and grading: Roughly each week a homework assignment will be given. Each week’s homework is to be turned in a week later at the end of the class. Programming may be done in any programming language. Programs should be submitted in hard copy and they should be accompanied with enough documentation and test cases to convince us that they work correctly. Your average homework grade (dropping the two lowest scores) plus class participation will count 1/3 of your final grade.

You are encouraged to work in groups and talk to other students about the problems. However, the work you hand in must be your own independent write-up.

Grading complaints can be submitted in writing only. Resubmit the
assignment in question along with a written explanation why you think the assignment was graded incorrectly, and then we will make a final decision based on that. You may have up to three unjustified grading complaints, after this no more grading complaints will be accepted from you. Of course justified complaints (where the grade is changed) do not count. Here we count individual problems not assignments.

The other 2/3 of your final grade will be your two scores in:

- The mid-term exam (Wednesday, October 23), 1/3 of your final grade and
- The final exam (Wednesday, December 11), 1/3 of your final grade.

There will be no surprise, quickie exams.

**LATE WORK WILL NEVER BE ACCEPTED !!!!!!!!**