CS 4120 Analysis of Algorithms
A term 2018

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TAs: TBA


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

Goals of the course:

- Learn techniques to analyze algorithms and determine time and space requirements of algorithms,
- Learn techniques to make algorithms more efficient,
- Learn algorithm design techniques,
- Study new data structures (beyond those of CS223),
- Learn new algorithms for combinatorial problems.

Types of analysis: Proofs of correctness, worst-case and average case, asymptotic analysis, amortized analysis, lower bounds.

Expected background: Discrete structures (CS 2022) and algorithms (CS 2223).

Specific requirements and grading: Each week (usually on Monday), a homework assignment will be given. Each week’s homework is to be turned in on Monday 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.

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

- The mid-term exam (Tuesday, September 18), 1/3 of your final grade and
- The final exam (Thursday, October 11), 1/3 of your final grade.

There will be no surprise, quickie exams.

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