Foundations of Theoretical Computer Science

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Office Hours. 10–12 Wednesday, 2–3 Thursday

Goals/Learning Outcomes.
• will be able to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices;
• will be able to analyze a problem, and identify and define the computing requirements appropriate to its solution;
• will demonstrate knowledge of several models of computation;
• will demonstrate ability to execute a few standard algorithms.

Content. • Regular Expressions and Finite Automata
• Grammars and Pushdown Automata
• Turing Machines and Undecidability
• Overview of Time and Space Complexity

Grade. The final Numerical mark is made up as follows (No other substitutions).
• Three Tests: 15% each
• Homework assignments: 20% (will drop one)
• Final exam: 35%
• Optional Term Paper (Can replace worst test grade.)
The cut-off for an A will be between 89 and 90, probably the upper end. The cut-off for a B will be between 79 and 80. The cut-off for a C will be between 67 and 70.

Assignments/Homework. Approximately 10; these will typically include problems with a range of difficulty from routine to very challenging. Unless otherwise specified, these are individual assignments, and must be strictly your own work and are not to be shown to nor discussed with anyone else. Use of the Internet to find solutions or hints, unless otherwise specified, is not permitted.

Midterms/Tests. Tuesday September 22, Thursday October 22, and Tuesday November 17. Final is 3pm Wednesday December 9.


For more rules and regulations, see reverse. In particular, note academic honesty policy and enforcement of hand-in times.