

Course Information

Lectures

TR 10:30–12 in 116 Veihmeyer.

Instructor

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my URL: <http://www.cs.ucdavis.edu/~rogaway/>

course URL: <http://www.cs.ucdavis.edu/~rogaway/classes/220/winter06/>

Office hours: Monday 3-4 (doubling up with ECS 120 and UG advising) (will expand or not depending on demand), or by appointment, or by no appointment.

Summary

This is a graduate-level treatment of the Theory of Computation. We'll do just a bit of automata theory, then talk about logic, time and space complexity classes; reductions; completeness; and the role of randomness. To a large extent, we'll follow the Papadimitriou text. But I'll try to cover at least one or two “hot” topics that aren't in the book, eg., unapproximability using the PCP theorem. I'll try to follow students' interests—at least if you guys let me know what they are!

Grading will be based on your showing up and doing some homework problems. They'll probably be about 20 problems. Some of them may be quite hard. Do as many as you can; all is nice, but it's not essential. Please don't turn in incorrect solutions; turning in a problem should mean “I have solved it and am presenting to you a clean exposition detailing my solution.” Spend time on your writeups; each should be an example of correct, insightful, articulate exposition. I request writeups to be done in \LaTeX .

The last problem set, and possibly other random problems, will forbid collaboration. On other problem sets you can talk with one another. On each problem indicate the name of anyone from whom you got ideas. If you work closely with someone on a problem or problem set, turn in only one writeup for that problem, with multiple authors.

Lecture material will be taken mostly from Papadimitriou's book *Computational Complexity*. But I have not used this book before and will have to see how it is working out.

Relax, think, and have fun! Welcome to our class.

Phil