Course Information

Lectures

TR 9:00–10:20 in 216 Wellman. The CRN for this class is 79035.

Instructor

Phillip Rogaway
Engineering II, #3063
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http://wwwcsif.cs.ucdavis.edu/~rogaway/

Office hours: M 4:40–5:30 and W 3:10–4:30

Teaching Assistant

Darren Gold
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Office hours: W 6:10-7:00 and R 2:30-3:30 in Engineering II, #053 (in the basement).

Midterm

There will be a single midterm, tentatively scheduled to be given in class on Thursday, February 6 (week 5). Closed book, closed notes.

Final

Exam group J: 10:30 – 12:30 on Wednesday, March 19. Closed book, closed notes.

Grading

There will be

regular problem sets — 30%,
a midterm — 25%,
and a final — 45%.

To pass the class you must pass the final and attempt the bulk of the homeworks.

Prerequisites

ECS 100 is the official prerequisite. An equivalent level of "mathematical maturity' will do as well. If you don't have much of this elusive stuff going in, I hope you'll have a good deal more coming out.

Text

We have a wonderful book hot off the press:

Michael Sipser, *Introduction to the Theory of Computation.* PWS Publishing Company, 1997.

We will cover most of the material of Chapters 0–5, 7.

Course Web page

http://wwwcsif.cs.ucdavis.edu/~rogaway/classes/120A/winter97/handouts.html

You can access the page directly (you might want to set a bookmark), or you can navigate from the CS Department's home page, or from my own home page. Visit the page every now and then to see what's new. Most materials on the Web page will be in postscript.

Course Newsgroups

`ucd.class.ecs120` — This is for me or Darren to communicate things of general concern to the class (most typically, correction to any homework problems found to be in error). Please read this newsgroup regularly; you are responsible for anything on it. Don't post to this newsgroup. Use the following newsgroup instead.

`ucd.class.ecs120.d` — This is the "discussion" newsgroup which you may use to communicate among yourselves, and also to ask questions directed to other students at large, me, or the TA. You may want to read this newsgroup or not — the choice is yours. Please do not post what amounts to solutions to homework problems to the newsgroup.

Handouts

If you miss picking up a handout in class, please grab it off the Web.

Problem Sets

Turn in homeworks in the marked box in Engineering II, #2131, by the time indicated on the problem set. Please, no late homeworks.

Much of what one learns in this course comes from trying to solve the homework problems, so work hard on them. I intend for you to find some of the problems quite challenging. Doing a conscientious job on the homeworks is the best preparation for the exams, and it is essential for mastery of the material.

Your writeups should be clear, terse and neat. Aim for elegance. Understandability of the solution is as necessary as correctness. Don't be shocked to lose points if you provide a correct solution with a not-so-good writeup. As with an English paper, you can't expect to turn in a first draft: it takes refinement to describe something well.

If you can't solve a problem, briefly indicate what you've tried and where the difficulty lies. I prefer absent solutions to wrong ones. We'll try to have the grades reflect that. Know what you know and be clear about it.

I know that many students are happier to spend long hours hacking in front of a machine than thinking under a tree. Try not to be that way! All I can tell you is that as programming endeavors become complex the bulk of your time in that domain, too, is spent in quiet contemplation.

Please see the TA first if you think a problem was misgraded.

Collaboration

Collaboration on homeworks is permitted, but I don't really recommend it for this class. Certainly the manner in which you collaborate with others can have a huge impact on how much you get out of the homeworks. This, in turn, will have a big impact on how you do on the exams.

First, think about the problems and try to solve them yourself. If you find a problem too hard to solve (after giving it some real thought) then you might wish to discuss it with other students, with me, or with the TA.

Academic misconduct

When you discuss problems with anyone, make certain to acknowledge him/her/them.

Write up problems entirely on your own (even if you discuss a problem with someone else).

A few of the homework questions will have been used in prior years (either by me or by another professor). Do not consult old problem set solutions for this class (neither solutions of another student from a prior term nor solutions handed out in class from a prior term).

Some hints

This course is about learning a certain sort of problem-solving skill at least as much as it is about learning the specific material. Most students find this class abstract and challenging.

I really want you to think. Don't try to solve the problems by doing some sort of "pattern matching." It just won't work.

You might find any of the following hints helpful. (1) Do the reading before each lecture. (2) Be selective in note-taking. (Often it works better to just sit there and really *listen.*) If you feel you need comprehensive notes, team up with someone else so that you only sometimes have to scribe notes. (3) If you get involved in a study group, don't let the emphasis degenerate into collective attempts to solve the homework problems. You'll learn more struggling on your own.

Parting Thoughts

Don't forget: theory is *fun*!