Physics 140B, Condensed Matter Physics

Instructor:	Rena Zieve
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Course web page:	http://london.ucdavis.edu/~zieve/phys140/phys140.html
Home phone:	756-3658; don't call 10PM-7AM

I will be in my office or lab during my scheduled office hours each week. You are welcome to find me for brief questions at other times. E-mail is by far the best way to get in touch with me.

Reader	Ming Hong
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Office hour	To be announced

Text: Joel Gersten and Frederick Smith, The Physics and Chemistry of Materials. In Physics 140B I am planning to cover parts of chapters 7, 11, 9, 17, 22, and 16. Topics will include semiclassical theory of electrons in a crystal; variable-range hopping, percolation, and weak localization; intrinsic vs. extrinsic semiconductors, pn diodes, and transistors; types of magnetism, hysteresis, and magnetic resonance; and superconductivity. This isn't set in stone though; if you were hoping to hear about something I didn't list, let me know and I can change things around.
Other recommended texts:
1. Ashcroft and Mermin, Solid State Physics—a classic book, challenging for undergraduates, almost 30 years old.
2. Charles Kittel, Introduction to Solid State Physics—another classic, currently in its 7th edition, but often annoyingly glib; older editions are better about this.

Prerequisites: Physics 140A or equivalent.

Grading

Homework 25%

Problem sets are due in class, generally on Fridays. I will pass out answer sets one lecture after the problem set is due, and up to this time you may turn in your work late for half credit.

Midterm 25%

There will be one midterm, on Monday May 10.

Final Exam 50%

The final will be on Saturday, June 12 at 1:30 PM.