

# Physics 140A, Condensed Matter Physics

Instructor: Rena Zieve  
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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 Limin Zhao  
E-mail lzhao@ucdavis.edu  
Office hour Wednesday 12-1, in 101 Physics/Geology

Text: Joel Gersten and Frederick Smith, The Physics and Chemistry of Materials. Physics 140A will focus on chapters 1, 2, 3, 5, and 7.

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: Some general familiarity with quantum mechanics, preferably at the level of Physics 115A, is necessary. Helpful topics include Fourier analysis, the simple harmonic oscillator, and the quantum particle-in-a-box solution. I will also assume some knowledge of statistical mechanics.

## Grading

### Homework 20%

Problem sets are due in class. I will usually 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. The exception is that just before the midterm I may hand out an answer set on the day the problem set is due; if so I will not accept late homework for that problem set. (I will warn you in advance if I am going to do this.)

### Midterm 30%

There will be one midterm, probably on February 12.

### Final Exam 50%

The final will be on Tuesday, March 23 at 1:30 PM.