

Thermal and Statistical Physics

Lectures: MWF 9:00 – 9:50 in Phelps 1160

Webpage: www.physics.ucsb.edu/~phys119A/fall2010

Prof. Frank Brown

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Office Hours: Physics Study Room (Broida 1019) Wednesday 12:30-2:00

Thursday 12:30-2:00

Texts: *Classical and Statistical Thermodynamics* by Ashley Carter (required)

Thermal Physics by Daniel Schroeder (required)

Homework: Homework assignments will be posted on the course web page every Friday and are due the following Friday **at the beginning of class**. Late homeworks will not be accepted. Solutions to the homework assignments will be posted on the course web page shortly after they are turned in. Graded homeworks will be returned in class.

Exams: In class midterm on Wednesday, Oct. 27.

In class midterm on Monday, Nov. 22

Final on Thursday Dec. 9 (8:00 AM-11:00 AM).

Grading: Course grades will be based on homework (20%), the midterm exams (20% each), and the final exam (40%).

Tentative outline:

We will be covering material loosely corresponding to Chapters 1-5 in Schroeder and Chapters 1-10 in Carter. An approximate guess at the timeline is:

Definitions, introduction/math review, 1st law (weeks 1-2)

Enthalpy, heat engines, calorimetry &
Thermochemistry (weeks 3-4)

Entropy, 2nd law, absolute temperature,
3rd law (weeks 5-6)

Free Energies and chemical potential (weeks 7-8)

Selected applications

(weeks 9-10)