

**Instructor:** Sidney Redner (323 SCI, x2618)

**Text:** R. K. Pathria, *Statistical Mechanics*, 2<sup>nd</sup> edition (Butterworth-Heinemann)

**Recommended:**

There are many helpful references available to complement the text, including:

K. Huang, *Statistical Mechanics* 2<sup>nd</sup> edition (Wiley)

A text with some flashes of elegance.

L. D. Landau and E. M. Lifshitz, *Statistical Physics* (Pergamon)

Contains a wealth of information, but can be very heavy reading.

M. Plischke and B. Bergersen, *Equilibrium Statistical Mechanics* (Prentice-Hall)

A relatively modern book with an emphasis on phase transitions.

I am also presupposing familiarity with the following undergraduate-level references:

F. Reif, *Statistical and Thermal Physics* (McGraw-Hill)

A comprehensive standard senior-level statistical mechanics text.

C. Kittel & H. Kroemer, *Thermal Physics* (Freeman)

A simpler treatment of undergraduate statistical mechanics.

**Course organization:**

**Lectures:** Tuesdays and Thursdays from 2-3:30 in PRB 150.

**Discussion section:** There will be weekly section meetings, where topics can be discussed in more depth, and where homework problems can be worked out. The discussion section is scheduled for Wednesday 3-4pm in PRB 261 and will start the week of September 11.

**Communication:** I plan to use the web for course communication. The course website is [physics.bu.edu/~redner/541](http://physics.bu.edu/~redner/541). The course syllabus, this document, and the first homework assignment are already posted.

**Homework:** Assignments will be posted each weekend for the coming week and will be in the grader's mailbox on the following Monday by 5pm. The grader is Pu Chen (office SCI B333A; telephone extension 3-3845). While some collaboration on homework is acceptable, what is turned in should represent your own personal effort. Late homeworks will not be accepted after solutions are posted. The lowest 1-2 homework scores will be discarded and the average of the remaining homeworks will count approximately  $25 \pm 5\%$  of the total course grade.

**Exams and Grading:** One in-class closed-book midterm exam and a 2-3 hour final exam of the same format at the end of the semester will be given. These two sources will comprise  $25 \pm 5\%$  and  $50 \pm 5\%$  of the total course grade, respectively.

**Syllabus:** I plan to follow the posted course outline. Please feel free to request coverage of specific (relevant) topics.