

# Thermodynamics & Statistical Mechanics

## Spring 2020 PHYS 1341/2341

Instructor: Roger Mong  
Email: [rmong@pitt.edu](mailto:rmong@pitt.edu)  
Lecture: Tuesday 10am—11am on Zoom  
<https://pitt.zoom.us/j/3832949143>  
Office: Cyberspace  
Office Hours: Tuesday + Thursday 11—11:30am, also on Zoom.  
Prerequisites: PHYS 0477, MATH 0240 and MATH 0290 (or MATH 1270)

### References

Daniel V. Schroeder, “Thermal Physics”  
Charles Kittel and Herbert Kroemer, “Thermal Physics”  
R. K. Pathria and P. D. Beale, “Statistical Mechanics”  
K. Huang, “Statistical Mechanics”

### Course Description

Statistical physics is one of the pillars of modern physics, alongside quantum mechanics and relativity. Statistical physics aims to provide theoretical descriptions of macroscopic physical phenomena that are time-independent, or in other words physical systems in thermodynamic equilibrium. Statistical physics is both beautiful and profound owing to its simple underlying principles and widespread applications.

### Grading

30%	Homework
10%	Class Participation
30+15%	Midterms
15%	Final

### Schedule

First day of class is Tuesday, Jan 7. There will be no class on March 8, 10 (Spring Recess). The final class is scheduled on Thursday, Apr 16.

Midterm 1: Feb 6.  
Midterm 2: Mar 31.  
Final exam: Apr 24.

## **Homework Policy**

Homework are due a week after being posted/handed out, to be submitted via CourseWeb. Homework must be clearly written out and presented in an organized manner—no credit will be given out if the solutions are difficult to read! Students must contact instructor regarding late homework prior to the due date. Students may discuss homework problems with each other, but homework solutions must be written individually. If students do work together, they must acknowledge each other on their homework.

Late homework *may* be accepted for partial credit at the discretion of the instructor. Homework will not be accepted after the solutions have been posted.

## **Course Materials**

The course materials will be posted on CourseWeb for PHYS1341. Students enrolled in PHYS2341 should contact the instructor to gain access to the course materials.

## **University Policies**

### **Religious Observances and Class Activities:**

In case your religious observances conflict with class activities / tests / homework assignments due dates and such, please alert your teacher to such possible conflicts as soon as possible and in advance.

### **Academic Integrity**

Students in this course will be expected to comply with the University of Pittsburgh's Policy on Academic Integrity at [as.pitt.edu/faculty/policies-and-procedures/academic-integrity-code](https://as.pitt.edu/faculty/policies-and-procedures/academic-integrity-code). Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy. Furthermore, no student may bring any unauthorized materials to an exam, including dictionaries.

### **Disability Services**

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services (DRS), 140 William Pitt Union, (412) 648-7890, [drsrecep@pitt.edu](mailto:drsrecep@pitt.edu), (412) 228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

### **Statement on Classroom Recording**

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.