Physics 4125 Spring 2020: Covid corrections
Thermodynamics and Statistical Mechanics

Instructor: I. Vekhter
Email: vekhter@lsu.edu
Office Hours: MW 1pm-2pm, Zoom via Moodle
Lecture time: videos uploaded to Moodle

Text: *An Introduction to Thermal Physics* by Daniel Schroeder

Course website: http://www.phys.lsu.edu/faculty/vekhter/Teaching.html for Homework Assignments and Solutions.

Purpose: To introduce the concepts and methods of thermodynamics and statistical mechanics at the level of a senior undergraduate physics majors. To build problem solving skills and to effectively use mathematical tools to describe nature.

Lectures: There will be no further lectures, but a set of video recordings covering concepts and examples. This will require you to work more independently, and I will be available by zoom to answer questions.

As mentioned in the original syllabus, this **requires me to introduce concept quizzes that will count for 15% of the grade.**

Homework: The homeworks will have to be submitted via Moodle. Note that submission has to be as a single file. Once the Moodle submission window closes, no exceptions will be given. *The homeworks will be due Mondays 10pm, except the last homework*

Participation in a pilot study: Still planned as mentioned in the original syllabus. You will receive a link.

Office hours: I will do my best to be available on request outside of the usual office hours, but note that schools are closed, we are under stay at home order, which means our babysitter is not coming, so I am spending quite a bit of time with kids.

Exams: We are not going to make up the missed second midterm. We will have a take-home midterm the week of April 13, and a take-home final. The midterms still count for 15% of the grade, with the place of the missed midterm taken by quizzes.

Therefore the grading scheme is:

2 midterms @15% each
Quizzes 15%
Homework 20%
Final 35%

Reading Assignment and lecture schedule

Note that the chapter and sections refer to Schroeder.

Date	Chapter – sections		Topic	
			Week 12	
3/30	6	1	The Boltzmann Factor	
4/1	6	2-3	Average Values and Equipartition	
4/3	6	4	Maxwell Speed Distribution	
			Week 13	
4/6	6	5-6	Partition function	**HW#8 Due**
4/8	6	7	Ideal Gas Revisited	
4/10			Good Friday Holiday	
			Week 14	
4/13	7	1-2	The Gibbs Factor	**HW#9 Due**
4/15	7	2-3	Bosons and Fermions	
4/16			**EXAM II**	
4/17	7	3	Degenerate Fermi gas	
			Week 15	
4/20	7	3	Degenerate Fermi gas	**HW#11 Due**
4/22	7	4	Blackbody Radiation	
4/24	7	5	Debye Theory of Solids	
			Week 17	
4/27	7	6	Bose-Einstein Condensation	
4/29	8	2	Ising model: mean field	
5/1			Review	**HW#12 Due**

Then: **Final Exam**!!!!