

Physics 4488/6562: Statistical Mechanics
<https://sethna.lasp.cornell.edu/Teaching/562/>
Homework, Pre-class Questions, and Grading
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Last correction at December 6, 2023, 8:26 pm

Pre-class questions, and Web resources. You are responsible for doing the reading before class each day, and answering a ‘Pre-class Question’ based on that reading. On the first day of each week the pre-class question will be turned in with the homework; other days it is due at 8:00am the morning before class. On those days, log in to the class Canvas web site and upload your answer (handwritten photos, pdf, whatever).

Homeworks. Homeworks will be due on the first class each week (usually Monday). The first homework is due next Monday, January 29. Each homework will have a common exercise for everyone, and specialized exercises on a variety of topics from which you can select. Those in 6562 should do at least one of these specialized exercises per week, with a total of 10 before the prelim and 10 afterward (so a total of 34 exercises including the common ones). Those in 4488 should do specialized 10 exercises during the semester, with at least 5 before the prelim (so a total of 24). These are in addition to the pre-class question for Monday.

You are encouraged to work in groups for the homeworks, but write up your own answers. The homeworks are similar to homework and exam questions assigned in previous years.

We require that you do not consult the old answer keys! In moderation, getting stuck and working through things is the way we learn. Answer keys will be distributed after class on the due date. Later homeworks will be accepted only by special arrangement.

Computer exercises. Most homeworks will have a computer exercise. Hints for Python and Mathematica are available at

<https://sethna.lasp.cornell.edu/StatMech/ComputerExercises.html>;

we recommend that you download the hints notebooks and edit them. For general information about Python, see <https://cac.cornell.edu/myers/teaching/ComputationalMethods/GettingStarted.html>. We recommend installing the Anaconda Scientific Python distribution, <http://www.anaconda.com/products/individual>. One useful additional step for speed when linear algebra is being done: set the environment variable MKL_NUM_THREADS (e.g., ‘export MKL_NUM_THREADS=4’ if you run bash, or ‘setenv MKL_NUM_THREADS 4’ if you run csh or tcsh), replacing ‘4’ with some number \leq the number of cores on your machine.

Exams. There will be a prelim (mid-term) exam, currently scheduled for the weekend March 10 and 11, and a final exam whose due date is not yet determined. Both will likely be take-home exams.

Grading. In 6562, 5% of the grade is based on the pre-class question participation, and 45% on the weekly homeworks. In 4488, 10% will be based on pre-class questions and 40% on homeworks. (Do not consult homework answer keys from previous years. Warn me if you find answer keys on the Web.) The remainder will be based on the exams, 20% on the prelim and 30% on the final. Exams are normally open-book, but of course no collaboration with others is allowed for the exams.