We will cover: Chapters 1-2 on the (microcanonical, thermal, and grand) ensemble approach to fluctuations in (isolated, thermally-equilibrated, and open) thermodynamic systems; Chapters 3-8 on systems of independent particles (featuring monatomic and diatomic gases, and vibrations of solids); Chapter 10 on chemical equilibrium in ideal gas mixtures; Chapter 12 on non-interacting particles in electric and magnetic fields; Chapters 13 and 21 on polymers; Chapter 14 on lattice models of interacting systems (including the gas-liquid transition, demixing in liquid solutions, and the Ising model of the ferromagnetic transition); and Chapter 18 on electrolyte solutions.

The class will meet (on average) four days a week, from 11am to 11:50am in 4216 Young Hall, for a total of 30 Lectures and 10 Discussion Sections over the 10 weeks of the course.

*This syllabus, all lecture notes, and the schedule for lectures and discussion sessions is posted at the ccle.ucla.edu course website. Please note that lectures will not always be on Mondays, Wednesdays, and Fridays – and Discussions will not always be on Thursdays – but we will always be meeting at 11am in YH 4216, and the detailed schedule will fixed in and posted advance at ccle. (Some weeks there will be 4 lectures and others only 2, and sometimes we will meet 5 times a week and other times only 3....)

*Professor Gelbart will have 3 office hours, in his office (Monday at 1pm, Tuesday at 3pm, and Thursday at 10am. Each of the TAs will have 2 office hours, at times to be decided the first days of lecture, after learning from you more about your class and lab schedules.

There will be two (2) hour-tests, one on Monday April 29 from 5-7pm in 3069 Young Hall, and the other on Tuesday May 21 from 5-7pm, also in room 3069. Note that you will have a full two hours for each of these hour-tests, so that no one is rushed.

The final examination is from 8:00am-11:00am on Wednesday, June 12.

Problem Sets will be assigned every week and are by far the most important part of the course for you to spend time on. While they will only account directly for 25% of your grade (with hour-tests each counting for 20%, and the final for 35%), they will best prepare you for the hour-test and final examination problems.

A new Problem Set will be made available each Monday, and will be handed in the following Monday, in class.

Note that there will be a total of seven (7) office hours each week that you can participate in for discussion of the course material and problem sets (and anything else you want to talk about!). Please do take advantage of this opportunity.

Also, you are strongly encouraged – of course! – to interrupt with questions during the lectures and to stay after the lectures to talk. And to email me and Cheylene and Zach whenever you like.

For posting of Lectures and Problem Sets, and course-related announcements, please be sure to check the ccle website daily.