SYLLABUS - Chemistry 6A Winter 2003
LECTURES 8-8:50 am on Tuesdays in Chem 1179

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Office Hours: Tuesdays 3-4, questions by e-mail, or e-mail to make appointment

Review sessions: I will lead a review session before the final exam – time & place to be announced.
Final exam: Thursday, March 20, from 8-11 am in Chem 1179.

Texts: Mayo, Pike, and Trumper, Microscale Techniques, 2nd Ed. (Wiley, 2001) or 1st Ed. Lab Text: Chemistry 6AB Organic Chemistry Laboratory (UCSB Chem Dept, UCSB bookstore, 2001 or 2002-3 Ed. $6.00)

Grading: There will be 2 to 4 in-class midterm quizzes announced the week before in class (20-40 pts each) and a final exam (at time and date in schedule of classes for the lecture)(200 pts). They will be combined with your laboratory grade (300 pts). Final grade then will be half for the lecture and half for the laboratory.

Efforts are made to try to make the different laboratory section grading practices as comparable as possible, although they are necessarily somewhat subjective. In my experience, class averages are likely to be approximately 70-80% and letter grades will be on a scale with C’s(C-,C+,C) starting at 60%, B’s 72%, A’s 85. This scale may be adjusted somewhat according to my judgment, but grades will not be explicitly curved, i.e. all could theoretically A’s if all were to go ideally, (or all get C’s and D’s). It’s up to you. Generally, most get A’s and B’s, with a class average grade of about B for this class. Numerical laboratory grades will be reported to me by each TA on a 100-point scale, renormalized as needed to make sections comparable, and multiplied by 3 for 300 pts for combination with the lecture grade. The lab grade will be made up of points for reports/notebooks(40 pts), technique, lab neatness, preparation for lab(30 pts), quality, purity, appearance, quantity of products(15 pts), in-lab quizzes(15 pts).

Lecture Topics (chapter/pages in Mayo, et. al. [Lab Expt Number]):
- Safety and microscale techniques and notebooks(Ch 1-3) [Expt 1]
- Melting points(pp 52-56) [Expt 1]
- Distillation(pp. 72-90) [Expt 2]
- Extraction, acids and bases, drying agents (pp. 90-109)(Bruice 1.16-1.20, prob 24-44) [Expts 3, 4]
- Crystallization (pp. 110-119) [Expt 5]
- Chromatography, rotary evaporator (pp. 57-72, 119-133) [Expt 6]
- Mass spectrometry (pp. 237-252)
- Infrared(IR) Spectroscopy (pp. 146-178) (Bruice, Ch. 12.6-12.15 probs 13-26,32,34,36,39,4143,45,47-49,51,55,56,58,59,60.) [Expt 7]
- Nuclear Magnetic Resonance Spectroscopy(pp.179-216) (Bruice, Chap 13 and problems therein) [Expts 8, 9]

Problem sets: Answer all of the questions at the ends of chapters in Mayo and discuss answers with TAs. Work problems from old Chem 6A exams that will be distributed and from the relevant chapters on spectroscopic methods from your classroom text book.

Advice: Class attendance will be essential. You will see which parts of the readings are most important and get valuable explanations and handouts to help you understand the readings. There will be quizzes in class and missing them, or missing the announcements of quizzes the week before, will hurt your grade substantially. Regularly working out the problems in the chapters and from old exams is critical to your success in this class. This must be done in writing to be effective. Just listening and taking notes in class and studying days before the exams will almost certainly not be sufficient. Problems sessions will be most helpful if you’ve worked(or tried to) the problems ahead of time. Just watching problems being worked will not be enough - you must do them yourself. Similarly, just listening in class is not going to be as effective as reading the chapter first. Rewriting the lecture notes while integrating it with your notes from the textbook reading is a good study method. The material for which you are responsible on exams will include all the material assigned in the text. Classroom lectures will not cover all of the text material, but will emphasize some of the most important topics and provide explanations for the most difficult topics.