

CHEM 3060 Fall 2004

Lectures: MWF 9:40 - 10:30am, room 2004 HEB

Instructor: Professor Scott L. Anderson, 1216 HEB

Office Hours: Tuesday 9 - 10 am, Wednesday 2 - 3 pm. Within reason, I will be happy to talk to you anytime when I am not in the middle of doing something else. You can make an appointment by calling me at 585-7289, or just drop by.

Secretary: Lori Walk, HEB 2108, 581-5074: loriwalk@chem.utah.edu

Textbook: *Physical Chemistry: A Molecular Approach*, McQuarrie and Simon

Course Organization: This course will approach physical chemistry from the atomic/molecular perspective, i.e., we wish to understand how the properties of individual molecules control the properties of bulk macroscopic materials. The organization is as follows:

1. Fundamentals of quantum mechanics (Chapts 1 - 5).
2. The quantum mechanics of atoms and diatomic molecules (Chapts 6 - 9).
3. Molecular symmetry and how it simplifies understanding of more complex molecules (Chapt 12, 10-11).
4. Spectroscopic probes of molecular structure (Chapts 13 - 15).
5. From individual molecules to bulk materials (Chapts 16 - 18).

The emphasis is on fundamentals, and we may skip selected topics in the spectroscopy chapters because of time limitations. The book has brief Math Chapters interspersed with the text. These are not intended as a substitute for adequate math/physics preparation, but may be useful as a quick reference to some concepts and methods needed in the course. I generally will not go over these in class, but you may ask the TA to go over the math reviews in Discussion sessions.

Discussion sessions: Each student must be registered for a discussion session. In addition to the scheduled Thursday sessions, we have been able to get resources to offer an optional second session each week. Check with the TA in your scheduled session for the time and location of the optional session.

Homework: Homework problems will be assigned every Friday, and are due the following Friday *in lecture*. Homework will count for 20% of the course grade and late homework will be penalized 25% per day (i.e. after 4 days, don't bother). A large fraction of the exams will be made up of problems similar the homework, so if you really understand the homework problems, you will do well on the exams. It is OK to work on assignments in groups, however, each student must turn in an individual copy of the answers (xeroxes, etc will not be accepted). I have found a very close correlation between exam scores and really doing the homework, as opposed to not doing it or copying it from a friend.

Computers: P-chem is a quantitative science and the problems will require computations. Some homework will require using a computer for the calculations and for plotting up the result. I will not require (or teach you how to use) a particular program – you can use a spreadsheet or math program such as Maple/MathCad/MatLab available on computers in HEB 1100 and 4209/4215 or in the library.

Exams: There will be two mid-term exams and a final exam. Each mid-term is worth 25% of the course grade and the final is worth 30%. Except in *very* special circumstances, no makeup exams will be given, so you should make every effort to take each exam. If circumstances beyond your control prevent you from attending any of the exams, contact Prof. Anderson before the exam period, not after. Bring a calculator (programmable is ok) and several writing implements. You will be given any integrals, or complicated formulae that might be needed, but you will need to remember the most important equations, etc. **Use of laptop computers, cell phones, Palm Pilots, pagers, etc. are NOT permitted in the exams, and must turned off and stowed in a backpack or handbag.**

Tentative Exam Times: IN CLASS Exam 1: Oct 15 (Chapters 1-10) Exam 2: Nov 22 (Chapt 11-18)

Final Exam Time: Thursday, December 16, 8:00 – 10:00 am, HEB 2004.

Drops/Withdrawals: Drop deadline: Sept. 3. Withdrawal (I) Sept 24.

From CDS: "The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services."