

## Chemistry 140B – Spring 2007

Instructor: Yong Gao  
Office Hours: 3:00-4:00 p.m., F in Neckers 315  
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Required Text: *General, Organic and Biochemistry*– Ira Blei and George Odian  
ISBN: 0-7167-4375-2; W. H. Freeman and Company, 2006.

Lectures: M, W, F 12:00-12:50, Neckers 240

Lab Manager: Daniel Parker, Neckers 225, Ph: 453-6413

Labs:  
Section 1: Thursday 8:00-10:50, Neckers 106  
Section 2: Thursday 11:00-13:50, Neckers 106  
Section 3: Thursday 14:00-16:50, Neckers 106  
Section 4: Tuesday 8:00-10:50, Neckers 106  
Section 5: Tuesday 11:00-13:50, Neckers 106  
Section 6: Tuesday 14:00-16:50, Neckers 106  
Section 7: Wednesday 14:00-16:50, Neckers 106

Tutoring: additional tutoring hours will be available from your TAs. The meeting places and hours will be announced.

**\* Important: please send an email to: [siuchem140b@yahoo.com](mailto:siuchem140b@yahoo.com) with your name and class section number for a course ID before January 30. Midterm grades will be posted showing your random course ID.**

### Lecture Schedule (subject to change):

Jan 16-19	Review of Chap. 2 & 3 (not in the exams); begin Chap. 11
Jan 22-26	Chapter 11: saturated hydrocarbons
Jan 29-Feb 2	Chap 12: unsaturated hydrocarbons
Feb 5-9	Chap. 12
Feb 12	1 <sup>st</sup> midterm exam, regular class hour: 12:00-12:50, Neckers 240
Feb 14-16	Chap. 13: alcohols, phenols, ethers, and their sulfur analogues
Feb 19-23	Chap 13 & start Chap 14
Feb 26-March 2	Chap 14: aldehydes and ketones
March 5-7	Chap 14

March 9	2 <sup>nd</sup> midterm exam, regular class hour: 12:00-12:50, Neckers 240
March 12-16	Spring break
March 19-23	Chap 15: carboxylic acids, esters, and other acid derivatives
March 26-30	Chapter 16: amines and amides
April 2-6	Chap 17: stereoisomerism
April 9-13	Chap 20: proteins
April 16	3 <sup>rd</sup> midterm exam, regular class hour: 12:00-12:50, Neckers 240
April 18-20	Chap 18: carbohydrates
April 23-27	Chap 19: lipids
April 30-May 4	Chap 21: nucleic acids; chap 25: amino acid metabolism
May 11	4 <sup>th</sup> exam, 07:50 a.m.-09:50 a.m.

**Home Assignments:** (*Home assignments are not required to hand in. However, about 30% of the exam questions will be from your home assignments. The keys to home assignments can be found in your book*)

No home assignments for chapters 2, 3 & 7

Chapter 11: questions 11.2-11.6; 11.9-52

Chapter 12: questions 12.1-12.60

Chapter 13: questions 13.2-13.56 except 13.44

Chapter 14: questions 14.1-14.50

Chapter 15: questions 15.1-15.62

Chapter 16: questions 16.1-16.59

Chapter 17: questions 17.1-17.39

Chapter 18: questions 18.1-18.64

Chapter 19: questions 19.1-19.79

Chapter 20: questions 20.1-20.94

Chapter 21: questions 21.1-21.96

Chapter 25: questions 25.1-25.37

**Grading :**

1 <sup>st</sup> Midterm	15%
2 <sup>nd</sup> Midterm	15%
3 <sup>rd</sup> Midterm	15%
Final exam	15%
Lab grade	40%

Total 100%

All the exams (1<sup>st</sup> midterm, 2<sup>nd</sup> midterm, 3<sup>rd</sup> midterm and 4<sup>th</sup> exam) will be multiple-choice exams and do not cover previous chapters that have been covered by other exams. There will be no lab exams.

The final grades will be curved according to the class averages. However, you will be guaranteed

“A”	if your total score is 80-100%
“B”	65-79.9%
“C”	55-64.9%
“D”	45-54.9%

**Required Lab Manual:**      *Chem 140B Laboratory Manual* – Brenstein & Hinckley  
*Chem 140B Laboratory Reports* – Brenstein & Hinckley

**Laboratory Schedule:**

Jan.16-19	No lab
Jan 22-26	Check-In Kinetics of Reaction of Magnesium with Vinegar Names and Formulas of Organic Compounds
Jan 29-Feb 2	Which Antacid Spells Relief? Molecular Models of Hydrocarbons - continued
Feb 5-9	Extraction of Carvone from Caraway or of Cinnamaldehyde from Cinnamon Molecular Models of Hydrocarbons - continued
Feb 12-16	Extraction of Carvone from Caraway or of Cinnamaldehyde from Cinnamon (continued) Molecular Models and Nomenclature of Alcohols, Carbonyl Compounds and Acids
Feb 19-23	Synthesis of Esters
Feb 26-March 2	Synthesis of Aspirin
March 5-9	Vitamin C in Fruit Juices (Semi)Quantitative Determination of Glucose
March 12-16	Spring break
March 19-23	Titration of Amino Acids

- March 26-30 Chromatography of amino acids  
Isoelectric Point of Casein
- April 2-6 Preparing a Standard Curve: Spectrophotometric Determination of Glucose  
and Fructose
- April 9-13 Effect of substrate concentration on enzyme activity
- April 16-20 Effects of temperature on enzyme activity & check out

Check Out: If you fail to check out, your lab grade will be lowered by 5 %, and you will be assessed a \$20 late fee.

Note: Chem 140B has no lab exams.

### **Absentee Policy:**

You will not be allowed to make up or repeat a laboratory. However, the first missed lab will receive a grade based on the average of the remaining reports, provided the absence is excused (written notes or letters from medical doctors, courts or law enforcement agencies, etc.). The second and the following missed labs will be given a zero. Students miss more than two labs will receive an incomplete or an “F” for the course.

### **Handing in Late Report:**

Reports should be handed in to your TA directly. Reports after the due date will receive a 20% deduction from the total score. Reports that one week late will receive a 25% deduction. Any work handed in more than one week after the due date will be reduced from 30% to 100% at the discretion of the TA, and in consultation with the instructor. **Your TA has a mailbox in Neckers 224**, please note that this office typically closes at 4 pm.

### **Laboratory Safety:**

*If you have health-related problems for particular experiments, please consult your TA or the instructor before you start your experiments.*

Chemistry is inherently dangerous since we work with flammable solvents and glassware. Explosions and spills do happen and people do get hurt, however, these incidents are very rare when proper precautions are taken. Therefore it is extremely important that all students and TAs follow well-defined safety protocols. **Goggles and safety glasses must be worn at all times when experiments are in progress.** Furthermore, the instructors and TAs will remind students of important safety precautions before each laboratory. *However, there is no substitute for preparation and common sense!*

**Hazardous Chemical Disposal:**

Most of the chemicals that we work with in the laboratory must be disposed of in properly-labeled waste containers. We are legally required to make an accurate account of the contents of these waste containers, which are found in the laboratory hood. Thus, it is very important that students place their waste in the appropriate container.

**Laboratory Cleanliness:**

Each lab period the TAs will assign one or two people as “clean-up” supervisors. It is the responsibility of these supervisors to ensure that the entire laboratory is cleaned and prepared for the next laboratory section. Thus, the supervisors must wait until the other students have completed their work and the TAs inspect the laboratory before they may be excused. Ten points deduction from that lab grade could be taken if the lab does not pass the inspection after the lab is closed.