

CHEM 1B SYLLABUS – Spring 2009
Lecture: MWF 12:00 – 12:50, Room Chem 1179

Instructor: Julia Ortony

Email: jortony@chem.ucsb.edu

Office hours (PSBN 1511): Mon 4:00pm, Thurs 4:00pm, or by appointment

TA office hours: Link on course webpage

Course website: <http://www.chem.ucsb.edu/coursepages/09spring/1B-Ortony/>

Textbook: Steven Zumdahl, *Chemical Principles*, 6th Edition

Grading: WebAssign (10%); Quiz – **best out of 2** (10%); Midterm 1 (20%); Midterm 2 (20%); Final (40%)

WebAssign Homework: This class will make extensive use of the [WebAssign System](#). WebAssign allows us to retrieve and submit homework assignments online and to give instant feedback as you work problem sets.

Midterm 1: April 24 during class (chapters: 9, 10, a bit of 11)

Midterm 2: May 22 during class (chapters: 11, 15, a bit of 12)

Final Exam: June 9, noon – 3:00pm (chapters: 9, 10, 11, 15, 12, 13)

Suggested Homework: Not graded, but you absolutely must practice everyday

Be prepared: Always complete reading assignments before class. Bring calculators, pencils, paper, and homework to class. Please let me know if you have concerns about the course at any time!

Extra help: Free tutoring or ESL help: CLAS (Campus Learning Assistance Services) <http://www.clas.ucsb.edu/>

Student Counseling Services: Free counseling services, <http://www.counseling.ucsb.edu/>

Conflict Resolution / Mediation: Office of the Ombuds, <http://www.ombuds.ucsb.edu/>

Week	Date	Topic	Chapter	Chem 1BL Lab Assignment
1	March 30 – April 3	Energy, Enthalpy, and Thermochemistry	9	Check-in / Syllabus / Safety
2	April 6 – April 10 Quiz 1	Spontaneity, Entropy, and Free Energy Quiz 1: Fri, Apr 10	9 10	Exp. 8: Acid-Base Equilibria
3	April 13 – April 17	Spontaneity, Entropy, and Free Energy	10	Exp. 9: Thermochemistry
4	April 20 – April 24 Exam 1	Free Energy, Electrochemistry Exam 1: Fri, Apr 24	10 11	Exp.10: Oxidation of Vitamin C
5	April 27 – April 30	Electrochemistry	11	Exp. 11: Electrochemistry
6	May 4 – May 8 Quiz 2	Chemical Kinetics Quiz 2: Fri, May 8	15	Exp. 12: Electrochemical Cells
7	May 11 – May 15	Chemical Kinetics	15	Exp. 13: Chemical Kinetics
8	May 18 – May 22 Exam 2	Quantum Mechanics, Atomic Theory Exam 2: Fri, May 22	12	Exp. 14: Atomic Spectroscopy / Check-out
9	(Holiday May 25) May 27 – May 29	Quantum Mechanics Bonding	12 13	Monday holiday NO LABS THIS WEEK
10	June 1 – June 5	Bonding: General Concepts	13	Lab Final Review
LECTURE FINAL EXAM			LAB FINAL EXAM	
Tues June 9, 12:00 – 3:00 pm			Sat June 6, 4:00 – 6:00 pm	

CHEM 1BL, GENERAL CHEMISTRY LABORATORY SYLLABUS – Spring 2009

Chemistry 1BL is designed to demonstrate and reinforce the basic concepts of thermochemistry, electrochemistry, chemical kinetics, and atomic spectroscopy. Laboratory techniques such as the use of a voltmeter, ammeter, spectroscope and calorimetry will be introduced. The analytical methods learned in Chem. 1BL are applicable to many other scientific disciplines including Biology, Medicine, Environmental Science, Physics and Engineering.

Laboratory Coordinator: Petra van Koppen, PSBN 3670 B. Email: vankoppen@chem.ucsb.edu
Office hours: Thursday 2 – 3 PM or by appointment

LAB FINAL Saturday June 6 4 – 6 PM* Rooms to be announced

*If you are scheduled to take a foreign language final at this time, or if you have another conflict, you can take the lab final early: Friday, June 5, 4-6 PM, Room to be announced

Lab Manual: General Chemistry 1AL/1BL/1CL, Laboratory Manual by Petra van Koppen, Hayden-McNeil Pub. (2008-2009)

Also Required: Safety Glasses and a Bound, quadrille-ruled, duplicate-page notebook. Both are available in the bookstore.

Safety glasses must be worn by all students in the laboratory at all times. You will not be allowed into the laboratory unless you have safety glasses to protect your eyes. You must check out of your lab (check all contents of your lab drawer) at the end of the course (or if you drop the course before the end). Failure to do so may result in a charge for equipment not checked in and for your technique grade you will receive zero points.

NOTE: Chem. 1B and 1BL may not be taken P/NP by science and engineering majors because these courses are required in preparation for the major. Chem. 1BL is a one-unit course separate from the lecture course but intended to accompany it.

REQUIRED LAB FEE: A non-refundable \$32.00 Lab Fee is Required for this Course. It will be charged to your BARC account upon confirmation of your enrollment.

Studying for Chemistry 1B

This is not necessarily a difficult course, but most students find that they have to spend time studying to understand the material. It is important to keep up with the schedule. Read the chapter as scheduled. As you read the chapter, stop and work all the exercises as they appear in the text. This is the only way to be sure you understand the material as you proceed through the chapter. After you have finished the chapter, work all the assigned problems given below. This is a minimum list of problems that all students should do. The solutions manual, available in the bookstore, has the answers to the problems. Use the solutions manual to check your work. If you get stuck solving a problem, it may be useful to read and review the material in the text. **Help is available:** CLAS discussion sections and drop-in all day every day; **TA Office hours;** your **instructor** is also available to help. Learning to solve Chemistry problems requires you to work the problems yourself. Watching others (e.g. instructors, tutors or other students) work problems or reading the solutions in the solution manual is no substitute for working them yourself. You must go through the reasoning process yourself until you understand each type of problem. Sufficient practice is important. If you need more practice solving problems, do other problems in addition to those assigned.

Assigned Problems 6th Edition (Minimum List of Problems – Work More Problems on Your Own)

Chapter 9: 1,10,11,13,14,16,18,21,29,30,31,32,33,34,35,37,38,43,44,45,46,47,49,50,51,55,56,57,59,60,62,65,69,70,71,73,85,87

Chapter 10: 7,21,22,25,27,28,30,31,33,37,38,40,44,45,47,50,53,55,57,58,60,64,65,66,67,74,77,78,81,91

Chapter 11: 3,10,11,17,19,20,22,23,24,25,26,27,35,37,38,39,47,48,49,51,55,60,61,62,65,67,68,71,76,78,79,80

Chapter 12: 13,14,21,22,23,25,26,27,29,35,36,37,38,39,41,53,54,55,57,58,59,63,65,67,70,71,72,77,79, 80,81,85,86,87,88,90,94,99,100,121,124,129

Chapter 13: 10,13,14,17,19,20,21,22,23,24,27,37,38,39,40,51,52,55,59,67,68,69,70,71,72

Chapter 15: 4,8,11,15,17,18,19,20,21,23,28,29,30,31,33,36,37,42,43,44,45,51,52,55,60,67,69,71,73,74,75,76,78,82

Chem. 1B/1BL Website: www.chem.ucsb.edu Go to Undergrads, Course Web Pages