

# Chemistry 1C/1CL

# Spring Quarter 2009

**Chem. 1C (05827)**

**MWF 11 – 11:50 AM Chem. 1179**

Instructor: Songi Han [songi@chem.ucsb.edu](mailto:songi@chem.ucsb.edu)

Office Hours: in CHEM 3223, Mon 9.30-10.30 AM and Wed 9.30-10.30 AM

(and Fr 1-2 PM)

**Textbook:** Steven S. Zumdahl, Chemical Principles, 6<sup>th</sup> Edition, Houghton Mifflin (2009)

**Exams:** There will be two midterms and a final. No make-up exams will be given.

**Grades:** Grades are determined from your homework and exams as follows:

Homework – 10%, Exam 1 – 25%, Exam 2 – 25%, Final – 40%

**Final Exam: THURSDAY June 11 12 – 3 PM Chem. 1179**

## APPROXIMATE LECTURE SCHEDULE

## LAB SCHEDULE

<i>Week</i>	<i>Date</i>	<i>Topic</i>	<i>Chapter</i>	<i>Chem. 1CL Lab Assignment</i>
1	Mar 30 – Apr 3	Bonding	13.11-13.13 14	Check-In
2	April 6 – 10	Covalent Bonding	14	Exp. 15 Oxidation of Alcohol
3	April 13 – 17	Liquids and Solids	16	Exp. 16 Synthesis of Alum
4	<b>Exam 1</b> April 20 – 24	<b>Exam 1 Wed. Apr. 22</b> Liquids and Solids	17	Exp. 17 Colligative Properties: Freezing Point Depression
5	Apr 27 – May 1	Properties of Solution	17	Exp. 18 Synthesis of Transition Metal Complexes
6	May 4 – 8	Properties of Solution	19	Exp. 18 Analysis of Transition Metal Complexes
7	May 11 – 15	Transition Metals Coordination Chemistry	19	Exp. 19 Synthesis of Aspirin and Oil of Wintergreen
8	<b>Exam 2</b> May 18 – 22	<b>Exam 2 Wed. May 20</b> Transition Metals Coordination Chemistry	21	Exp. 19 Analysis of Aspirin/Check-out
9	May 25 May 27 – 29	<b>Holiday May 25</b> Transition Metals Coordination Chemistry	21	No Labs this week
10	June 1 – 5	Organic	21 18	Lab Final Review

**WebAssign:** 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. To use the system, you will need to purchase a WebAssign access code (\$8.95) from the UCen Bookstore. Use your perm number as your username and password. **Change your password after you log on.**

**HELP: Free Assistance Services (CLAS):**  
[http://www.clas.ucsb.edu/CLAS\\_schedules.htm](http://www.clas.ucsb.edu/CLAS_schedules.htm)

**For CLAS Drop In Schedule, see:**  
<http://www.clas.ucsb.edu/schedule/schedbio.pdf>

## CHEM 1CL GENERAL CHEMISTRY LABORATORIES

Chemistry 1CL has been designed to demonstrate and reinforce the basic concepts of chemical bonding, properties of solution, synthetic organic and inorganic chemistry. The analytical methods learned in Chem. 1CL are applicable to many other scientific disciplines such as Biology, Medicine, Environmental Science, Physics and Engineering. Chem. 1CL is a one-unit course separate from the lecture course but intended to accompany it.

**Laboratory Coordinator:** Petra van Koppen, PSBN 3670 B. Email: [vankoppen@chem.ucsb.edu](mailto: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. 1C and 1CL may not be taken P/NP by science and engineering majors because these courses are required in preparation for the major. **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 1C

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 is available in the bookstore. Never look at the answers first. Always try to do the problems by reading and reviewing the material in the text. **Help is available:** CLAS discussion sections and drop-in all day every day; **TA Office hours**, and **your instructor** are all 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 problems in addition to those assigned.

### Assigned Problems **6<sup>th</sup> Edition** (Minimum List of Problems – Work More Problems on Your Own)

Chapter 13: 51,52,54,55,56,59,67,68,69,70,71,72,75,76,79,89,90,91,98,102

Chapter 14: 12,14,19,20,21,22,23,24,25,26,28,34,35,38,45,47,73

Chapter 16: 7,9,11,12,13,15,17,18,19,20,21,22,23,27,29,33,38,41,43,46,72,75,82,83,84,85,87,92,99

Chapter 17: 13,15,16,17,28,29,30,35,38,40,43,45,47,49,50,51,53,57,58,59,61,66,67,70,73,75,76,107

Chapter 18: 2,28,36,41,44,46,52,69,71,72,77,94,95

Chapter 19: 6,7,16,22,23,24,25,26,27,31,32,33,34,37,39,40,42,43,44,46,47,48,49,52,53,65

Chapter 21: 5,7,8,9,11,12,13,14,15,16,21,25,26,27,28,29,30,37,38,39,40,41,42,43,44,45,46,49,56

57,61,65,69,72,75,76,77,78,84,88,89,93,95,96,99,106,111,112,113,114,116,117,119,132

**See Course Pages on the Chemistry and Biochemistry Department WEBSITE: [www.chem.ucsb.edu](http://www.chem.ucsb.edu)**