

Chemistry 1A/1AL Tentative Lecture and Laboratory Schedule Winter Quarter 2009

Chem. 1A (05322) MWF 9:00 – 9:50 AM Broida 1610

Instructor: Tom Hooker Office: PSBN 2660 Email: hooker@chem.ucsb.edu
Office Hours: Mon 10–11, Wed 11–12 and by drop-in or appointment (805) 895-9744

Textbook: Steven S. Zumdahl, Chemical Principles, 6th 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 – 15 pts, Exam 1 – 100 pts, Exam 2 – 100 pts, Final – 200 pts

Final Exam: Thursday March 19 8 – 11 AM Broida 1610

APPROXIMATE LECTURE SCHEDULE

LAB SCHEDULE

<i>Week</i>	<i>Date</i>	<i>Topic</i>	<i>Chapter</i>	<i>Chem. 1AL Lab Assignment</i>
1	Jan. 5 – 9	Atoms, Molecules and Ions	2	Safety Video, Safety Quiz and Check-In Monday Labs do Exp. 1
2	Jan. 12 – 16	Stoichiometry	3	Experiment 1: Introduction Lab Monday labs do Exp. 2
3	Holiday Jan. 19 Jan. 21 – 23	Holiday Jan. 19 Chemical Reactions Solution Stoichiometry	4	Experiment 2 Nomenclature/Reaction Stoichiometry No Monday labs
4	Jan. 26 – 30 Exam 1	Solution Stoichiometry Exam 1 Fri. Jan 30	4	Experiment 3: Analysis of Water
5	Feb. 2 – 6	Gases	5	Experiment 4 Determination of a Chemical Formula
6	Feb. 9 – 13	Gases Chemical Equilibrium	5 6	Exp. 5 Molar Volume of Gases
7	Holiday Feb. 16 Feb. 18 – 20	Holiday Feb. 16 Chemical Equilibrium	6	NO LABS THIS WEEK
8	Feb. 23 -27 Exam 2	Acids and Bases Exam 2 Fri. Feb 27	7	Experiment 6 Equilibrium Constant Determination
9	Mar. 2 – 6	Acids and Bases Applications of Aqueous Equilibria	7/8	Exp. 7 Antacid Analysis
10	Mar. 9 - 13	Applications of Aqueous Equilibria	8	Check Out / Lab Final Review

WebAssign: This class will make extensive use of the [WebAssign System](#). WebAssign allows us to retrieve and submit homework assignments online, to give instant feedback as you work problem sets, and gives a discussion forum for you to ask questions and discuss the material. **All homework assignments will be conducted through WebAssign.**

HELP: Free Assistance Services (CLAS):
http://www.clas.ucsb.edu/CLAS_schedules.htm

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

CHEM 1AL GENERAL CHEMISTRY LABORATORIES

Chemistry 1AL has been designed to demonstrate and reinforce the basic concepts of stoichiometry, chemical bonding, atomic structure, gas laws, chemical equilibrium and acid-base chemistry. The analytical methods learned in Chem. 1AL are applicable to many other scientific disciplines such as Biology, Medicine, Environmental Science, Physics and Engineering. Chem. 1AL is a two-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
Office hours: Mon 12-1:30 PM, Wed 10-11AM or by appointment

Lab Final Exam: Monday, March 16, 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, March 13, 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. 1A and 1AL 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 1A

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.

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. **Work all the examples in Chapters 2 through 8.**

Assigned homework problems will be completed on-line. For more information please go the Chem. 1A/1AL Website: <http://www.chem.ucsb.edu/coursepages/>

The on-line homework is a minimum list of problems (Work More Problems on Your Own):

Chapter 2: It is beneficial to memorize Table 2.3 and 2.5 (names of common ions), Table 2.6 (prefix names) Table 2.7, 2.8 (names of acids). See summary of Tables: Appendix 7, lab manual.
Problems: 18,32,34,36,37,38,39,40,41,42,46,47,48,49,50,53,58,59,64

Chapter 3: 25,26,30,31,32,34,38,39,46,49,50,53,56,57,58,65,66,70,71,72,73

Chapter 4: Memorize Table 4.1 (solubility rules) Problems: 11,15,16,17,18,20,24,25,30,31,33,39,43, 48,49,53,55,57,58,61,62,65,66,74

Chapter 5: 8,11,27,30,32,38,39,42,45,49,50,56,59,60,65,66,73,74,75,77,78,82,83,84,85,86,105,111

Chapter 6: 10,13,19,21,22,23,24,25,27,29,30,33,34,35,36,39,40,46,48,49,50,51,52,53,58,59,62,65,66

Chapter 7: 16,20,23,24,25,26,27,29,32,33b,c,35,39,41,42,43,45,46,53,55,57,58,59,62,63,65,85,87,89,107

Chapter 8: 15,16,19,20,21,22,23,25,29,33,36,37,38,40,46,51,54,55,81,87,88,102,118