Chemistry 1A/1AL Tentative Lecture and Laboratory Schedule
Fall Quarter 2002

Textbook: Steven S. Zumdahl, Chemical Principles, Fourth Edition, Houghton Mifflin Company (2002)

Lab Manual: TWO OPTIONS: CHEM. 1AL or CHEM. 1AC

Chem. 1AL: General Chemistry 1AL/1BL/1CL, Laboratory Manual by Petra van Koppen, Hayden-McNeil Pub. (2002-2003)

Chem. 1AC: Discovery and Analysis in the Laboratory, Chemistry 1AC/1BC/1CC and 2AC/2BC/2CC by Petra van Koppen, Hayden-McNeil Pub. (2002-2003)

Lab Notebook: Safety Glasses and a Bound, quadrille ruled, duplicate page notebook are required. Lab Notebooks with duplicate pages will be sold for $16 in front of the Chemistry Office (PSBN 1631) by the Chem. Club, Sept. 30 – Oct. 4.

APPROXIMATE LECTURE SCHEDULE **LAB SCHEDULE**

Week	*Date*	*Topic*	*Chapter*	*Chem. 1AL Lab Assignment*
1	Sept. 30 – Oct. 4	Atoms, Molecules and Ions	**2**	Safety and Check-In, Experiment 1: Introduction Lab
2	Oct. 7 – 11	Stoichiometry	**2** **3**	Experiment 2: Nomenclature and Stoichiometry
3	Oct. 14 – 18 **Quiz 1**	Chemical Reactions **Quiz 1 Wed. Oct. 16**	**3** **4**	Experiment 3: Analysis of Water
4	Oct. 21 – 25 **Exam 1**	Chemical Reactions **Exam 1 Wed. Oct. 23**	**4** Skip Sections 4.10, 4.11, 4.12	Experiment 4: Determination of a Chemical Formula
5	Oct. 28 – Nov. 1	Gases	**5**	Experiment 5: Molar Volume of Gases
6	Nov. 4 – Nov. 8 **Quiz 2**	Gases **Quiz 2 Wed. Nov. 5** Chemical Equilibrium	**5** **6**	Experiment 6 LeChatelier's Principle
7	Nov. 11-15	Holiday Nov. 11 Chemical Equilibrium	**6**	Experiment 7 Equilibrium Constant Determination Monday Labs do Exp. 7 next week
8	**Exam 2** Nov. 20 – 22	**Exam 2 Mon. Nov. 18** Acids and Bases	**7**	Experiment 8 Antacid Analysis **Monday labs do Experiment 7**
9	Nov. 25 – 29	Acids and Bases Holiday Nov. 29	**7**	No Lab this week **except Monday labs do Experiment 8**
10	Dec. 2 – 6 **Quiz 3**	Applications of Equilibria **Quiz 3 Wed. Dec. 4**	**8**	Experiment 9 Acid Ionization Constant / Check-Out
11	Dec. 9	Applications of Aqueous Equilibria	**8**	

Chem. 1A (05421) MWF 9 – 9:50 AM Chem. 1179

Instructor: Petra van Koppen PSBN 3670B
Office Hours: MW 10 – 11:15 AM or by appointment
petra@chem.ucsb.edu

Chem. 1A *FINAL EXAM*: Friday, December 13, 8 – 11 AM, Chem. 1179

Chem. 1A LAB FINAL Tuesday, December 10, 4-5 PM* Rooms to be announced

*If you are scheduled to take a foreign language final at this time, you can take the lab final early: Monday, Dec. 9, 4-5 PM, PSBN 2653

CHEM 1AL/1AC - GENERAL CHEMISTRY AND COOP LABORATORIES

Chemistry 1AL and 1AC have 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 and 1AC are applicable to many other scientific disciplines such as Biology, Medicine, Environmental Science, Physics and Engineering.

Chem. 1AL and 1AC are one-unit courses separate from the lecture course but intended to accompany it.

Laboratory Coordinator: Petra van Koppen, PSBN 3670 B. Email: petra@chem.ucsb.edu
Office hours: MW 10 – 11:15 or by appointment

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Lab Manual: **Chem. 1AL:** General Chemistry 1AL/1BL/1CL, Laboratory Manual by Petra van Koppen, Hayden-McNeil Pub. (2002-2003)

Chem. 1AC: Discovery and Analysis in the Laboratory, Chemistry 1AC/1BC/1CC and 2AC/2BC/2CC by Petra van Koppen, Hayden-McNeil Pub. (2002-2003)

Also Required: Safety glasses are available in the bookstore. Laboratory Notebook, quadrille ruled (graph paper), with duplicate pages will be sold for $16 in front of the Chemistry Office, PSBN 1631, by the Chem. Club, Sept. 30 – Oct. 4.

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 most precious sense, 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/1AC 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, available in the bookstore, has approximately half of the problems answered. 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 other problems than those assigned.

See Course Pages on the Chemistry and Biochemistry Department WEBSITE: www.chem.ucsb.edu

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

Chapter 2: Memorize Table 2.3 and 2.5 (names of common ions), Table 2.6 (prefix names), Table 2.7 and Table 2.8 (names of acids). Problems: 28, 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 47, 52

Chapter 3: 23, 25, 28, 29b,d,g, 30, 32, 37, 44, 46, 47, 48, 52, 55, 56, 61, 66

Chapter 4: Memorize Table 4.1 (solubility rules) Problems: 13, 14, 16, 19, 25, 29, 31, 33, 37, 39, 44, 45, 49

Chapter 5: 8, 11, 27, 29, 31, 33, 36, 37, 40, 42, 44, 46, 52, 53, 59, 61, 62, 63, 65, 66, 70, 71, 72, 93, 99, 106

Chapter 6: 11, 19, 21, 22, 24, 26, 29, 31, 32, 34, 35, 41, 42, 46, 51, 56, 59

Chapter 7: 16, 18, 19, 21, 22, 23, 24, 25, 29, 30a,d, 31, 33, 35, 36, 37, 39, 44, 57, 58, 59, 62, 64, 73, 74, 76, 77, 79b,e

Chapter 8: 15, 19, 20, 21, 22, 23, 25, 27, 29, 35, 38, 39, 40, 41, 57, 67, 72, 73, 82, 96