FD '03

General & Analytical Chemistry Lab I
Fall Semester, 2003
Chaminade University

Time: Tues. 2-4:50 PM Room: H 44
Instructor: Dr. Spencer Hamada Office H 16
e-mail: hamadad001@hawaii.rr.com Phone: 735-4807
office hours: Tues. 1-2:00 & 4:50-5:15

Require Materials:

-scientific calculator
-safety glasses and covered footwear
-student lab notebook (carbonless duplicate)
-gloves (optional)
-lab coat (optional)

Course Description and Objectives:

CH 203L is a one-credit laboratory course that accompanies the CH 203 lecture course. You will conduct experiments both individually and with fellow students. We will have class discussions on the theory, the techniques utilized, and the expected results of the experiments. You will be able to participate in these discussions and get more out of them if you read both the lab hand-outs and review again the pertinent parts of your lecture text, (use you text's index). This will place the theory in a more concrete terms.

The purpose of this course is to develop in you practical lab skills and safety precautions.

Your responsibility then is to read the lab hand out before coming to lab, so that you will *understand* how theory works, but also so that you will conduct the experiment in a *safe* manner, that will not endanger yourself and neighbors.

Grading: The course will be based on

- laboratory reports and summaries----60%
- pre-lab assignments----------10%
- quizzes----------25%
- class participation---------- 5%

Attendance:

If you are absent for a scheduled lab, it *may* be possible to attend the Fri section in order to perform the experiment. I'll need to coordinate your visit with Dr. Jensen, but it is your responsibility to initiate this by e-mailing me within 24 hrs. There is an absolute safety limit on the number of people conducting a chemistry experiment in a given physical space.

I will make reasonable accommodations for those depending on theBus, during the strike. This accommodation may be a "dry lab" which will be worth only 80% of the total points for that experiment.

Laboratory Safety Rules

In the home, the kitchen and bathroom are the sites of most accidents. In a school, the chemical laboratory poses similar hazards, and yet it can be no more dangerous than any other classroom if the following safety rules are always observed. Most of them are based on simple common sense.

1. Behave responsibly. The dangers of spilled acids and chemicals and broken glassware created by thoughtless actions are too great to be tolerated.

2. Wear approved eye protection *at all times* in the laboratory and in any area where chemicals are stored or handled. Such protection will protect you against impact and chemical splashes. Goggles are strongly recommended and may be required. The only exception is when explicit instructions to the contrary are given by your instructor.

   a. If you should get a chemical in your eye, first rinse with isotonic sterile solution, then wash with flowing water from a sink or fountain for at least 15 min. Get medical attention immediately.

   b. Do not wear contact lenses in the laboratory, even with safety goggles. Contact lenses prevent rinsing chemical splashes from the eye. Vapors in the laboratory (HCl, for example) dissolve in the liquids covering the eye and concentrate behind the lenses. "Soft" lenses are especially bad as chemicals dissolve in the lenses themselves and are released over several hours.

3. Do not perform any unauthorized experiments. This includes using only the quantities instructed, no more. Consult your instructor if you have any doubts about the instructions in the laboratory manual.

4. Do not smoke in the laboratory at any time. Smoking is not just an obvious fire hazard; it also draws chemicals in laboratory air (both as vapors and as dust) into the lungs.

5. In case of fire or accident, call the instructor at once. Note the location of fire extinguishers and safety showers now so that you can use them if needed.

   a. Wet towels can be used to smother small fires.

   b. In case of a chemical spill on your body or clothing, wash the affected area with large quantities of running water. Remove clothing that has been wet by chemicals to prevent further reaction with the skin.

6. Report all injuries to your instructor at once. Except for very superficial injuries, you will be required to get medical treatment for cuts, burns, or fume inhalation. (Your instructor will arrange for transportation if needed.)

7. Do not eat or drink *anything* in the laboratory. This applies to both food and chemicals. The obvious danger is poisoning.

   b. Not so obvious is that you should never touch chemicals. Many chemicals are absorbed through the skin. Wash all chemicals off with large quantities of running water.

   c. Wash your hands thoroughly with soap and water when leaving the laboratory.

8. Avoid breathing fumes of any kind.

   a. To test the smell of a vapor, collect some in a cupped hand. Obtain your instructor's written permission before you smell any chemical. Never smell a chemical reaction while it is occurring.

   b. Work in a hood if there is the possibility that noxious or poisonous vapors may be produced.

9. Never use mouth suction in filling pipets with chemical reagents. *Always* use a suction device.

CH 203L Schedule of Experiments(tentative)
Fall of 2003
Chaminade University

Please note, while both Lab sections I and II will be synchronized at the beginning of the Fall, this synchronization will broken as the semester progresses.

Week	Date	Experiment	
1	8/26	Lab check in & Safety	
2	9/2	Density Determinations	
3	9/ 9	Separation of a Mixture	
4	9/16	Hydrates,	Quiz #1
5	9/23	Stoichiometry	
6	9/30	Inorganic Nomenclature	
7	10/7	Reactions in Solutions	Quiz #2
8	10/14	Determination of the Gas Constant	
9	10/21	Acid-Base	
10	10/28	Acid-Base	Quiz #3
11	11/4	Thermochemistry	
12	11/11	no classes Veteran's Day synchrony broken	
13	11/18	Spectroscopy	
14	11/25	M Invitational	
15	12/2	Quiz #5	Quiz #5