

# Chemistry 101 - Syllabus Part 2 - The Laboratory

## General Chemistry Laboratory

### General Information

**Course Instructor:** Dr. Kimberly Lawler-Sagarin  
**Office:** Schaible Science Center 218  
**Phone:** (630) 617-3202 (x 3202 on campus)  
**e-mail:** ksagarin@elmhurst.edu

**Laboratory Instructor (Section 01, 02):** Dr. Kimberly Lawler-Sagarin  
**Laboratory Instructor (Section 03):** (if a third section is opened) Dr. Charles Ophardt  
Dr. Ophardt's office: Schaible Science 201  
Dr. Ophardt's Phone: (630) 617-3596; e-mail: charleso@elmhurst.edu

**Lab Text:** *Laboratory Manual for Timberlakes's  
General, Organic and Biological Chemistry: Structures of Life*  
**Lab Time:** Section 01: M 1-4 p.m.; Section 02, 03: T 1-4 p.m.  
**Location:** SC 224  
**Required:** Approved eye protection

### Grading

Grades on all assignments will be given in points. The maximum total points possible in the laboratory portion of the course is 200. Your points will be added into your overall course score and your overall percentage will be calculated. Your laboratory grade will count toward 20% of your final course grade.

### **Point Breakdown**

Assignment	points each	total possible
Laboratory Experiments (12)	12	144 points
Prelab Assignments (12)	2	24 points
Instructor Evaluation	32	32 points
Total Points Possible		200 points

### General Policies

#### **Absences**

Laboratory attendance is mandatory. Chemistry is an experimental science and the laboratory portion of this course is experiential in nature. Thus, no more than 1 unexcused absence will be allowed to receive a passing grade in the course.

Absences will be excused only in the event of serious illness, military service, representing the college, or in the case of a family or personal emergency. Such events must be documented to have an absence excused. A student with an unexcused absence forfeits all points for that experiment. If you have an excused absence, you may be granted permission to make up the laboratory for full credit within the same week of the scheduled laboratory. You must schedule this make-up lab with the instructor.

## Safety

Safety in the chemical laboratory is very important both for your own well-being as well as the well-being of others. A recurring disregard for safety precautions may adversely affect your **overall grade** in the course by as much as a entire letter grade.

Eye protection in the laboratory is **MANDATORY**. No exceptions. If you do not have approved eye protection, you will be asked to leave and will receive an unexcused absence for that laboratory.

## Lab Cleanliness

Several different chemistry labs are held in SC 224. It is important to clean up all glassware and return all chemicals and equipment to the Chemistry 101 drawers.

I reserve the right to institute a policy to insure cleanliness in the lab, and that policy may affect your lab grade, either through point deduction or your instructor evaluation. If everyone pitches in and cleans up after themselves, this will not be necessary.

## Instructor Evaluation

Factors which may influence your evaluation include: participation in lab discussions, attendance, following proper safety precautions, effort, understanding, cleaning up after yourself in lab, and the overall quality of your laboratory work.

## Collaboration

Almost all of the experiments are to be carried out individually. In some cases you will be instructed to work with a lab partner. You may consult with other students on all aspects of the lab experiments except those labs conducted under test conditions. Collaboration and active discussion can greatly enhance learning. However, any answers you write down should be written in your own words and based on your own understanding of the concepts covered in the laboratory.

The entire lab is to be completed and handed in by the conclusion of the laboratory period. If we find two lab papers with identical data, results or answers to questions, those students will receive only half credit for the entire lab. We also reserve the right to inspect your papers for filled in data or observations prior to working the lab. If we find such a lab, you will fail that lab.

## Class Time

The laboratory is 3 hours long. Please plan on the lab and associated class activities taking up the majority of that time. Laboratory time may also include one or more of the following: a discussion of the prelab questions, a homework question and answer session, a demonstration, a class discussion, a short lecture on the laboratory experiment, or a short video segment.

Each laboratory experiment is composed of several activities along with calculations and questions for you to complete. In many cases, we will be completing all the sections associated with each experiment. In a few cases, we may skip selected sections and substitute other activities. Such changes will be handed out ahead of time and discussed in lecture as well as by your laboratory instructor.

You should go through all the assigned experimental procedures and complete all calculation, conclusions and questions. When you are finished, make sure there are no additional activities planned for the laboratory that day and turn in your report sheets **before you leave the lab**. The TA or instructor may also ask you to clean up your workbench and/or some of the common areas before leaving.

## Assignment Overview

### **Prelaboratory Assignments**

Each experiment in the Laboratory Manual includes several prelaboratory questions that are located at the beginning of the report sheet. **These completed questions are due at the beginning of the laboratory period** and are required for admittance to the laboratory. You are expected to read the laboratory directions before coming to the lab as part of the prelab assignment. At the beginning of class we will grade your prelab out of 2 points. (You will receive at least 1 point for seriously attempting all the questions.)

### **Laboratory Report Sheets**

The laboratory manual we are using has observation, data collection and calculation pages built in. All questions and calculations on the Report Sheet should be completed and handed in before leaving the laboratory. You will have the opportunity to earn 12 points per laboratory. In order to receive all 12 points, all your calculations and conclusions must be correct and you must have participated actively in lab. In order to receive a 12, you must clearly demonstrate that you understand the questions and provide thoughtful analysis beyond the minimum requirements. Fewer points will be given to students presenting incorrect calculations/conclusions for grading, minimal analysis on questions, or students who did not actively participate in the laboratory activity. I may occasionally grant the entire class permission to turn in a laboratory after the end of the laboratory period.

## Laboratory Schedule

The laboratory schedule is given on the following page. The lab will not parallel the topics we are discussing in the lecture portion of the course perfectly, but there will be a fair amount of overlap.

The schedule is subject to change due to equipment concerns or to keep current with the lecture. Please read the laboratory and finish the prelaboratory assignment before the beginning of the laboratory period.

Week #	Date	Lab Exps. number	Title	What's Due?
1	Aug. 25,26	Introduction	Safety, Lab Intro	-
2	Sept. 1,2	-	No Lab This Week	Have a great Labor Day!
3	Sept. 8,9	exp 2/3	Conversion Factors in Calculations	Density prelab
4	Sept. 15,16	exp 5	Electron Configuration and Periodic Properties	prelab
5	Sept. 22,23	exp 8	Energy and Specific Heat	prelab
6	Sept. 29,30	exp 10	Chemical Reactions and Equations	prelab
7	Oct. 6,7	exp 11	Reaction Rates and Equilibrium	prelab
8	Oct. 13,14	-	No Lab This Week	Have a great Fall Break!
9	Oct. 20,21	exp 16	Soluble and Insoluble Salts	prelab
10	Oct. 27,28	exp 17	Testing for Cations and Anions	prelab
11	Nov. 3,4	exp 19	Acids, Bases, pH and Buffers	prelab
12	Nov. 10,11	exp 20	Acid-Base Titrations	prelab
13	Nov. 17,18	exp 14	Partial Pressures of Oxygen and Nitrogen in Air	prelab
14	Nov. 24,25	exp 29	Aspirin and other Analgesics	prelab
15	Dec. 1,2	exp 39	Vitamins	prelab
			Lab Check Out Last Laboratory Meeting	

Table 1: Tentative Schedule - Chemistry 101 Laboratory - Fall 2003