

Chemistry of Living Things Laboratory (CHM 109L) F 09

Lab Times all meet in Sm 401	Monday	Tuesday
	(001) 9-11:15 J Krueger (002) 12-2:15 I Nunez (003) 3-5:15 J Krueger	(004) 9-11:15, A Rosario (005) 11:50-2:05, J Krueger (006) 2:40-4:55, I Nunez
		<i>All labs meet in Smith 401.</i>
Recitation Times	Monday	Tuesday
	(001) 8-8:50 JK, Sm201 (002) 11-11:50 IN, Sm205 (003) 2-2:50 JK, Sm413	(004) 8-8:50 AR, Sm320 (005) 10:50-11:40, JK, Sm205 (006) 1:40-2:30, IN, Sm205

Instructor	Office/hours	Phone	Email
J Krueger	Sm414	503-5712	jkrueger@uscupstate.edu
I Nunez	Sm322A	503-5734	inunez@uscupstate.edu
A Rosario	Sm405	503-5738	arosario@uscupstate.edu

Materials

0. Safety information download from:

<http://faculty.uscupstate.edu/rkrueger/CHM%20109%20Sp%2009/Lab%20items/Safety%20info.pdf>

1. *Chemistry 109 Lab Manual*, available in the USC Upstate bookstore
2. **Safety goggles** stamped with Z87.1. **Must bring to lab by second lab meeting!!!**

Objectives

Because chemistry is an experimental science, you must experience a laboratory setting to understand the subject. In this chemistry lab, you will develop skills in using lab equipment, heighten your powers of observation and measurement, and increase your abilities to interpret and analyze results. Most of the labs will complement our discussions from lecture.

Course Activities

Laboratory: The exercises performed in the lab are designed to give you a feel at a simple level for how chemical experiments are done and to show how an experimental result can support or contradict a hypothesis. Make sure you have **read the material** for the lab to be performed that day and have, where requested, answered the pre-lab questions. For some labs you will be asked to use spreadsheet & graphing programs.

Recitation: The recitation will provide an informal setting for questions and discussion of lecture material, of laboratory exercises and of suggested homework problems (see web page). Please come to class prepared to ask questions and ***get involved in problem solving.***

Attendance

Attendance is required for all laboratory experiments. If you have a good reason to miss a lab, you may be allowed to attend another lab section that week (consult with the lab instructor to see if there is space available), or you will be permitted to perform a make-up lab during the final lab meeting. Any lab not performed or made-up will receive a zero.

If you miss a graded exercise in recitation because of an excused absence, you must make it up as soon as you return to class. Absences will be excused only if you turn in a note signed by you that states the day of your absence & reason (which must be reasonable, *i.e.*, illness) for this absence.

Safety

All students are required to wear goggles at all times in the lab. Even if you are done with the lab or are only writing in your notebook, you must wear goggles if anyone else is still doing lab work. In addition, you must wear close-toed shoes in the laboratory. If you arrive without goggles or appropriate footwear, you will not be allowed to start the lab until you have corrected the problem. If you live far from campus, you might consider putting an extra pair of appropriate shoes in your car or backpack. If you are wearing clothes that end above the knee (e.g. a short skirt or shorts), or that have a bare midriff, you must wear a lab apron or lab coat.

Grading Procedures

The laboratory work will be worth 25% of the total course grade for SCHM 109. There are twelve lab exercises planned for the semester. You will need to perform each lab and complete a lab report for each one to get any credit. *Completing a report for all or any portion of an exercise that you did not actually perform would be a violation of the student honor code.* Each lab report will be worth 1 point (1 % of your overall class grade). Other factors that influence the lab grade are: preparation for lab, punctuality (grades on lab reports will be lowered at the discretion of the instructor if you are repeatedly late for lab), proper lab technique, and safe lab practice. Most of the lab reports will be due the following week in lab. Near the end of the semester, deadlines may shorten. Late lab reports will lose 10% if handed in within one day of the due date. Reports more than one day late will lose 20%. No lab report will be accepted after graded lab exercises have been returned to the class as a whole (1 week). There will be four quizzes that cover the lab material. Each quiz will be worth 2 to 3 points depending on the number of labs covered, for a total of 10 points. There will also be a safety quiz worth one point. (You must pass the safety quiz with a grade of at least 70 %.) There will not be a lab final.

Below are some criteria on which your lab reports will be graded.

1. All parts of the experiment are performed, and they are conducted in a safe manner.
2. All the required data/observations are obtained and recorded in the appropriate location.
3. All questions are answered clearly and accurately. Responses requiring more than a couple of words are written in sentences that are logical and conform to conventional rules of grammar.
4. All calculations are performed accurately and presented clearly, **with correct significant figures & units.**
5. All work is legible.
6. The report is turned in on time.

--AND VERY IMPORTANT!--

7. **The data and calculations presented are your own.** The answers to questions must be the result of your own thinking and writing. **You** must perform all calculations. Do not copy or plagiarize. Also, do not let your work be copied. If you need clarification in this area, talk to your instructor and see "The Code of Academic Integrity" in the Student Handbook or at http://www.uscupstate.edu/uploadedFiles/Campus_Life/Dean/06-07StudentBehavior.pdf.

Grading Summary: Lab reports 1 pt each (12 pts), Library assignment (2 pts),
Safety quiz (1 pt), Lab quizzes 1-4 (10 pts)
Total = 25 points (25 points is 25% of your total grade for CHM 109.)

SCHM 109 Lab Schedule Fall 2009		
Date (lab week)	Experiment	Work to be turned in at start of lab period
8/24 & 25 (1)	Safety & spreadsheet exercise	
8/31 & 9/1 (2)	Basic lab techniques (BLT)	Safety Quiz, Spreadsheet exercise <i>Safety signature</i>
9/7 (Mon) 9/8 (Tue)	Labor Day (No class) Recitation, no lab	
9/14 & 15 (4)	VSEPR & Molecular Shape	BLT report
9/21 & 22 (5)	Gas laws	VSEPR & Molecular Shapes report
9/28 & 29 (6)	Chemistry of copper	Gas laws report
10/ 5 & 6 (7)	Titration of vinegar	Chemistry of copper report
10/12 & 13 (8)	Representing Chem. Structure	Titration of vinegar report <i>Quiz 1</i> (BLT- Gas laws) 3 pt
10/19 & 20 (9)	Kinetics	Representing Chemical Structure report
10/26 & 27 (10) 10/29 (Th)	Equilibrium Last day to drop w/o penalty	Kinetics report
11/2 & 3 (11)	Meet in library: CINAHL session	Equilibrium report <i>Quiz 2</i> (Chem of Cu- Rep Chem Structure) 3 pt
11/9 & 10 (12)	Enzyme kinetics	
11/16 & 17 (13)	DNA I	Enzyme kinetics report, CINAHL assignment <i>Quiz 3</i> (Kinetics & Equilibrium) 2 pt
11/23 & 24 (14)	DNA II	DNA I report, <i>DNA II report (w/prelab) due end of period</i>
11/30 & 12/1(15)	Check-out, make-up lab, quiz 4	<i>Quiz 4</i> (Enzyme Kinetics, DNA I & II) 2 pt

Other useful materials for SCHM 109 are available at: <http://faculty.uscupstate.edu/rkrueger/>

In keeping with University policy, any student with a disability who requests academic accommodations should contact Disability Services at 503-5199 to arrange a confidential appointment with the Disability Services Coordinator. Students are encouraged to seek an appointment as early in the semester as possible, as accommodations are not provided retroactively. Letters of accommodation must be signed and printed on letterhead from the Disability Services office. It is the student's responsibility to provide these letters to professors in a timely manner so that accommodations may be put in place.

Consult a physician if you are pregnant or have any other medical condition (asthma is an important example) that might render you susceptible to problems from the chemicals used in laboratory.

Disclaimer: The instructor reserves the right to adjust the syllabus & schedule as necessary.