

## SYLLABUS: CHEMISTRY 1225 SPRING, 2012

A. Course information: Chemical Principles II Lab, CHEM 1225. Laboratory to accompany CHEM 1220. Co-requisite: CHEM 1220.

B. Meeting times and locations:

Section 6: Wednesdays, 8:30-11:20, SC222.

C. Instructor Information:

Kris Bronsema, SC218, office hours MWRF 2-3:00 pm, T 3:00-4:00 pm, 865-8302, [bronsema@suu.edu](mailto:bronsema@suu.edu).

D. Course objectives:

1. General College of Science goal: "To help students develop skills in analysis, critical thinking, problem solving, and decision making by offering well-planned and pedagogically sound learning exercises in courses and in research projects."
2. To demonstrate in practice the theoretical principles taught in CHEM 1220, such as molarity, reaction rates, Le Chatelier's Principle, and acid-base reactions.
3. To give students an opportunity to acquaint themselves with laboratory techniques and the rigor of scientific experimentation.

E. Required text: *Experiments for Chemical Principles II Lab, CHEM 1225, fourth edition*, available at the bookstore for around \$6.50.

F. References: Your CHEM 1220 textbook.

G. Late assignments and/or makeup work: Unexcused late work loses 20% of total credit for every week it is late. Work that is five or more weeks late will not be graded. *No work will be accepted after April 27<sup>th</sup>*. Lab preview exercises are due at the start of each laboratory period, and **data sheets and post-lab questions are due by Friday (any time before the end of the day)**.

Makeups may be allowed on an individual basis, but only for school-approved absences. The best course of action, if you miss a lab, is to arrange with the instructor to come to another lab section that week. If other arrangements are required, the makeup lab may or may not be the same as the missed experiment, and may require additional work or a greater time commitment.

Electronic devices not relating to the learning environment, including cell phones and music players, are not allowed during quizzes and tests. Cell phones are not to be used as calculators.

H. Examinations and papers: In addition to the weekly lab assignments, there will be several short quizzes and a lab final. Quizzes will be given during the first ten minutes of class without exception. The final comprehensive test will be given at the end of the semester, and will consist of between twenty and forty multiple choice and/or short answer questions corresponding with the course objectives. The sum of the tests will be scaled to total 30% of your final grade in the class.

I. Grading policy: Lab assignments are either in the form of "tear-out" sheets from the laboratory manual, or handouts, or both. Labs are worth 30-40 points each—10 points for each lab preview, and 30 for data sheets and questions. You may follow your scores on Canvas.

Total points (approximate):	Pre-lab Assignments:	110
	Data Sheets:	360
	Tests:	<u>201</u>
		671

Grading is on a straight percentage scale as follows:

Grade	%
A	93.00-100.00
A-	90.00-92.99
B+	87.00-89.99
B	83.00-86.99
B-	80.00-82.99
C+	77.00-79.99
C	73.00-76.99
C-	70.00-72.99
D+	67.00-69.99
D	63.00-66.99
D-	60.00-62.99
F	0-59.99

This scale may be shifted down slightly if needed. *In order to receive your grade in this class, any fees that are incurred in the lab must be paid.*

J. Attendance policy: A laboratory is a hands-on experience. Although no points are necessarily assigned for attending laboratory, your attendance and participation are required in order to get credit. If you know you are going to miss a lab, please make arrangements *beforehand* with your instructor (preferably to attend another lab that week).

K. Extra- or co-curricular activities:  
None.

L. Statement of safety or risk:

**Safety goggles:** OSHA-approved safety goggles, *not* safety glasses, are *required* for all “wet labs” (i.e., all labs involving more than just pencil, paper, and calculator). You must provide your own safety goggles, they are not supplied for you. Goggles labeled “Z87” are acceptable.

“Always, when hazardous chemicals are used or handled, when glassware is used or handled, all persons present, whether or not they are doing the handling or the using, must wear eye protection. Ordinary spectacles do not provide protection from chemical splashes; even spectacles with so-called hardened lenses do not provide this kind of protection. Similarly, contact lenses alone are not considered to offer sufficient protection when used without safety goggles. Only safety goggles (also known as chemical splash goggles) as described below [*sic*] and marked with the code “Z87” provide the kind of protection that is needed. The Z87 code refers to a voluntary standard promulgated by the American National Standards Institute called ANSI Z87.”  
(*Chemical Safety for Teachers and Their Supervisors*, published by the American Chemical Society, 2001, pages 5-6.)

Anyone without eye protection will be asked to leave the lab and will receive a zero for the day's lab.

**Laboratory risk:** Students enrolling in this course should realize that they are voluntarily exposing themselves to a variety of chemicals, some of which could be irritating or hazardous with excessive exposure. For those persons with a sensitive medical condition such as allergies, precautions such as wearing additional protective garments, delaying enrolling, or even not enrolling in a class may be necessary. In particular, women who are their first trimester of pregnancy should avoid exposure to many chemicals unless approved by their physician.

M. Statement of fees:

Your College of Science program fees help pay for reagents and other consumables, as well as equipment and equipment maintenance. A lab drawer stocked with glassware and supplies will be checked out to you and your lab partner(s) on the first day of lab. You are responsible for maintaining this glassware throughout the course, and returning it in good condition at the end of the semester. As your program fees cover only chemicals and general lab maintenance, you will be charged for any losses or breakages you incur. All fees must be paid before you can receive a grade in this class!

N. Academic Integrity: Scholastic dishonesty will not be tolerated and will be prosecuted to the fullest extent. You are expected to have read and understood the current issue of the student handbook (published by Student Services) regarding student responsibilities and rights, and the intellectual property policy, for information about procedures and about what constitutes acceptable on-campus behavior.

O. ADA statement: "Students with medical, psychological, learning or other disabilities desiring academic adjustments, accommodations or auxiliary aids will need to contact the Southern Utah University Coordinator of Services for Students with Disabilities (SSD), in Room 206F of the Sharwan Smith Center or phone (435) 865-8022. SSD determines eligibility for and authorizes the provision of services."

P. Emergency Management Statement: In case of emergency, the University's Emergency Notification System (ENS) will be activated. Students are encouraged to maintain updated contact information using the link on the homepage of the *mySUU* portal. In addition, students are encouraged to familiarize themselves with the Emergency Response Protocols posted in each classroom. Detailed information about the University's emergency management plan can be found at <http://www.suu.edu/ad/facilities/emergency-procedures.html>.

Q. HEOA Compliance Statement: The sharing of copyrighted material through peer-to-peer (P2P) file sharing, except as provided under U.S. copyright law, is prohibited by law. Detailed information can be found at <http://www.suu.edu/it/p2p-student-notice.html>.

R. The final disclaimer statement: "Information contained in this syllabus, other than grading, late assignments, makeup work, and attendance policies, may be subject to change with advance notice, as deemed appropriate by the instructor."

### Lab Schedule (May Change as Needed)

Week of:	Lab #	Title
Jan. 16	1	Boiling Points/LAB CHECK-IN
Jan. 23	10	Evaluating Sunscreen
Jan. 31	3	A Chloride Titration
Feb. 6	2	Freezing Points of Solutions
Feb. 13	4	Reaction Rates
Feb. 20	5	A Rate Law
Feb. 27	6	Le Chatelier's Principle
Mar. 5	7	Acids and Bases
Mar. 12	NO LAB—SPRING RECESS	
Mar. 19	NO LAB—SCIENCE FAIR	
Mar. 26	8	Acid Base Titrations
Apr. 2	Handout	Buffers
Apr. 9	11	Electrochemistry
Apr. 16	12	Electrolysis and Plating/LAB CHECK-OUT
Apr. 23	--	LAB EXAM