

GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS CHM 112 Lecture Schedule/Syllabus Fall 2010

Objectives: Students will develop an understanding of equilibrium, kinetic, and thermodynamic analysis of chemical processes. Students will demonstrate mastery of the material by solving written and laboratory problems on these topics.

Chemistry 111 is a prerequisite for CHM 112. This course is designed for science majors and pre-professional health/science related majors.

Instructor: Dr. Rick J. Krueger

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Office hours: Sm 406, M 11-12, Tu 9-10 & 3-4, W 10-12 Please **avoid Friday** (research/service)!

Required materials: Text book: *Chemistry, 5th ed.*, McMurray, J. and Fay, R. Prentice Hall, 2008. Laboratory packet: *Chemistry 112 Lab Manual* available at the bookstore. Z87 safety goggles (\$7.95??? at USC Upstate Bookstore), and appropriate clothing for lab.

Class Organization: Students will read the appropriate sections of the text book **prior to lecture**. The purpose of the lecture is to clarify and review the material described in the text. The main focus of recitation is to work on problems from the text, but we will sometimes do lecture equivalent and/or lab support activities in recitation. The laboratory exercises are used to reinforce the principles developed in lecture, and to acquaint students with some of the techniques used in a chemistry lab.

Recommendations for success in CHM 112

1. Read the assigned material **before** you come to lecture and lab.
2. Ask questions during lecture, recitation, and lab when you do not understand.
3. Do the assigned questions at the end of the chapters in McMurray & Fay.
4. See me (tutors?) for help with the questions you did not understand.
5. Go over the study guide before the exam. Allow enough time to develop understanding in any weak areas identified from working on the study guide.
6. See me for help on study guide questions you did not understand.
7. Carefully review your graded exam when it is returned to you. If you still do not know how to answer an exam question at this stage, see me for help.

Chemistry is a cumulative subject.

Lecture/Reading Schedule*

<u>week#</u>	<u>date</u>	<u>lecture topic</u>	<u>read (before class!) Chapter:</u>
1	8/20	Introduction & Solutions	11 (pp. 399-411)
2	8/23 & 25	Solutions (& Start Kinetics?)	
	8/27	Kinetics	12
3	8/30	Kinetics	
	9/1 & 3	Kinetics & start Equilibrium	13
4	9/6	No class, Labor Day	
	9/8 & 10	Equilibrium	
5	9/13-17	Equilibrium, (start Acid-Base Chemistry?)	
6	9/20	Exam 1 , covering Chapters 11-13 & related lecture material	
	9/22 & 24	Acid-Base Chemistry	14
7	9/27 & 29	Acid-Base Chemistry (& Start Chapter 15)	15
	10/1	Applications of Aqueous Equilibria	
8	10/4-8	Applications of Aqueous Equilibria	
9	10/11 & 13	Thermodynamics	16
	10/14	Fall Break (10/14-17), no class	
10	10/18-22	Thermodynamics	
11	10/25	Exam 2 , covering Chapters 14-16 & related lecture material	
	10/27 & 29	Electrochemistry	17
		10/28, Thursday, last day to withdraw without penalty.	
12	11/1 & 3	Electrochemistry (11/2 is Election Day)	
	11/5	Hydrogen, Oxygen, and Water	18
13	11/8 & 10	Hydrogen, Oxygen, and Water	
	11/12	Nuclear Chemistry	22
14	11/15 & 17	Nuclear Chemistry	
	11/19	Exam 3 , covering Chapters 17, 18, & 22 & related lecture material	
15	11/22	Organic Chemistry	23
	11/24 & 26	THANKSGIVING Break, No class!	
16	11/29	Organic Chemistry	
	12/1 & 3	Organic Chemistry	
17	12/8	Cumulative Final Exam Wednesday 8-11	

Disclaimer: Unforeseen circumstances may necessitate changing the course schedule.

Explanation of Grade Determination and Exam Structure

Grade determination. You will receive numerical grades for work you do during the semester. The sum of these numerical grades will be used to assign the letter grade that goes on your transcript.

<u>ACTIVITY</u>	<u>POINT VALUE</u>
Homework	10
Exam I	14
Exam II	14
Exam III	12
Final Exam	25
<u>Laboratory</u>	<u>25</u>
Total	100

Usual curve: A > 88, B+ > 86, B > 78, C+ > 76, C > 68, D+ > 66, D > 58

Exam, homework, etc. details.

1. *Homework.* Concept/problem solving homework will be assigned for key topics during the semester. Each assignment will have the due date printed on it. Assignments turned in late, but less than 48 hours late will receive a 20% reduction in credit. Assignments later than 48 hours will not be accepted. See below regarding missed assignments due to absences.

2. *Exams I, II, & III.* The primary objective of these exams will be to test your understanding of the concepts and problems in the indicated chapters. Generally, the emphasis will be on problem solving, *not memorization*. However, for the more descriptive chapters, more memorization is appropriate. If you have missed an exam for a legitimate reason, you will be permitted to take a ***cumulative makeup exam*** outside of lecture time during the week of November 29th. A legitimate reason for missing an exam would be physical illness (not just a runny nose) or severe emotional trauma, such as the death of a close relative. Documentation for your absence may be required. As soon as you suspect that you may not be able to take an exam, phone or e-mail to make sure that your absence from the exam is for an appropriate reason.

3. *Final exam.* The final exam will be cumulative. Like the midterms, it will generally emphasize problem solving and understanding, not memorization. See above regarding the more descriptive chapters.

4. *Lab.* See lab syllabus from Dr. Lever.

5. *Missed work.* Zero credit will be assigned when work is missed due to an unexcused absence. Credit for work missed due to an excused absence will be determined on a case-by-case basis.

Civility/Behavior guidelines: *civility*- politeness, consideration, courtesy.

Items related to lecture and (usually) recitation: Also see the USC Upstate 2010-2011 Catalog, p. 45.

1. Get to class on time. If you are late, try to sit near the door. Do not walk across the front of the room if seats are available in the back or sides.
2. When class starts, stop any conversation and turn your full attention to class.
3. I very seldom end class early or run over the allotted class time. Do not start shuffling papers, loading your book bag, *etc.*, before class ends. The noise disrupts class.
4. If you know that you will need to leave class early for any reason (e.g. doctor's appointment, childcare) sit near the door to minimize disruption when you leave.
5. Turn off all electronic devices (cell phones **[Help!]**, beepers, watches, CD or tape players, *etc.*) that generate sound when you come into class. If you want to use a laptop in class, see me first. Why? I have observed students using laptops for non-CHM 112 activities, and by this, distracting others. *Cell phone, pager, etc. use is prohibited during exams.* Do not even have them out on your desk.
6. Do not sleep in class. Even if you don't snore, this is rude. Sleeping, reading a newspaper or novel, or any activity other than being fully involved in the class is inappropriate.
7. Dress code: On exam days you may not wear sunglasses or a hat (an example would be a baseball cap) that has a bill or brim in the front. (I will allow exceptions for medical/religious reasons.) There are also safety-related dress requirements for lab (see safety video and lab packet).

Disability Issues

If you have an academically relevant disability, please contact Disability Services (503-5199) to arrange a confidential appointment. Do this as early as possible because retroactive arrangements are not provided. Letters of accommodation must come from the Office of Disability Services. It is the student's responsibility to provide these letters to the instructor in a timely manner

Test Anxiety

Contact Counseling Services (503-5195) if you think you may have problems with test anxiety.

Academic Honor Code Issues

The USC Upstate *Code of Academic Integrity* can be found in the *USC Upstate Student Handbook*. Please refer to the *Handbook* if you are unfamiliar with the Code. Also see the USC Upstate 2010-2011 Catalog, p. 45.

While the faculty anticipate that you will apply the Honor Code to all areas of the course, we have noticed in previous years that some laboratory reports do not appear to have been prepared independently. To clarify: 1) If you performed an experiment as part of a group, your data should be the same as other students in the group. 2) However, if a large amount of other portions of your lab report is identical to that of another student, the simplest explanation for this is that copying was involved in preparation of at least one of the reports. 3) Even if a question in the lab report asks for an answer that could be given by quoting the explanatory material given with the lab (or from the textbook), do not copy the answer verbatim. Even using quotes and a citation is not appropriate. Instead, restate the information in the answer using your own words.

Do not copy homework assignments or lab reports from other students. Do not let other students borrow your work. Their copying of your work could compromise your academic integrity.

If you have uncertainty at any time about whether a piece of work or particular activity might be a violation of the Student Honor Code, ask! For copying associated with lab reports, Dr. Lever will determine the appropriate policy. In past semesters students have received an F for the entire course for violations associated with lab work.

USC Upstate has adopted the XF grade. This goes on the official transcript and indicates that the student has failed the course as a result of an honor code violation. Please consider the effect this would have on a potential employer as you consider your approach to the course this semester. I have had to go through the necessary procedures for the Dean to assign the XF grade in the past. I hope that does not occur this semester.

Calculators and Proficiency in calculator use.

We will supply the calculators that you will use for the three midterm exams and the final exam. You will have opportunities in recitation to practice using these calculators prior to the exams.