

**CHEMISTRY 112**  
**Summer 2008**

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**OFFICE HOURS:** By appointment and by chance  
**TEXT:** **Required:** "Chemistry" by Steven S. and Susan A. Zumdahl, 7th ed.

**COURSE CONTENT:**

This course is an introduction to modern chemistry and a continuation of CHEM 110. The lectures will follow closely with the subject material as it is presented in the text. However, lectures are not simple recounts of the assigned reading material but rather are intended to supplement and focus the text.

<b>Date</b>	<b>Chapter</b>	<b>Topic</b>
June 9 - 18	8	Introduction, Review of Bonding
	10	Liquids, and Solids
	11	Properties of Solutions
	12	Chemical Kinetics
June 23		<b>Exam #1</b>
June 23 – July 7	12	Chemical Kinetics
	13	Chemical Equilibrium
	14	Acids and Bases
	15	Applications of Aqueous Equilibria
July 9		<b>Exam #2</b>
July 9 - 16	15	Applications of Aqueous Equilibria
	16	Entropy, Free Energy, and Equilibrium
	17	Electrochemistry
July 21		<b>Exam #3</b>
TBA		Final Exam

## GRADING:

There will be three (3) 100 point exams. The dates are Monday, June 23 (on material up to and including chapter 11); Wednesday, July 9 (on material up to and including part of chapter 15); and Monday, July 21 (on material up to and including chapter 17). They are short answer and problems. Partial credit is given only if you show your work. Points will be deducted for not including units and the correct number significant figures in your final answer. The final exam (July 25) will be the same format as the first three exams, is worth 200 points, and is comprehensive (for the semester).

There will be three or more problems assigned at the beginning of each lecture (as a handout). The Monday problems will be due at the beginning of the Wednesday lecture and the Wednesday problems will be due at the beginning of the Monday lecture. **Turned in problems will consist of the worked out solution on the handout and/or additional attached pages. The final numerical answer must be circled.** They will be turned in to the folder before class starts. These problems will not be accepted early or late under any circumstances.

You can, and are encouraged to, work together. However, this does not mean that one person does the problem and the rest make copies. If a number of problems are turned in with exactly the same work, in exactly the same format and, usually, wrong in the same way, **all** those papers will receive a score of **zero**. The daily problems will not be accepted early or late **under any circumstances**. They are graded as follows:

Correct work and answer	2 pts.
Correct answer, but incorrect significant figures	1.5 pt.
Correct answer, but incorrect or missing units	1.5 pt.
Attempted, but incorrect answer	1 pt.
Not circling <b>numerical</b> answers	1 pt.
Not using <b>original</b> handout	0 pts.
Showing work that is inappropriate for your answer	0 pts.
Showing no work	0 pts.
Turning the problem in at the end of class	0 pts.
Not turned in or minimal effort	0 pts.
Not picking up previous problem (if one turned in)	0 pts.

The total possible points for these problems is 90 points. In addition, there will be 10 discretionary points based on attendance, class participation, completion of assignments, etc., for a classroom total of 100 points. There is a total of 600 possible points in this course.

## GRADES:

A	558-600	100 - 93%	C+	462-479	77 - 79%
A-	540-557	90 - 92%	C	420-461	70 - 76%
B+	522-539	87 - 89%	D	360-419	60 - 69%
B	498-521	83 - 86%	F	0-359	0 - 59%
B-	480-497	80 - 82%			

## POLICIES:

1. The course prerequisites are Chem 110 or Chem 106 and Chem 111 (or concurrent). You will be dropped from this course if you have not completed these prerequisites unless you can demonstrate that you have taken a suitable substitute for the official prerequisites.
2. If you are lost or confused at any time, see me after class. Don't wait until the last week.
3. Class attendance (on time) is expected. Much of the daily problems and exams will be from the lecture. Students are advised to discuss attendance irregularities or poor class performance with the instructor. Do not simply stop your attendance. This could result in an F for the course. A grade of W is given to students who withdraw from the course prior to the Late Drop Period.
4. Makeup exams will only be given for legitimate absences officially recognized by Penn State University. No exceptions will be made to this.
5. A representative set of problems, from the end of each chapter, are listed at the end of this handout. You should work out the suggested problems since they are typical of what you are expected to master. Satisfactory performance in this course requires that you regularly complete and understand the homework problems. These problems will not be graded. Complete solutions to the problems are available on the web.
6. Instructors are asked (Senate rule 49-20) to provide a statement at the beginning of a course to "clarify the application of academic integrity to that course." The Senate Rule includes the following:

*Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabrication of information or citation, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the work of other students.*

Read Senate rule 49-20: [www.psu.edu/ufs/policies/47-00.html#49-20](http://www.psu.edu/ufs/policies/47-00.html#49-20) and Behrend academic integrity guidelines: [www.pserie.psu.edu/faculty/academics/integrity.htm](http://www.pserie.psu.edu/faculty/academics/integrity.htm)  
Any violation of academic integrity will receive academic and possibly disciplinary sanctions, including the possible awarding of an XF grade which is recorded on the transcript and states that failure of the course was due to an act of academic dishonesty. All acts of academic dishonesty are recorded so repeat offenders can be sanctioned accordingly.

HOMEWORK:

Chapter 8: 22, 24, 29, 34, 36, 38, 42, 61, 62, 64, 65, 66, 72, 74, 77, 78, 84, 88, 90, 99, 114, 116

Chapter 10: 35, 36, 37, 38, 40, 44, 48, 50, 52, 68, 83, 87, 89, 104

Chapter 11: 10, 12, 28, 30, 34, 38, 45, 58, 60, 70

Chapter 12: 16, 18, 20, 22, 26, 33, 45, 47, 50, 69, 74

Chapter 13: 19, 20, 21, 24, 30, 31, 35, 41, 44, 46, 48, 50, 59, 60, 64, 68, 73

Chapter 14: 30,32,40,42,45,47,50,54,55,58,64,83,85,91,93,95,102,112,134,138

Chapter 15: 22,24,28,30,38,44,48,50,51,55,74,80,86,90,111

Chapter 16: 26,30,32,40,41,52,67,70

Chapter 17: 16, 26, 45c-d, 56, 60, 62, 66, 67, 89, 94, 104