CHEMISTRY 100
Fall 1998

Instructor: Ms. Harmon
Office: 202 Pierce Hall
Phone: 4-8341
Chem 100 Office Hours:

Wed 10-11,12-2

*** You are welcome to stop by the 2nd floor anytime Mon, Tues, Wed, or Fri. Look for me in my office, the stockrooms, or any of the chemistry labs. If I am available I will be glad to help you, if not we can make an appointment to meet later. I can be reached via learnlink at anytime (even at home).*

Resources

Required:
Text: "Introduction to General, Organic, and Biochemistry" 5th ed., by Bettelheim and March.
Laboratory Manual.
Optional: study guide & student solutions manual.
Review sessions.
**The INSTRUCTOR - Feel encouraged to contact me if you are having any problems with this course. I will be happy to work problems with you or further explain concepts. I promise to make every effort to help you learn chemistry, but it is *your* learning. The ultimate responsibility for your achievement is your own.

Attendance

Your attendance is required for success in this course. You may miss up to 3 classes without penalty. Each missed class after 3 will lower your final grade by 1 percentage point per missed class. This means that if you have a 80% total at the end of the semester but you missed 5 classes, your course grade will be reduced to 78%. If you do not miss ANY classes 1 percentage point will be added to your final course grade. Attend the lectures and labs, do the assignments and do them to the best of your ability, and (as with everything in life) you will get out of it what you put into it.

Objectives

After completing this course, you should be able to:

1. Take scientific measurements and discuss accuracy, precision, and uncertainty.
2. Discuss the building blocks of matter: atoms, ions, and molecules.
3. Explain why chemical bonds form and how compounds differ from elements.
4. Write balanced chemical reactions and calculate and describe energy relationships.
5. Describe fundamental forces that hold matter together in different forms.
6. Use the arithmetic of chemistry to do calculations and solve a wide range of problems.
7. Discuss the scientific method and the applications of chemistry in society.

Requirements

1. **Quizzes**: There will be a 20 minute quiz each Friday during non-exam weeks. Quizzes will cover previous lecture material, homework, and reading assignments. The lowest quiz grade will be dropped. There will be no make-up quizzes, if you miss a quiz you will receive a zero. If you come in late, you will not be given extra time to finish. The honor code applies to all quizzes.

2. **Exams**: There will be 4 exams and a comprehensive final. The exams will be given in class and will have a time limit of 1 hour. The exams will include solving problems, multiple choice, short-answer, and brief essay questions.

For an exam, you may bring only a calculator and pencils; any other material will be given out with the exam. Make sure your calculator is working and that you know how to use it. You must take the exam during your regular class time.

**If you come in late, you will not be given extra time to finish. Make-up exams will not be given, regardless of the reason an exam was missed.

The instructor must be notified BEFORE the exam that the student will not be present and must be given the reason for the absence. If the reason is considered acceptable, the missed exam will be considered the lowest score and will be dropped from the course average (see the section on grading).

An unacceptable excuse will result in a zero for the exam. The honor code applies to all exams.

3. **Laboratory sessions**: The laboratory sessions will begin the week of Aug 31 and the schedule will be provided at that time.

4. **Problems**: In each chapter, problems have been assigned that should help you in understanding the material. These problems are for your benefit only; they will not be taken up or graded.

Since Chem 100 is a problem-oriented course and the tests will consist mainly of problems, it is essential that you become PROFICIENT in working problems such as those found in the chapters.

You should work problems as you encounter the material. You should also thoroughly attempt to solve each problem before seeking help with the answer.

It is NOT SUFFICIENT to be able to follow how a problem is worked; on an exam, you will have to work problems all the way through, and the only way you will be able to do this is if you have worked NUMEROUS practice problems.

Grading

100 pts	Average of 7 quiz grades (the lowest 2 quiz grades are dropped)
300 pts	3 Exam grades (the lowest exam grade is dropped)
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Total = 400 pts	

Exam and quiz grades (400pts) = 60%
Final exam (comprehensive)= 20%
Laboratory grade = 20%

Grades are usually calculated as follows with no rounding:

93-100 A	77-79C+
90-92 A-	73-76 C
87-89 B+	70-72 C-
83-86 B	67-69 D+
80-82 B-	60-66 D
	Below 60 F

Schedule

	Topic
Week 1	
Aug 26	What is Chemistry?
Aug 28	The Scientific Method
Week 2	
Aug 31	Measurement, unit conversions, & exponential notation
Sept 2	States of Matter, Physical & Chemical Properties
Sept 4	**QUIZ 1*
Week 3	
Sept 7	**Labor Day Holiday**
Sept 9	Atomic Theory and Subatomic Particles
Sept 11	**QUIZ 2*
Week 4	
Sept 14	Electronic Configuration
Sept 16	The Periodic Table
Sept 18	**EXAM I (Chapters 1 & 2)**
Week 5	
Sept 21	Fundamental Species: atoms, ions, & molecules
Sept 23	Lewis Structures, Shapes of Molecules, & Electronegativity
Sept 25	**QUIZ 3*
Week 6	
Sept 28	Predicting Bond Formation, Polyatomic Ions, Naming
Sept 30	The Mole Concept
Oct 2	**QUIZ 4*
Week 7	
Oct 5	Chemical Equations, Mass Relationships, & % Yield
Oct 7	Chemical Reactions
Oct 9	**QUIZ 5*
Week 8	
Oct 12	**Fall Break**
Oct 14	Oxidation/Reduction
Oct 16	**EXAM II (Chapters 3 & 4)**
Week 9	
Oct 19	Gases, Liquids, Solids
Oct 21	Gas Laws
Oct 23	**QUIZ 6*
Week 10	
Oct 26	Gas Laws
Oct 28	Water, Solutions, & Solvation
Oct 30	**QUIZ 7*

Week 11		
	Nov 2	Concentration & Molarity
	Nov 4	Electrolytes and Osmosis
	Nov 6	**EXAM III (Chapters 5 & 6)**
Week 12		
	Nov 9	Reaction Rates & Diagrams
	Nov 11	Equilibrium
	Nov 13	**QUIZ 8*
Week 13		
	Nov 16	Acids & Bases
	Nov 18	Reactions of Acids, pH
	Nov 20	**QUIZ 9*
Week 14		
	Nov 23	Buffers
	Nov 25	Titration
	Nov 27	**Thanksgiving Break**
Week 15		
	Nov 30	Acids & Bases Review
	Dec 2	Nuclear Chemistry
	Dec 4	**EXAM IV(Chapters 7 & 8)**
Week 16		
	Dec 7	Nuclear Chemistry

FINAL EXAM (Comprehensive)
Wednesday, Dec. 16
9:00-12:00