

**Fall 2010 - CHEMISTRY 210 (Section 3: R009-R012)**  
**Co-requisite:** CHEM 212 - General Chemistry Laboratory I

**Instructor**—Dr. Lee Sunderlin, FW327, 753-6870, [sunder@niu.edu](mailto:sunder@niu.edu)

**Office Hours**—MWF 10:00 – 10:50 or by appointment.

**Recitation Teaching Assistant**—Devangi Patel Faraday 246 [z1627842@niu.edu](mailto:z1627842@niu.edu)

**TA Office Hours**—TBA

**On-Line Course Information (Blackboard):** <https://webcourses.niu.edu>

**Lecture and Recitation Schedule:**

Section R009 Lecture MWF, 2:00 PM, FR 144

Recitation Wednesday, 11:00 AM FR 205

Section R010 Lecture MWF, 2:00 PM, FR 144

Recitation Wednesday, 3:00 AM FR 205

Section R011 Lecture MWF, 2:00 PM, FR 144

Recitation Wednesday, 4:00 PM FR 205

Section R012 Lecture MWF, 2:00 PM, FR 144

Recitation Wednesday, 5:00 PM FR 205

**Materials:** “Principles of Chemistry” 2<sup>nd</sup> Edition, by M. Silberberg (McGraw Hill; 2010)

**Tutors and Lab TA Office Hours:** The Department of Chemistry and Biochemistry maintains a free Tutor Room for General Chemistry students. The Tutor Room is in **Faraday 247** and the schedule will be posted online ([http://www.chembio.niu.edu/chembio/aboutus/help\\_room.shtml](http://www.chembio.niu.edu/chembio/aboutus/help_room.shtml)) and outside the help room door. Most semesters it is staffed Monday through Thursday from 8:30 AM to 3:30 PM with a lunch break. On Fridays, the Tutor Room closes early (~2:30 PM). General Chemistry laboratory TA office hours are held in Faraday 247. The laboratory TA office hour schedule is posted outside the Tutor Room and at the departmental stockroom window. Students are also encouraged to ask laboratory TAs for assistance in understanding the lecture material.

**Paid Tutors** - Names of tutors for hire are available from Linda Davis in Faraday 319 (Dept. office).

**Exams and Grading**

*Exams* - Tentative dates for the three 100 point hour exams are indicated in the lecture schedule (see next page). ***There will be no make-up exams unless prior arrangements have been made with the instructor. A missed exam will count as the dropped exam when the grade is calculated.***

*Recitation* - The recitation grade will be based on four quizzes (10 points each, in recitation), homework assignments (3 points for each chapter), and attendance (2 points for each of 14 class meetings). Late assignments will not be accepted. There will be no make-up quizzes.

*Final Exam* - The final examination will be divided into two parts: a 100 point section on the material from the last three weeks of class, and a 100 point comprehensive section. These two sections will be treated as separate scores for purposes of grading. The lowest score for the class will be dropped from the final score for the course. The final examination will be given on Monday, December 6<sup>th</sup> from 2-3:50 PM.

**Total points = 500 points** (hour-long exams = 300; recitation = 100; two sections of final exam = 200, best five scores kept)

**Grading scale:** A > 90% (450 pts.), B > 80% (400 pts.), C > 70% (350 pts.), D > 60% (300 pts.), F < 60%

*Any student who may need an accommodation due to a disability, please make an appointment to see me during my office hours, or when convenient. A letter from the Center for Access-Ability Resources authorizing your accommodations is usually needed before accommodations can be granted.*

## TENTATIVE LECTURE SCHEDULE

<u>WEEK</u>	<u>CHAPTER/TOPIC</u>	<u>Exam</u>
1. Aug 23-27	<b>1:</b> Keys to the Study of Chemistry	
2. Aug 30-Sep 3	<b>2:</b> The Components of Matter	
3. Sep 8-10	<b>2:</b> Continued / <b>3:</b> Stoichiometry	Quiz Sep 8
4. Sep 13-17	<b>3:</b> Continued	<b>Exam I Sep 17</b>
5. Sep 20-24	<b>4:</b> Chemical Reactions	
6. Sep 27-Oct 1	<b>5:</b> Gases	Quiz Sep 29
7. Oct 4-8	<b>5:</b> Continued / <b>6:</b> Thermochemistry	
8. Oct 11-15	<b>6:</b> Continued	<b>Exam II Oct 15</b>
9. Oct 18-22	<b>7:</b> Atomic Structure	
10. Oct 25-29	<b>8:</b> Chemical Periodicity	Quiz Oct 27
11. Nov 1-5	<b>8:</b> Continued / <b>9:</b> Chemical Bonding	
12. Nov 8-12	<b>9:</b> Continued	<b>Exam III Nov 12</b>
13. Nov 15-19	<b>10:</b> Shapes of Molecules	Quiz Nov 17
14. Nov 22	<b>11:</b> Covalent Bonding	
15. Nov 29-Dec 3	<b>11:</b> Continued	
Final Dec 6 <sup>th</sup>	Monday 2-3:50 PM	<b>FINAL</b>

### **CHEMISTRY 210 - GENERAL EDUCATION AND COURSE CONTENT OBJECTIVES** **General Education Course Objectives**

- Improve ability to think critically and logically
- Improve ability to reason quantitatively and to perform basic chemical computations
- Improve ability to interpret mathematical models
- Learn how to use the scientific method and theories to understand chemical phenomena
- Develop an appreciation for the importance of the role of chemistry in everyday life
- Develop an understanding of the historical development of the field of chemistry

### **Content Objectives of this Course**

- Understand the components of atoms and ions
- Learn how to write chemical formulas and how to name compounds
- Learn how to balance chemical equations and how to perform simple stoichiometry calculations
- Understand the behavior of gases, liquids, and solids
- Become familiar with the electronic structure of atoms and understand how chemical reactivity depends on electronic structure
- Correctly predict the shapes of complex molecules and ions, and become familiar with the theories of chemical bonding