

SPRING 2012 – GENERAL CHEMISTRY 210-0002 (4335); Co-requisite: CHEM 212 - General Chemistry Laboratory I

Instructor – Prof. Narayan S. Hosmane, FR 305, 753-3556 hosmane@niu.edu (short e-mail questions)

Lectures: 02:00 –02:50 PM in Farady Hall Rm. 143

Office Hours – Tu and Th, 1:00 - 2:30 PM, or by appointment

Recitation Teaching Assistant – Kimberly Henderson Z1623748@students.niu.edu

TA Office Hours – Tu and Th, 2:30 – 3:30 PM or by appointment, LaT 320

LECTURE AND MANDATORY RECITATION SCHEDULE:

Section R005	Lecture MWF, 02:00 PM,	FR 143	Recitation Wednesday,	10:00 AM	FR 205
Section R006	Lecture MWF, 02:00 PM,	FR 143	Recitation Wednesday,	11:00 AM	FR 205
Section R007	Lecture MWF, 02:00 PM,	FR 143	Recitation Wednesday,	12:00 NOON	FR 205
Section R008	Lecture MWF, 02:00 PM,	FR 143	Recitation Wednesday,	01:00 PM	FR 205

Text Purchase Required: *"Principles of General Chemistry"*, by Martin Silberberg, 2nd Edition (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 is staffed Monday through Thursday from 8:30 AM to 3:30 PM with a lunch break. On Fridays, the Tutor Room closes at 2:30 PM. General Chemistry laboratory TA office hours are held in Faraday 412 (Penthouse). The laboratory TA office hour schedule is posted outside Faraday 412, 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: see Linda Davis (ldavis@niu.edu) in FR 319 (departmental office).

Exams, Assignments, Quizzes and Grading

Exams - Tentative dates for THREE 100 point hourly exams are indicated in the lecture schedule (see next page). Make-up exams will **NOT** be given **under any circumstances**. However, the Recitation Grade with 100 points will replace either the exam with the lowest grade or the grade for the missed exam. Thus, all **THREE EXAMS** will be counted toward your FINAL GRADING.

Surprise Quizzes (Pop Quizzes) – Surprise quizzes (believe me you will be surprised!) for a TOTAL 200 points (worth a grade of TWO exams) will be given during the lecture. However, only **BEST TWENTY** quiz grades will be counted toward your FINAL GRADE. There will be **ABSOLUTELY no** make-up quizzes.

Recitation - At least ONE homework quiz through *Online Sapling Learning* is assigned for each chapter that will be computed toward the Recitation Grade of 100 points (worth a grade of ONE exam). These online assignments should be performed at your leisure on campus or at home. **Unlimited attempts without penalty will be allowed for each assignment.** More you practice, better you learn! The portion of the Recitation Grade of 100 points will include your Attendance Grade. **Your attendance at the recitation sessions is mandatory!** A minimum of 2.0 points will be deducted for each absence and for “no show” it will be zero. Neither the quizzes nor the Homework Assignments will be given during the recitation. However, help is given for the online assignments, if requested.

FINAL EXAM – Your Comprehensive 200 point Final Exam is on Monday, May 7, 2012 from 2:00-3:50 PM in FR143

Total points = 700 points (Three Hourly Exams = 300; Surprise Quizzes During the Lecture Hour = 200; Final Exam = 200)

Grading scale: **A > 90% (630 pts.), B > 80% (560 pts.), C > 70% (490 pts.), D > 60% (420 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 Disability Support Services authorizing your accommodations is usually needed before accommodations can be granted.

INSTRUCTIONS FOR USING ONLINE SAPLING LEARNING:

1. Go to <http://saplinglearning.com>
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 - a. If you already have a Sapling Learning account, log in, click "View Available Courses", then skip to step 3.
 - b. If you have Facebook account, you can use it to quickly create a SaplingLearning account. Click "create account" located under the username box, then click "Login with Facebook". The form will auto-fill with information from your Facebook account (you may need to log into Facebook in the popup window first). Choose a password and timezone, accept the site policy agreement, and click "Create my new account". You can then skip to step 3.
 - c. Otherwise, click "create account" located under the username box. Supply the requested information and click "Create my new account". Check your email (and spam filter) for a message from Sapling Learning and click on the link provided in that email.
3. Find your course in the list (listed by school, course, and instructor) and click the link.
4. Select a payment option and follow the remaining instructions.

Once you have registered and enrolled, you can log in at any time to complete or review your homework assignments. During sign up - and throughout the term - if you have any technical problems or grading issues, send an email to support@saplinglearning.com explaining the issue. The Sapling support team is almost always more able (and faster) to resolve issues than your instructor.

TENTATIVE LECTURE SCHEDULE

<u>WEEK</u>	<u>CHAPTER/TOPIC</u>	<u>Quiz, Homework, Exam*</u>
01. January 16	Monday: Martin Luther King's Birthday	No Class
02. January 18	Introduction/Chapter 1: Keys to the Study of Chemistry	
03. January 23	Chapter 1: Continued; Ch. 2 The Components of Matter	
04. January 30	Ch. 2: Continued	
05. February 06	Ch. 3: Stoichiometry of Formulas and Equations	
06. February 13	Ch. 3: Continued; Ch. 4 The Major Classes of Chemical Reactions	Exam 1 (02/17)
07. February 20	Ch. 4: Continued	
08. February 27	Ch. 5: Gases and the Kinetic Molecular Theory	
09. March 05	Ch. 6: Thermochemistry: Energy Flow & Chemical Change	
10. March 10-18	SPRING BREAK	NO CLASSES
11. March 19	Ch. 7: Quantum Theory and Atomic Structure	
12. March 26	Ch. 7: Continued; Ch. 8: Electron Configuration and Chemical Periodicity	Exam 2 (03/30)
13. April 02	Ch. 8: Continued	
14. April 09	Ch. 9: Models of Chemical Bonding	
15. April 16	Ch. 10: The Shapes of Molecules	
17. April 23	Ch. 10: Continued; Ch. 11: Theories of Covalent Bonding	Exam 3 (04/27)
18. April 30	Ch. 11: Continued	
19. May 04	READING DAY	NO CLASS
20. MAY 7 (MONDAY)	FROM 2:00 – 3:50 PM IN FARADAY HALL ROOM 143	FINAL EXAM

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.

EXAM-I: FEB 17 (FRI); EXAM-II: MAR 30 (FRI); EXAM-III: APR 27 (FRI); FINAL: MAY 7 (MON)