

FALL 2012 – GENERAL CHEMISTRY 210-0003 (13665)

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: MWF, 2:00 –2:50 PM in Faraday West (La Tourette Hall) Rm. 200

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

Text Purchase Required: "Principles of General Chemistry", by Martin Silberberg, 3rd Edition

Exams, Assignments, Quizzes and Grading

Exams - Tentative dates for 100-points hourly exams are indicated in the lecture schedule (see next page). Make-up exams will **NOT** be given **under any circumstances**. Therefore, only best **TWO of THREE EXAMS** will be counted toward your FINAL GRADE. Missed Exams will be considered as dropped.

Surprise Quizzes (Pop Quizzes) – Surprise quizzes (believe me you will be surprised!) for a TOTAL 100 points (worth a grade of ONE exam) will be given during the lecture hour. However, only **BEST TEN** quiz grades will be counted toward your FINAL GRADE. There will be **ABSOLUTELY no** make-up quizzes. **Exam and Quizzes will not be curved!**

Recitation - Recitation Grade of 100 points (worth a grade of ONE exam) will be counted toward your FINAL GRADE.

OPTIONAL: Online Self-Assessment through ALEKS is only for Extra Credit (100 Points Maximum)

Total points = 600 points (best **two** hourly exams = 200; in-class surprise quizzes = 100; recitation = 100; final exam = 200)

Grading scale: A > 90% (540 pts.), B > 80% (480 pts.), C > 70% (420 pts.), D > 60% (360 pts.), F < 60%

TENTATIVE LECTURE SCHEDULE

<u>WEEK</u>	<u>CHAPTER/TOPIC</u>	<u>Exams & Sapling Due Dates (FIXED)</u>
01. August 27	Introduction/Chapter1: Keys to the Study of Chemistry	
02. September 03	Monday: Labor Day	No Class
03. September 05	Chapter 1 Continued; Ch. 2: The Components of Matter	Ch.01 – Sept 08
04. September 10	Ch. 2 Continued.	Ch.02 – Sept 15
05. September 17	Ch. 3: Stoichiometry of Formulas and Equations	Ch.03 – Sept 27
06. September 24	Ch. 3 Continued; Ch. 4 The Major Classes of Chemical Reactions	Exam 1 (09/28)
07. October 01	Ch. 4 Continued.	Ch.04 – Oct 07
08. October 08	Ch. 5: Gases and the Kinetic Molecular Theory	Ch.05 – Oct 14
09. October 15	Ch. 6: Thermochemistry: Energy Flow & Chemical Change	Ch.06 – Oct 21
10. October 22	Ch. 7: Quantum Theory and Atomic Structure	Ch.07 – Oct 29
11. October 29	Ch. 7 Continued; Ch. 8: Electron Configuration and Chemical Periodicity	Exam 2 (11/02)
12. November 05	Ch. 8 Continued; Ch. 9: Models of Chemical Bonding	Ch.08 – Nov 10
14. November 12	Ch. 9 Continued.	Ch.09 – Nov 19
15. November 19	Ch. 10: The Shapes of Molecules	Ch.10 – Nov 29
16. Nov. 21-23	THANKSGIVING HOLIDAY	No Classes
17. November 26	Ch. 10 Continued.	Exam 3 (11/30)
18. December 03	Ch. 11: Theories of Covalent Bonding	Ch.11 – Dec 08
	Final Exam - The 200-points final exam will be comprehensive and will be given on Monday, December 10, 2012 from 2:00-3:50 PM	

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 in FR 319 (departmental office).

Getting Started with ALEKS

You must complete your Initial Assessment by **11:00 pm on the first day of Classes (but it's great to start now to get ahead!)**

ALEKS IS VERY UNFRIENDLY TO PROCRASTINATORS. ALEKS was designed by psychologists who specialized in learning, who know that procrastinating until the night before an assignment is due and then cramming until the wee hours is not a good way to learn. You can't do ALEKS that way. You must put in some time every day, or else you will fall so far behind on basic topics that you won't have time to complete the Objectives. **It is impossible to earn a good score in ALEKS by cramming all night right before the due date!**

To register as an ALEKS user:

1. Go to the ALEKS web site at <http://www.aleks.com>.
2. Click on the link marked "**SIGN UP NOW**" (upper left corner of the screen).
3. On the next screen you will be asked to provide the following **course code: VTHWD-3KFHW**
4. The next screen will ask for your **full name**, your **email address**, and your **NIU student Z-ID number**. **Please provide all the information requested, even the information that is listed as optional.** Remember, your NIU student Z-ID number is NOT your social security number. **You must enter your NIU Z-ID number to receive credit for your work.**
5. On the next screen you will receive your **ALEKS login name** and a **temporary password**, and you will have the chance to change your temporary password. **We recommend that you change your temporary password.**
6. After you change your password, ALEKS will check your computer to see if you have the latest version of the ALEKS Java plug-in installed (see below). The plug-in will be installed automatically if it is not already installed. **NOTE: The internet browsers Internet Explorer and Safari are fully supported by ALEKS, so they should run ALEKS with no problems. The plug-in for Google's Chrome browser has a few bugs, but appears to run most features with no trouble. The first thing to try if you have trouble is another browser and another machine if possible.**
7. After the plug-in has been installed, you will learn how to input mathematical and chemical answers into ALEKS. This should take approximately 10 minutes.
8. Once you have completed the input tutorial, ALEKS will prompt you to complete the Initial Assessment. You may choose to complete the Initial Assessment later.

Installing the ALEKS Java Plug-in

Installation of the ALEKS plug-in is automatic. When you access ALEKS, it will automatically check to see if the current plug-in is installed on your computer. If it isn't, the plug-in will be downloaded, and you will be asked for your permission to install the plug-in on your system. This is a safe operation for your computer. Your browser uses the ALEKS plug-in when you are logged on to ALEKS. It is inactive at other times, and does not do anything except provide functionality for ALEKS.

If you need to access ALEKS in the library, a computer lab, or another place where you don't have authorization to install software, use the ALEKS "streaming" plug-in. To use the "streaming" plug-in, follow these steps:

1. Go to <http://www.aleks.com/plugin> and simply log in to or register with ALEKS as you normally would.
2. Upon first login, ALEKS will automatically retrieve the ALEKS plug-in from the server and store it in the browser's "cache" memory. You don't need to grant any special user rights or privileges on a computer for this installation to occur.
3. The plug-in will be available in the browser's cache until an updated version is available on the ALEKS server or until the browser's cache is cleared.
4. Important: When you restart the browser and return to ALEKS, you must go to <http://www.aleks.com/plugin>. If you do not add "/plugin" to the end of the URL, ALEKS will attempt to install the standard ALEKS plug-in on the computer instead of using the streaming version of the plug-in.

Technical Support

No one in the department of chemistry at NIU can provide you with competent technical support for ALEKS. Do not write to your teacher with operational questions about ALEKS...he will not be able to help you. Instead, try the following resources on the ALEKS website:

1. **Frequently Asked Questions:** <http://www.aleks.com/faqs>
2. **User's Guide:** http://www.aleks.com/user_guides/learners-gchem
3. **Troubleshooting:** <http://www.aleks.com/support/troubleshooting>
4. **Email the Support Team:** <http://support.aleks.com>

ALEKS® Course Syllabus

Course Name: Chem 210 – Fall 2012	Course Code: VTHWD-3KFHW
ALEKS Course: General Chemistry (First Semester)	Instructor: Prof. Hosmane
Course Dates: Begin: 08/13/2012 End: 08/13/2013	Course Content: 231 topics
Textbook: Silberberg: Principles of General Chemistry, 2nd Ed. (McGraw-Hill Companies, Inc.)	

Dates Covered	Objective
08/14 (12:01am) - 09/08 (11:59pm)	1. Objective #1
09/08 (11:59pm) - 09/15 (11:59pm)	2. Objective #2
09/15 (11:59pm) - 09/27 (11:59pm)	3. Objective #3
09/27 (11:59pm) - 10/07 (11:59pm)	4. Objective #4
10/07 (11:59pm) - 10/14 (11:59pm)	5. Objective #5
10/14 (11:59pm) - 10/21 (11:59pm)	6. Objective #6
10/21 (11:59pm) - 10/29 (11:59pm)	7. Objective #7
10/29 (11:59pm) - 11/10 (11:59pm)	8. Objective #8
11/10 (11:59pm) - 11/19 (11:59pm)	9. Objective #9
11/19 (11:59pm) - 11/29 (11:59pm)	10. Objective #10
11/29 (11:59pm) - 12/06 (11:59pm)	11. Objective #11

SCHEDULE FOR MANDATORY RECITATION

Recitation Teaching Assistant – Devangi Patel dpatel8@niu.edu

TA Office Hours – Tu and Th, 2:30 – 3:30 PM or by appointment, FR 247

Section R009	Lecture MWF, 02:00 PM,	LT (FW) 200	Recitation Wednesday,	11:00 AM	FR 205
Section R010	Lecture MWF, 02:00 PM,	LT (FW) 200	Recitation Wednesday,	03:00 PM	FR 205
Section R011	Lecture MWF, 02:00 PM,	LT (FW) 200	Recitation Wednesday,	04:00 PM	FR 205
Section R012	Lecture MWF, 02:00 PM,	LT (FW) 200	Recitation Wednesday,	05:00 PM	FR 205

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 each assigned recitation session 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.

THE DUE DATES FOR ONLINE (ALEKS AND SAPLING) ASSIGNMENTS ARE ALL FIXED AND REQUESTS FOR EXTENSION OF DUE DATES WILL NOT BE HONORED UNDER ANY CIRCUMSTANCES!

INSTRUCTIONS FOR USING ONLINE SAPLING LEARNING:

- Go to <http://saplinglearning.com>
- (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.

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.

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.