Fall 2013 - CHEM 210-0001 "General Chemistry I"
Co-requisite: CHEM 212 - General Chemistry Laboratory I
Participating in the Pre-Medicine Themed Learning Community

Instructor - Dr. Elizabeth R. Gaillard, LaT322, 753-6908, gaillard@niu.edu
Office Hours – WF 10:00-10:50 and Th 2:00-2:50 or by appointment

Recitation TA –Kimberly Henderson, **TA Office Hours** – TBA
TLC Student Leader – Evan Witke

On-Line Course Information: Blackboard (https://webcourses.niu.edu)
Materials: *"Principles of General Chemistry"*, by M. Silberberg 3rd Edition (McGraw Hill; 2013) and McGraw-Hill Connect Plus (on-line homework and LearnSmart adaptive learning). An access code for Connect is bundled with the textbook or you may purchase one on-line the first time that you open an assignment on Blackboard. A solutions manual is available for the textbook but it is not required. The Faraday library has many older chemistry textbooks and math tutorial books that you may find useful.

Lecture and Recitation Schedule:

Section R001	Lecture MWF, 9:00 AM, FR 143	Recitation Monday, 10:00 AM FR 205
Section R002	Lecture MWF, 9:00 AM, FR 143	Recitation Monday, 11:00 AM FR 205
Section R003	Lecture MWF, 9:00 AM, FR 143	Recitation Monday, 1:00 PM FR 205
Section R004	Lecture MWF, 9:00 AM, FR 143	Recitation Monday, 2:00 PM FR 205

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 Hall 247** and the schedule will be posted online (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. General Chemistry laboratory TA office hours are held in Faraday 246. 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

Recitation - The recitation grade (100 points possible) will be based on four 10-point quizzes (40 points), ten 4-point homework assignments (40 points) and attendance (2 points for each quiz free session). The quizzes will be given during the recitation period of the week of the exam (see next page) and there will be **no make-up quizzes or homework**. The homework will be administered on-line using Connect. LearnSmart modules can be used for extra credit in recitation. Two points of extra credit will be assigned for each completed LearnSmart module. Students are strongly encouraged to utilize the LearnSmart study modules, numerous studies indicate that students who use LearnSmart on average earn one letter grade higher than those who do not.

Exams - Dates for three 100 point in-semester exams are indicated in the lecture schedule (see next page). During the Final Exam period, there will be two exams: a fourth exam (100 points) and a comprehensive final exam (100 points). All exams will consist of 25 multiple-choice questions. The lowest exam grade will be replaced by the recitation grade unless the recitation grade is lower. **There will be no make-up exams unless prior arrangements have been made with the instructor to take the exam before the scheduled date and time. Professor Gaillard reserves the right to refuse to make alternative arrangements. A missed exam will be replaced by the recitation grade.** Your overall final class grade will be determined as follows:

Best of four exams and recitation	400 points
Final Exam	100 points
Total	500 points

Grading scale: 85% (>425 pts) = A, 80-84.9% (400-424 pts) = A-, 77-77.9% (385-399 pts) = B+, 73-76.9% (365-384 pts) = B, 70-72.9% (350-364 pts) = B-, 67-69.9% (335-349 pts) = C+, 60-66.9% (300-334 pts) = C, 50-59.9% (250-299 pts) = D, <50% (249 and less pts) = F.

Additional Policies

Academic integrity - Good academic work must be based on honesty. Cheating and plagiarism are considered to be serious offenses. Students responsible for, or assisting others in, either cheating or plagiarism on an assignment, quiz, or examination may receive a grade of F for this course and may be suspended or dismissed from the university.

Accomodations for students with disabilities – Northern Illinois University is committed to providing an accessible educational environment in collaboration with the Disability Resource Center (DRC). Any student requiring an academic accommodation due to a disability should let his or her faculty member know as soon as possible. Students who need academic accommodations based on the impact of a disability will be encouraged to contact the DRC if they have not done so already. The DRC is located on the 4th floor of the Health Services Building and can be reached at 815-753-1303 or drc@niu.edu.

TENTATIVE LECTURE SCHEDULE

WEEK beginning	CHAPTER/TOPIC	Exam/Quiz
1. Aug. 26	**1:** Keys to the Study of Chemistry	
2. Sept. 2*	**1:** Continued/ **2:** The Components of Matter	
3. Sept. 9	**2:** Continued	
4. Sept. 16	**3:** Stoichiometry of Formulas and Equations	**(quiz 1) Exam 1, 9/20**
5. Sept. 23	**3:** Continued/ **4:** The Major Classes of Chemical Reactions	
6. Sept. 30	**4:** Continued	
7. Oct. 7	**5:** Gases and Kinetic Molecular Theory	
8. Oct. 14	**6:** Thermochemistry: Energy Flow and Chemical Change	**(quiz 2) Exam 2, 10/18**
9. Oct. 21	**7:** Quantum Theory and Atomic Structure	
10. Oct. 28	**7:** Continued/ **8:** Electron Configuration and Chemical Periodicity	
11. Nov. 4	**8:** Continued/ **9:** Models of Chemical Bonding	
12. Nov. 11	**9:** Continued	**(quiz 3) Exam 3, 11/15**
13. Nov. 18	**10:** The Shapes of Molecules	
14. Nov. 25*	**10:** Continued	
15. Dec. 2	**11:** Theories of Covalent Bonding	**(quiz 4)**
Final: Wed., Dec. 11	8 AM - 9:50AM	**FINAL**

*****Sept. 2 Labor Day (University closed); Nov. 28-Dec. 1 Thanksgiving Break (University closed)

Themed Learning Community (TLC) Policy

This course is part of a Themed Learning Community, meaning it is intentionally paired with one or two other courses taken in conjunction with one another. It is required that you are enrolled in **ALL TLC** courses simultaneously in order to benefit from the unique learning opportunity created by these bundled courses. If, for some reason, you wish to drop one of your TLC courses, you must drop all of the courses that make up this TLC. Students are responsible for seeking additional guidance from their TLC instructors or the Office of Student Engagement and Experiential Learning (OSEEL) regarding possible withdrawal from TLC courses. Along with the benefits of integrative coursework, TLC students will also benefit from additional mentoring, academic support, and additional co-curricular opportunities.

Students who are enrolled in the Pre-Medicine TLC should also be enrolled in the CHEM 212 General Chemistry Laboratory I that meets on Tuesdays from 2 - 5 pm.

CHEM 210 - GENERAL EDUCATION AND COURSE CONTENT OBJECTIVES

CHEM 210 General Education 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

CHEM 210 Content Objectives

• 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