CHEMISTRY 210 (GENERAL CHEMISTRY I, Sections R005-R008) Spring 2016
Co-requisite: CHEM 212 - General Chemistry Laboratory I

Time & Place: M, W, F 2:00 P.M. - 2:50 P.M., La Tourette Hall 200.
Textbook: *"Principles of Chemistry"*, by M. Silberberg 3rd Edition (McGraw-Hill; 2013), Access to Connect (McGraw-Hill, through purchase of new book or a separate purchase of the access code).
Instructor: Dr. Chong Zheng, Office: La Tourette Hall 326, Phone: 753-6871, e-mail: *czheng@niu.edu* (email is preferred).
Course webpage: http://webcourses.niu.edu/.
Office hours: M, W 10:00 A.M. - 11:00 A.M. or by appointment.

Recitation TA & Office Hours: Travis Helgren, e-mail: thelgren@niu.edu.
Office hours and location will be announced in the first recitation session.

Recitation Schedule (All recitations are in Faraday Hall 205):
Section R001: Wednesdays, 10:00 A.M. – 10:50 A.M. Section R002: Wednesdays, 11:00 A.M. – 11:50 A.M.
Section R003: Wednesdays, 12:00 P.M. – 12:50 P.M. Section R004: Wednesdays, 1:00 P.M. – 1:50 P.M.

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 is posted online http://www.chembio.niu.edu/chembio/aboutus/helproom.shtml and outside the help room door. 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 (departmental office).

Exams and Grading
Exams – The exam dates for the three 100-point hour exams are indicated in the lecture schedule (see next page). *The lowest exam grade will be dropped. 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.*

Final Exam – The 150 point final exam will be comprehensive and is mandatory (will not be dropped).

Recitation – The recitation grade will be based on four 10-point quizzes and attendance (2.14 points for each attendance for a total of 30 points of the 14 recitation sessions in the semester). 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. Thus the maximum recitation points are 70.

Homework – There are eleven 8-point mandatory homework assignments administered on-line using Connect through Blackboard. You will need an *accesss key* (provided with the textbook purchase or purchased separately). Please note posted deadlines for assignments. Each homework assignment consists of two parts: the problem solving part and the LearnSmart part.

Class Participation Extra Credit Points – You can purchase an optional clicker to answer questions posted during the lecture. If you answer ALL questions during the lecture and get at least one correctly, you will earn 1 extra credit point. But you must answer all questions in each lecture in order to receive the extra credit. There will be approximately 30 extra credit points available. With these extra credit points, a student can usually move one letter grade up. For instruction how to use the clicker, please read the instruction: http://www.turningtechnologies.com/pdf/content/NXTStudentUserGuide.pdf. You must register your clicker before you can get these extra credit points. To register, log into Blackboard. Go to the "Tools" menu, click on the "TurningPoint Registration Tool" link, and follow the instruction there.

Total points = 500 points (hourly exams = 200, with lowest exam dropped; recitation = 70, homework = 80 (not counting the extra 8 points); final exam = 150, not counting the extra credit points)

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

There will NOT be grade curving! The effective curving is the LearnSmart study module and class participation extra credit.

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.

Technical support of the Connect website or the clicker – If there is any technical problem, please contact the Connect customer support at 1-800-331-5094 or NIU ITS at 753-8100. The instructor has no technical control of the Connect website and the NIU Blackboard, therefore will be not able to answer any related technical questions.

Any student who may need an accommodation due to a disability, please notify me as early in the semester as possible. It is the responsibility of the student to contact the Disabilities Resource Center at 815-753-1303 to initiate and obtain accommodations

TENTATIVE LECTURE SCHEDULE

WEEK	**CHAPTER: TOPIC**	**Exam**
1. Jan. 19-22	**1:** Keys to the Study of Chemistry	
2. Jan. 25-29	**1:** Continued/ **2:** The Components of Matter	
3. Feb. 1-5	**2:** Continued	Quiz I
4. Feb. 8-12	**3:** Stoichiometry of Formulas and Equations	**Exam I, Friday Feb. 12**
5. Feb. 15-19	**3:** Continued/ **4:** The Major Classes of Chemical Reactions	
6. Feb. 22-26	**4:** Continued	
7. Feb. 29-March 4	**5:** Gases and Kinetic Molecular Theory	Quiz II
8. March 7-11	**6:** Thermochemistry: Energy Flow and Chemical Change	**Exam II, Friday March 11**
March 13-20	**Spring Break**	
9. March 21-25	**7:** Quantum Theory and Atomic Structure	
10. March 28-April 1	**8:** Continued/ **9:** Models of Chemical Bonding	
11. April 4-8	**9:** Continued	Quiz III
12. April 11-15	**10:** The Shapes of Molecules	**Exam III, Friday April 15**
13. April 18-22	**10:** Continued	
14. April 25-29	**11:** Theories of Covalent Bonding	
15. May 2-6	**11:**Continued	Quiz IV
Monday, May 9	2-3:50 P.M.	**FINAL**

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.