Instructor – Tao Xu, Office: LaT412, Tel: (815)753-6357, Email: txu@niu.edu
Office Hours – Wednesday, Friday 10:00am – 11:50am or by appointment.

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

Lecture Schedule:
Lecture MWF for All Sections, 9:00-9:50 AM, Faraday 143

Recitation Schedule
Section R001 Recitation Monday, 10:00-10:50am in FR205
Section R002 Recitation Monday, 11:00-11:50am in FR205
Section R003 Recitation Monday, 1:00-1:50pm in FR205
Section R004 Recitation Monday, 2:00-2:50pm in FR205
Section T603 and T604 Recitation Monday, 2:00-2:50pm in FR205

Materials: “Principles of General Chemistry” 3rd Edition, by M. Silberberg (McGraw Hill; 2013). Previous editions will also work if you can get separate access to the online software from McGraw Hill.

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) 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
Hour Exams - Tentative dates for the three 100-point hour exams are indicated in the lecture schedule (see next page).
Recitation - The recitation grade (103 points) will be based on four 10-point quizzes, seven 5-point homework assignments, and attendance (2 points for each of 14 class meetings). Late submission of the assignments will not be accepted. There will be no make-up quizzes.

Final Exam - The final exam will be comprehensive and will be given on December 9, Wed. 8-9:50 am in FR143. Final Exam will cover ALL chapters.
Note: Unless a university allowed excuse with a prior arrangement with the instructor and submission of legitimate evidence(s) for the excuse (such as a letter from your supervisor or medical doctors), there will be no make-up exams after the general exam. A missed exam will be counted as the dropped exam.

Total points = 503 points (the best two of the three hour exams =200; recitation=103; final exam = 200)

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 Disability Support Services authorizing your accommodations is usually needed before accommodations can be granted.
Accommodations for Students with Disabilities: A student who believes that reasonable accommodations with respect to course work or other academic requirements may be appropriate in consideration of a disability must (1) provide the required verification of the disability to the Disabilities Resource Center, (2) meet with the Disabilities Resource Center to determine appropriate accommodations, and (3) inform the faculty in charge of the academic activity of the need for accommodation. Students are encouraged to inform the faculty of their requests for accommodations as early as possible in the semester, but must make the requests in a timely enough manner for accommodations to be appropriately considered and reviewed by the university. If contacted by the faculty member, the staff of the Disabilities Resource Center will provide advice about accommodations that may be indicated in the particular case. Students who make requests for reasonable accommodations are expected to follow the policies and procedures of the Disabilities Resource Center in this process, including but not limited to the Student Handbook.

A wide range of services can be obtained by students with disabilities, including housing, transportation, adaptation of printed materials, and advocacy with faculty and staff. Students with disabilities who need such services or want more information should contact the Disabilities Resource Center at 815-753-1303.

**LECTURE SCHEDULE**

<table>
<thead>
<tr>
<th>WEEK (3 lectures/week)</th>
<th>CHAPTER/TOPIC</th>
<th>Quiz, Homework*</th>
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</thead>
<tbody>
<tr>
<td>1. August 24</td>
<td>Introduction / Ch. 1: Keys to the Study of Chemistry</td>
<td>Exam</td>
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<tr>
<td>2. August 31</td>
<td>Ch. 1 (cont.)</td>
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<tr>
<td>3. September 7</td>
<td>Ch. 2 The Components of Matter (no class on Setp.7 Labor Day)</td>
<td>Homework #1(Mon)</td>
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<tr>
<td>4. September 14</td>
<td>Ch. 3: Stoichiometry of Formulas and Equations</td>
<td>Quiz #1(Mon)</td>
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<tr>
<td>5. September 21</td>
<td>Ch. 3 (cont.); Ch. 4: Three Major Classes of Chemical Reactions</td>
<td>Homework#2(Mon)</td>
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<tr>
<td>6. September 28</td>
<td>Ch. 5: Gases and Kinetic Molecular Theory</td>
<td>Quiz #2 (Mon)</td>
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<tr>
<td>7. October 5</td>
<td>Ch. 5 (cont.); Ch. 6: Thermochemistry</td>
<td>Exam I (Fri)</td>
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<tr>
<td>8. October 12</td>
<td>Ch. 6 (cont.); Ch. 7: Quantum Theory and Atomic Structure</td>
<td>Homework#3(Mon)</td>
</tr>
<tr>
<td>9. October 19</td>
<td>Ch. 7,(cont);</td>
<td>Homework#4(Mon)</td>
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<tr>
<td>10. October 26</td>
<td>Ch. 8. Electron Configuration and Chemical Periodicity</td>
<td>Quiz #3(Mon)</td>
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<tr>
<td>11. November 2</td>
<td>Ch. 8 (cont.)</td>
<td>Exam II (Fri)</td>
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<td>12. November 9</td>
<td>Ch. 9: Models of Chemical Bonding</td>
<td>Homework#5(Mon)</td>
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<tr>
<td>13. November 16</td>
<td>Ch. 10 The Shapes of Molecules</td>
<td>Quiz #4 (Mon)</td>
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<tr>
<td>14. November 23</td>
<td>Ch. 11: Theories of Covalent Bonding (Thanksgiving Break, no lectures on Wednesday &amp; Friday)</td>
<td>Homework#6(Mon)</td>
</tr>
<tr>
<td>15. Nov. 31</td>
<td>Ch.11 (cont) and review for all chapters</td>
<td>Homework #7</td>
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</tbody>
</table>

*Submit homework to your recitation TA on the Monday* recitation hours of the listed week. Hour exam grades will be post on blackboard by the Friday of the next week, and will be return to students in the recitation hour after the release of the grades. The original final exam will not be returned, but you can make a copy at your own cost after the grades are post.
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