Fall 2016 - CHEMISTRY 211 (Section R001-R004)
Co-requisite: CHEM 213 - General Chemistry Laboratory II

Instructor – Dr. Leifker, FR336, mleifker@niu.edu
Office Hours – Mon/Wed: 9:00-10:00 am; or by appointment
Recitation TA – TBD
TA Office Hours – TBD

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

Materials: Textbook or eBook: “Principles of Chemistry”, by M. Silberberg 3rd Edition (McGraw Hill; 2013) and access to Connect (McGraw Hill, through purchase of new book, ebook, or purchased separately). The eBook version of the textbook is available (w/ ConnectPlus) which provides access to textbook and online homework

Exams and Grading
Exams - Tentative 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.

Recitation/HW – The recitation grade (150 points possible) will be based on four 10-point quizzes, eight 10-point homework assignments and attendance (30 points possible). There will be no make-up quizzes. The homework will be administered online using Connect. Students are encouraged to use LearnSmart study modules in Connect. Extra credit will be assigned for each completed LearnSmart module.

Connect Homework – The online homework is accessed through blackboard (look for the homework link). You will need the enrollment key (provided with book purchase or purchased separately). Please note posted deadlines for assignments.

Final Exam - The 150 point final exam will be comprehensive and will be given on Monday, December 5th from 8:00-9:50 AM.

Total points = 500 points (hourly exams = 200, with lowest exam dropped; recitation = 150; final exam = 150)

Grading scale: The grades will be determined according to the percentage of points out the total possible 500 points:

A ≥ 90%  B ≥ 80%  C ≥ 70%  D ≥ 60%  F < 60%

This scale may be revised downward (not upward), but this is not guaranteed.

Academic Integrity:
Good academic work must be based on honesty. The attempt of any student to present as his or her own work that which he or she has not produced is regarded by the faculty and administration as a serious offense. Students are considered to have cheated if they copy the work of another during an examination or turn in a paper or an assignment written, in whole or in part, by someone else. Students are responsible for plagiarism, intentional or not, if they copy material from books, magazines, or other sources without identifying and acknowledging those sources or if they paraphrase ideas from such sources without acknowledging them. Students responsible for, or assisting others in, either cheating or plagiarism on an assignment, quiz, or examination may receive a grade of F for the course involved and may be suspended or dismissed from the university.

Accommodations 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 (V) or drc@niu.edu.

### TENTATIVE LECTURE SCHEDULE

<table>
<thead>
<tr>
<th>WEEK</th>
<th>CHAPTER/TOPIC</th>
<th>Exam</th>
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<tbody>
<tr>
<td>1. Aug. 22-26</td>
<td>12: Liquids, Solids, and Phase Changes</td>
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<td>2. Aug. 29- Sept. 2</td>
<td>12: Continued</td>
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<td>3. Sept. 5*-9</td>
<td>13: Properties of Solutions</td>
<td>Quiz 1</td>
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<td>5. Sept. 19-23</td>
<td>16: Continued</td>
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<td>7. Oct. 3-7</td>
<td>17: Continued / 18: Acid Base Equilibria</td>
<td>Quiz 2</td>
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<td>11. Oct. 31-Nov. 4</td>
<td>20: Continued</td>
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<td>12. Nov. 7-11</td>
<td>21: Electrochemistry</td>
<td>Quiz 3</td>
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<td>13. Nov. 14-18</td>
<td>21: Continued</td>
<td>Exam III (F) Nov. 18</td>
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<td>14. Nov. 21-25*</td>
<td>23: Nuclear Reactions</td>
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<td>15. Nov. 28-Dec 2</td>
<td>23:Continued</td>
<td>Quiz 4</td>
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<tr>
<td>Final Mon. Dec. 5th</td>
<td>8-9:50AM</td>
<td>FINAL</td>
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* Sept. 5th Labor Day (no class), Nov. 23-25 Thanksgiving Break (University closed)

### CHEMISTRY 211 - 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**
- Become familiar with the properties of solutions and be able to calculate concentrations of species in solution
- Understand the concepts behind chemical kinetics and reactions rates
- Understand acid-base and ionic equilibria, and appreciate real-world applications of these equilibria
- Understand entropy, free energy, and the direction of chemical reactions
- Understand the difference between voltaic and electrolytic cells, and be able to calculate the cell potential of a voltaic cell
- Understand the nuclear properties of isotopes, including nuclear reactions, and the practical applications of nuclear chemistry.
Additional Information

**CHEM 211 is a challenging course.** There are many resources available to help you succeed – it is your responsibility to take advantage of them. Success will require diligent study habits, paying attention to announcements and attendance at all scheduled lectures and labs. As a general rule of thumb, you should be studying about 3 hours per week per credit hour so, for CHEM 211, which equals approximately 9 hours per week outside of the classroom. In addition to the departmental resources described above, the following university resources may be of benefit to you:

* NIU Office of Student Academic Success: [http://www.niu.edu/osas/index.shtml](http://www.niu.edu/osas/index.shtml)
* NIU Tutoring Centers: [http://www.niu.edu/access/tutoringcenters/](http://www.niu.edu/access/tutoringcenters/)
* One-on-one tutoring: [http://www.niu.edu/access/pal/](http://www.niu.edu/access/pal/)

**Course Preparation:** McGraw Hill has released a product, LearnSmart Prep, that is an online tool to review the background material that you are expected to be proficient in for CHEM 211 (math review and CHEM 210 review). LearnSmart Prep costs $30.

In the lecture hall and recitation classroom, common courtesy is expected. Do not engage in activities that interfere with my teaching (or your TA’s teaching) or that interfere with your fellow students learning. If you use a computer or tablet in class, use it only for class related activities. If you need to arrive late or leave early, please do so discreetly. Anyone who violates these basic standards may be asked to leave the lecture hall or recitation classroom.