Introductory Chemistry I (CHEM 111)  
Fall 2015

Instructor: John R. Seiders, II, PhD  
Office: Caputo 214
E-mail: jseiders@millersville.edu (best contact method)  
Office Phone: 717-871-7391
Office hours: T: 9:30 – 10:45 am (Roddy 149)

Recitation/lab: Section 02A W: 9:00 – 9:50 am (Roddy 153) / 10:00 – 11:50 am (Roddy 328)  
Section 02B W: 2:00 – 2:50 pm (Roddy 153) / 3:00 – 4:50 pm (Roddy 328)  
Section 02C T: 5:00 – 5:50 pm (Roddy 153) / 6:00 – 7:50 pm (Roddy 328)

Course Description and Learning Objectives: CHEM 111 is the first semester of the General Chemistry sequence, CHEM 111/CHEM 112. CHEM 111 is designed for students majoring in chemistry, biology, physics and earth sciences. Students who successfully complete CHEM 111 should have a fundamental understanding of chemical stoichiometry, atomic structure, ideal gas behavior, chemical energy, intermolecular forces, covalent and ionic bonding, and properties of liquids, solids and solutions.

Required Materials:
- **Laboratory Notebook:** Permanently bound notebook (NOT ring or spiral bound), approximately 7.5” x 9.75”, quadrille-ruled. Available in Bookstore.
- **Calculator:** Scientific calculator ONLY. Must be capable of performing logarithmic (log, ln) and exponential (10^x, e^x, y^x) functions.

Recommended Problems from lecture: You should work through all interactive examples provided within the chapter readings. End of the chapter problems will be recommended throughout the semester. These problems will not be collected/graded but provide the practice necessary to assess your general understanding of the material. Completion of the assigned problems only may not provide sufficient practice to prepare you for exams.

Quizzes: A short quiz will be given at the beginning of most recitations. These quizzes will be on the order of 5 – 10 minutes and cover the most recent material covered. Quizzes provide an alternative means of assessing one’s understanding of the material.

In-class Exams: Three (3) in-class exams will be given throughout the semester. All exams will be weighted equally with each exam covering the material up to their date. A general grouping of topics (by chapter) is shown in the Lecture Schedule below.

Final Exam: The Final Exam is comprehensive and is on Wednesday December 9 from 2:45 – 4:45 pm. All students MUST take the final exam.
Lecture Schedule: The following is a tentative lecture schedule showing the order of topics as well as approximate grouping of exam material.

<table>
<thead>
<tr>
<th>Chapter in Zumdahl</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chemical foundations</td>
</tr>
<tr>
<td>2</td>
<td>Atoms, molecules and ions</td>
</tr>
<tr>
<td>3</td>
<td>Stoichiometry</td>
</tr>
<tr>
<td></td>
<td><strong>Exam 1</strong></td>
</tr>
<tr>
<td>4</td>
<td>Types of chemical reactions and solution stoichiometry</td>
</tr>
<tr>
<td>5</td>
<td>Gases</td>
</tr>
<tr>
<td>6</td>
<td>Thermochemistry</td>
</tr>
<tr>
<td></td>
<td><strong>Exam 2</strong></td>
</tr>
<tr>
<td>7</td>
<td>Atomic structure and periodicity</td>
</tr>
<tr>
<td>8</td>
<td>Bonding: General concepts</td>
</tr>
<tr>
<td>9</td>
<td>Covalent Bonding: Orbitals</td>
</tr>
<tr>
<td></td>
<td><strong>Exam 3</strong></td>
</tr>
<tr>
<td>10</td>
<td>Liquids and Solids</td>
</tr>
<tr>
<td>11</td>
<td>Properties of Solutions</td>
</tr>
<tr>
<td></td>
<td><strong>Final Exam, Wednesday, December 9, 2015, From 2:45 – 4:45 pm</strong></td>
</tr>
</tbody>
</table>

Recitation: A weekly, 50 minute recitation precedes each laboratory session. Recitation is dedicated to problem solving and discussing class matters. Short quizzes will be periodically administered at the beginning of recitation.

Laboratory Information: There is a coupled laboratory associated with the CHEM 111 lecture. Students must complete the laboratory requirements in order to pass CHEM 111. More information regarding the laboratory is provided on a separate Laboratory Syllabus.

Course Grading:

**Lecture:**
- Recitation Quizzes (drop 3 lowest) 10 %
- Attendance/promptness/etiquette 5 %
- Exams (3 total) 40 %
- Final Exam 20 %

**Total Lecture Contribution** 75 %

**Lab:**
- Lab Reports 15 %
- Lab Notebooks 5 %
- Lab Final 5 %

**Total Laboratory Contribution** 25 %

Final Grades: The contributions from both lecture and laboratory assignments will be used to determine your final letter grade in the course.
Course Policies

Class attendance, recitation attendance and promptness: Students are expected to attend all lectures and recitations. Students are responsible for all material covered in lecture and recitation. It is important to note that missing even a few days of class can have an impact on one’s understanding of the material. This is due to the pace of the course and the amount of material covered. Please note that attendance/promptness will be considered when determining your final grade. Frequent and consistent absences or tardies may result in a loss of 5% from your final grade.

Classroom etiquette: Socializing and talking during class is rude, distracting and unfair to those students interested in learning and participating. Persistent talking, texting and otherwise disruptive behavior may result in your dismal from that day’s class. Computers are not allowed in class, recitation or laboratory. All mobile devices must be turned off during lecture, recitation and laboratory. Please note that classroom etiquette will be considered when determining your final grade. Frequent and consistent disruptions to the class may result in a loss of 5% from your final grade.

Exam Attendance: All students must take exams as scheduled. Missed exams resulting from an unexcused absence will receive no credit. Exams missed due to an excused absence will not be afforded a make-up, instead the Final Exam will be re-weighted to account for the missing exam score.

Common Excused Absences:
- Seriously ill: You are so sick you have to be seen by a doctor or campus health services. This requires you showing me a signed note from the treating physician/nurse.
- Death in the family: You must be away from campus due to the death of a close relative/friend.
- University sponsored event: You are a member of a sports team or other University sponsored group that must be away from campus. Absences due to University sponsored events will only be considered when notice is provided BEFORE the scheduled exam.

Common Unexcused Absences:
- Car trouble: It is your responsibility to ensure reliable transportation to campus for scheduled classes and exams.
- Overslept: It is your responsibility to ensure you have a reliable means of waking up for scheduled classes and exams.
- Confused about date: While the exams are not pre-scheduled for the entire semester, you will be given at least one week’s notice about the scheduling of and exam. It is then your responsibility to write/record that date in your schedule.

Academic Honesty: All students are expected to conduct all work in an honest and ethical manner. Plagiarism and copying are expressly prohibited and will NOT be tolerated. Anyone caught cheating will receive a score of zero (0) on that assignment. Habitual academic dishonesty will be penalized to the full extent as described in the Undergraduate Catalog 2015-2016.

Academic Accommodations: The Office of Learning Services provides academic and housing accommodations as well as auxiliary aids to students with disabilities. Services are provided at no cost to the student. Students with disabilities are encouraged to submit eligibility documentation as soon as they receive admission to the University to allow time to arrange services. For more information on services for students, call 717-872-3178.
Passing grade and continuation to CHEM112: To pass CHEM111, you must achieve a passing grade in the lecture component of the course. This means your lecture grade must be \( \geq 60\% \) of the points attributed to lecture alone. Additionally, all lab reports must be submitted, even if they are late, to pass the course. Please note that a grade of C- or better is required to enroll in CHEM112. For Chemistry majors a grade of C or better is required to enroll in CHEM112.

Title IX responsibilities for faculty: Millersville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment, comply with Title IX of the Education Amendments of 1972, 20 U.S.C. §1681, et seq., and act in accordance with guidance from the Office for Civil Rights, the University requires faculty members to report to the University’s Title IX Coordinator incidents of sexual violence shared by students. The only exceptions to the faculty member’s reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. Faculty members are obligated to report to the person designated in the University Protection of Minors policy incidents of sexual violence or any other abuse of a student who was, or is, a child (a person under 18 years of age) when the abuse allegedly occurred. Information regarding the reporting of sexual violence, and the resources that are available to victims of sexual violence, is available at [http://www.millersville.edu/socialeq/title-ix-sexual-misconduct/index.php](http://www.millersville.edu/socialeq/title-ix-sexual-misconduct/index.php).