2014

160-14 General Chemistry I

Barbara Hopkins

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CHEMISTRY 160-04 SYLLABUS
GENERAL CHEMISTRY I

INSTRUCTOR: Dr. Barbara M. Hopkins (hopkins@xavier.edu)
Office: Logan Hall 103 Phone: (513) 745-2063
Office Hours: Wednesday 1:30-3:30; Tuesday and Thursday 8:30-noon; and by appointment.

DESCRIPTION: This is the first semester of a science-major chemistry sequence. Fundamental principles of general chemistry are discussed, including: measurements, atomic theory; stoichiometry; reactions in aqueous solution; the periodic table; chemical bonding and molecular geometry; thermochemistry; and gases.

PRE-REQUISITES: High-school courses or the equivalent in algebra (1 year), chemistry (1 year), and physics (1 year) are a helpful background.


FORMAT: Three 50 min. lectures/week, 11:00-11:50 MWF (3 credits). Student participation in asking and answering questions is encouraged.

ATTENDANCE: Regular attendance in this lecture class is strongly encouraged. Similarly students auditing the class are expected to attend regularly. During class common courtesy to the instructor and fellow students is expected.

SPECIAL NEEDS: It is the responsibility of the student to inform the instructor at the beginning of the semester of any individual conditions, medical or otherwise, that may require special attention. Appropriate consideration will be given in these situations.

PRACTICE PROBLEMS: Questions from each chapter of the textbook will be recommended for students to consider. Although the problems will not be collected, students should find the exercise of answering these questions vital to the understanding of the material presented in the lecture. A critical aspect of preparing for course tests is actively doing the suggested problems. If you have questions about the problems, please ask in class or come see me. A listing of the suggested questions will be posted on Canvas as well as in the Powerpoint Slides.

QUIZZES and HOMEWORK: Announced quizzes will be given throughout the semester. Homework will come from Mastering Chemistry (typically one set of questions from each chapter) as well as assigned problems that will be turned in for credit. Homework will not be accepted if late. Collectively quizzes and homework contribute 20% to the final grade.

TESTS: Four tests will be given. Tentative dates are Sept. 17, Oct. 8, Nov. 5, and Dec. 3. Each test counts equally toward the final grade with a total contribution of 60%. Students are responsible for taking tests at the scheduled times. Make-up tests will only be given with proof of illness or proof of some other conflicting event (note from an appropriate university counselor). If you are ill, please call my office or email that morning. Notice of a conflict must be given before the testing period. No electronic devices other than calculators provided by the department will be permitted.
**FINAL CUMULATIVE EXAM:** Friday, December 19, 10:00-11:50. Final counts 20% toward the overall grade.

**GRADING SCALE:**
- **A** 94-100;
- **A-** 91-93;
- **B+** 88-90;
- **B** 84-87;
- **B-** 80-83;
- **C+** 77-79;
- **C** 73-76;
- **C-** 70-72;
- **D+** 67-69;
- **D** 63-66;
- **D-** 60-62;
- **F** 59 and below.

Upon review at the end of the semester, this scale may be adjusted downward.

It should be noted that according to the Xavier University Catalog, a grade of “**A**” is earned for exceptional performance. This is also the agreed grading policy of the faculty in the Chemistry Department. The Chemistry Department Grading Policies should be viewed by all students and can be found on the Departmental Web site at http://www.xavier.edu/chemistry/dept_policies_grading.cfm

**ACADEMIC HONESTY:** Cheating on any test or examination will result in a grade of “**F**” for the course. The student may appeal according to normal procedures stated in the University Catalog.

CHEM 160 fulfills part of the science requirement for the Core Curriculum.
CHEM 160 satisfies NSTA Reporting Standards for Teaching Science Numbers 1a, 1b, 1c, 1e, 2a, 2b, 2c.

**TENTATIVE SCHEDULE**

<table>
<thead>
<tr>
<th>Class</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1-3</td>
<td>Chapter 1 Chemistry: Matter and Measurement</td>
</tr>
<tr>
<td>4-9</td>
<td>Chapter 2 Atoms, Molecules, and Ions</td>
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<tr>
<td><strong>10</strong></td>
<td><strong>TEST #1</strong> Wednesday, September 17</td>
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<tr>
<td>11-16</td>
<td>Chapter 3 Formulas, Equations, and Moles</td>
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<tr>
<td>17-18</td>
<td>Chapter 4 Part One: Precipitation Reactions and Acids and Bases (Sec 1-5)</td>
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<tr>
<td><strong>19</strong></td>
<td><strong>TEST #2</strong> Wednesday, October 8</td>
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<tr>
<td>20-22</td>
<td>Chapter 4 Part Two: Oxidation-Reduction Reactions (Sections 6-11)</td>
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<tr>
<td>23-27</td>
<td>Chapter 5 Periodicity and Atomic Structure (skip Section 1)</td>
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<tr>
<td>28-29</td>
<td>Chapter 6 Ionic Bonds (skip Sec. 8-12)</td>
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<tr>
<td><strong>30</strong></td>
<td><strong>TEST #3</strong> Wednesday, November 5</td>
</tr>
<tr>
<td>31-36</td>
<td>Chapter 7 Covalent Bonds and Molecular Structure (skip Sec 3 and 13-15)</td>
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<tr>
<td>37-39</td>
<td>Chapter 8 Thermochemistry (skip Sections 2-4, 12-13)</td>
</tr>
<tr>
<td><strong>40</strong></td>
<td><strong>TEST #4</strong> Wednesday, December 3</td>
</tr>
<tr>
<td>41-44</td>
<td>Chapter 9 Gases (skip Section 9)</td>
</tr>
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**FINAL EXAM** Friday, December 19, 10:00-11:50

The schedule and procedures in this course syllabus are subject to change in the event of extenuating circumstances. These changes, if necessary, will be announced to the class in as timely a manner as possible.