CHEM 105
Sections 102 & 103 (COT)
Spring 2010

INSTRUCTOR: Judy Bacon
OFFICE: COT HSCT 211
PHONE: 657-2031 (leave message with department administrative personnel)
E-MAIL: jbacon@msubillings.edu
OFFICE HOURS: Thursday at COT 11:00 am - noon in HSCT 113
(These sessions are very helpful. I cover pre-lab questions and review for quiz.)

REQUIRED MATERIALS:
1. Lab Manual: "Laboratory Experiments for General, Organic and Biochemistry" 5th Ed. by Bettelheim and Landesberg
2. SAFETY GOGGLES !!! These are mandatory. You will not be permitted in lab without them.

COURSE OBJECTIVES:
1. To learn how to handle chemicals properly and safely.
2. To learn the techniques most commonly used in general chemistry.
3. To learn to read and interpret written experimental procedures.
4. To learn to organize and explain experimental data collected in the lab.

This laboratory course is designed to provide laboratory experiences that complement and extend the Chmy 121 (Introduction to General Chemistry) lecture material.

OUTCOMES ASSESSMENT:
1. PRE-LAB QUESTION SHEET
   ✪ Due at the beginning of each lab session
   ✪ Worth 10 points per sheet
2. REPORT SHEETS
   ✪ Due BEFORE LEAVING LAB
   ✪ Worth 30 points per sheet
3. WEEKLY QUIZZES
   ✪ Comprised of information on previous week's Post-lab Questions
   ✪ Worth 10 points per quiz
4. COMPREHENSIVE LAB FINAL
   ✪ Tuesday December 9th, during regularly schedule lab period
   ✪ Worth 90 points

Special note: POST-LAB QUESTIONS
   ✪ Not graded, but completion is strongly recommended as a study tool for weekly quizzes

GRADING SCALE:
A   94 - 100 %  B+   87 - 89 %  C+   77 - 79 %  D+  67 - 69 %  F  Below 60 %
A–  90 - 93 %  B    83 - 86 %  C    73 - 76 %  D   63 - 66 %
    80 - 82 %  C–   70 - 72 %  D–  60 - 62 %
**LAB SCHEDULE**

**SPRING 2010 COT**

*There are NO MAKE-UP LABS. A missed lab will result in zero for that lab.*

<table>
<thead>
<tr>
<th>DATE</th>
<th>EXPERIMENT #</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>JAN 21</td>
<td></td>
<td>Introduction to course and MANDATORY check-in</td>
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<tr>
<td>JAN 28</td>
<td>2</td>
<td>Laboratory Measurements</td>
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<tr>
<td>FEB 4</td>
<td>3</td>
<td>Density Determination</td>
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<tr>
<td>FEB 11</td>
<td>4</td>
<td>The Separation of the Components of a Mixture</td>
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<td>FEB 18</td>
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<td>Handout (ONLINE) Molecular Geometry</td>
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<td>(<a href="http://www.msubillings.edu/sciencefaculty/handouts/Fall%202008/Bacon/Chem%20105/Chem%20105%20jb%20molecular%20geom%20handout0001.pdf">http://www.msubillings.edu/sciencefaculty/handouts/Fall%202008/Bacon/Chem%20105/Chem%20105%20jb%20molecular%20geom%20handout0001.pdf</a>)</td>
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<td>FEB 25</td>
<td>7</td>
<td>Determination of the Formula of a Metal Oxide</td>
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<td>*Read Experiment 6 &quot;Background&quot; section</td>
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<td>MAR 4</td>
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<td>NO LAB, Spring Break</td>
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<td>MAR 11</td>
<td>8</td>
<td>Classes of Chemical Reactions</td>
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<td>MAR 18</td>
<td>14</td>
<td>Properties of Gases: Determination of the Molecular Weight of a Volatile Liquid</td>
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<td>MAR 25</td>
<td>16</td>
<td>Solubility and Solution</td>
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<td>APR 1</td>
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<td>NO LAB, Mini-Spring Break</td>
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<td>APR 8</td>
<td>19</td>
<td>Factors Affecting Rate of Reactions</td>
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<tr>
<td>APR 15</td>
<td>22</td>
<td>Analysis of Vinegar by Titration</td>
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<td>APR 22</td>
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<td>Lab Final and Check-out (During regular lab times)</td>
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* You must check-out of your lab drawer. Failure to do so will result in a $20 check-out fee.

* Loss of lab drawer key will result in a $20 replacement fee.
Students with disabilities, whether physical, learning, or psychological, who believe that they may need accommodations in this class, are encouraged to contact Disability Support Services (DSS) as soon as possible to ensure that such accommodations are implemented in a timely fashion. Please meet with DSS staff to verify your eligibility for any classroom accommodations and for academic assistance related to your disability. Disability Support Services is located in the Academic Support Center.

- COT, 247-3029 (voice/tty/video phone) 8:30 a.m. – 3 p.m.
- Main Campus, 657-2283 (voice/tty) and 657-2159 (voice/tty/video phone) 8 a.m. - 5 p.m.
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The Materials Safety Data Sheets (MSDS) for any chemical used in this laboratory can be obtained from Science Technical Services in Sci 241, Main Campus, in the red binders labeled MSDS. These sheets contain information on the hazards associated with the chemical as well as information on its proper handling and storage.

**POLICY ON ACADEMIC HONESTY:** It is your responsibility to familiarize yourself with the Student Handbook. In particular, you should understand Part IX: Code of Conduct, paying special attention to subsection B.1, page 78 (Academic Misconduct). All students are expected to adhere to the highest standards of academic honesty and refrain from any action that is dishonorable or unethical. In all examinations, quizzes, and lab reports; students are expected to submit their own work entirely. Cheating or alleged cheating on an exam or quiz in this class will result in a grade of zero (failure) for the exam or quiz involved, and may lead to a zero in the course.

**POLICY ON STUDENT CONDUCT:** Disruptive behavior such as talking loudly amongst yourselves, ringing cellular phones, talking on cellular phones, and reading non-course materials during lecture will not be tolerated. Any students indulging in such behavior will be asked to leave the classroom. Cellular phones must be turned-off prior to lecture. Occasionally, a student will have a disagreement with the instructor or teaching assistants over an issue of grading. Such discussions, whether in class or in an office setting, are to be kept civil. Verbal abuse in any form will NOT be tolerated. Any student indulging in such behavior will be reported to the Dean of Arts and Sciences and the Office of Student Affairs.