CHEM 104
FALL 2005

INSTRUCTOR: Dr. Rhonda Dillman

OFFICE: Sci 217

PHONE: 657-2025 (voice mail)  E-MAIL: rdillman@msubillings.edu

OFFICE HRS: 7:00-8:00 am MWF, 10:30 am-12:00 noon MW or by appt

REQUIRED MATERIALS: 1. Text: “General, Organic and Biological Chemistry” 3rd ed. by Stoker
   2. Blue books
   3. Calculator – a simple scientific calculator that does logs and scientific (exponential) notation is all you need.

COURSE OBJECTIVES:
1. To develop the basic vocabulary of chemistry.
2. To learn a basic understanding of the scientific method and its use in chemistry.
3. To learn a basic understanding of the elements, chemical structure, chemical bonding and chemical reactions.
4. To understand the physical states of matter, solutions and acid/base chemistry.

CLASS GUIDELINES:
1. Attendance is not required (except on exam days) but is highly recommended! I sometimes give extra credit during the class period. If you are not present you miss out! You are responsible for any additional information I present to the class that is not found in the text book.
2. Read the material before you come to class. Lectures will make more sense if you have seen the material before. It is important to keep up with the material. Chemistry is a very comprehensive subject. It is hard to play catch up!
3. Work as many problems at the end of the chapters as possible and any extra problems that I give you. Working problems is the best way to determine if you truly understand the material.
4. ASK QUESTIONS and come in for extra help as soon as you start having problems-don’t wait until it’s too late.

OUTCOMES ASSESSMENT (GRADING):
1. You will be assigned homework from the problems at the end of each chapter. I will randomly select a few from each set to grade.
   Rules for homework:
   1. Must be written up in a blue book.
   2. Put your name, class # and my name on the outside of the book.
   3. You must show all your work to get credit-especially on calculation problems.
   4. You may use the same blue book for more than one homework set. However if you do reuse your book, bind (paper clip, staple, etc.) the previously used pages together so that the current set is easily found in the book.
   5. Due dates for each homework set will be assigned in lecture. Late homework will NOT be accepted!!!!! (Unless excused beforehand)
   6. Each homework set will be worth 8-12 points.
   7. You may drop one homework grade.
   8. The total homework grade of 100 points will count as an exam grade that cannot be replace with the final.
2. Exams may consist of a combination of multiple choice, short answer, essays and problems. The point value for each exam will be 100 points.
3. Exams **must be taken at the assigned time** unless excused beforehand.

4. There will be a comprehensive, optional final. You may use the final to replace a test grade (except homework). However, you must be excused from any exam you do not take. Otherwise you will receive a zero that cannot be replaced by the final.

5. The grading scale will be as follows. However there may be a curve at the end of the semester.

   A  90 and above
   B  80-89
   C  65-79
   D  50-64
   F  49 and below

   **Incompletes will be given for medical excuses/family emergencies only**

**HOMEWORK PROBLEMS**

CH 1 – 2, 10, 12, 16, 20, 26, 28, 30, 32, 36, 44, 46, 53

CH 2 – 6, 8, 12, 14, 22, 26, 28, 30, 36, 42, 44, 48, 52, 54, 58, 64, 66a

CH 3 – 2, 4, 6, 14a, 18, 24, 28, 32, 36, 42, 44, 46, 48, 50d, 52d, 56c, 62, 66

CH 4 – 4, 6, 10, 12, 14, 20, 22, 34, 38, 40, 42, 48, 50, 56, 58, 60, 62

CH 5 – 10, 12, 16, 22, 26, 30, 34, 36, 42, 44, 50, 52, 54

CH 6 – 2c, 14c, 28a, 30b, 36, 44b, 46c, 48, 52

CH 7 – 8, 12, 18, 24, 28, 30, 34, 40, 44, 58

CH 8 – 2, 6, 8, 22c, 24d, 28, 32, 36, 40d, 42d, 44a, 46a, 48d, 50a, 56, 60, 73b, 74b

CH 9 – 2, 8, 14, 16, 24, 28, 32, 38c, 40, 42, 48

CH 10 – 10, 12, 14b, 18, 24, 28a, 30a, 44, 48a, 54a,c, 58a,d, 60a, 62, 64, 68, 70, 74a,c, 76, 82a,c, 90
<table>
<thead>
<tr>
<th>DATE</th>
<th>MONDAY</th>
<th>WEDNESDAY</th>
<th>FRIDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEPT 7-9</td>
<td></td>
<td>INTRO</td>
<td>CH 1</td>
</tr>
<tr>
<td>SEPT 12-16</td>
<td>CH 1</td>
<td>CH 1/2</td>
<td>CH 2</td>
</tr>
<tr>
<td>SEPT 19-23</td>
<td>CH 2</td>
<td>CH 2</td>
<td>CH 3</td>
</tr>
<tr>
<td>SEPT 26-30</td>
<td>CH 3</td>
<td>CH 3</td>
<td>CH 4</td>
</tr>
<tr>
<td>OCT 3-7</td>
<td>EXAM #1 (CH 1-3)</td>
<td>CH 4</td>
<td>CH 4</td>
</tr>
<tr>
<td>OCT 10-14</td>
<td>CH 5</td>
<td>CH 5</td>
<td>CH 5</td>
</tr>
<tr>
<td>OCT 17-21</td>
<td>CH 6</td>
<td>EXAM #2 (CH 4-5)</td>
<td>CH 6</td>
</tr>
<tr>
<td>OCT 24-28</td>
<td>CH 6</td>
<td>CH 6</td>
<td>CH 7</td>
</tr>
<tr>
<td>OCT 31-NOV 4</td>
<td>EXAM #3 (CH 6)</td>
<td>CH 7</td>
<td>CH 7</td>
</tr>
<tr>
<td>NOV 7-11</td>
<td>CH 8</td>
<td>CH 8</td>
<td>NO CLASSES</td>
</tr>
<tr>
<td>NOV 14-18</td>
<td>CH 8</td>
<td>CH 9</td>
<td>CH 9</td>
</tr>
<tr>
<td>NOV 21-25</td>
<td>EXAM #4 (CH 7-8)</td>
<td>****<strong><strong><strong><strong><strong><strong>THANKSGIVING BREAK</strong></strong></strong></strong></strong></strong></td>
<td></td>
</tr>
<tr>
<td>NOV 28-DEC 2</td>
<td>CH 9/10</td>
<td>CH 10</td>
<td>CH 10</td>
</tr>
<tr>
<td>DEC 5-9</td>
<td>CH 10</td>
<td>REVIEW</td>
<td>EXAM #5 (CH 9-10)</td>
</tr>
</tbody>
</table>

***FINAL EXAM – Wednesday, Dec 14 from 8:00-9:50 am – Remember this is comprehensive but optional.***

***This schedule is subject to change at anytime throughout the semester.***

**CHAPTER LISTING**
Ch 1 – Basic Concepts About Matter  
Ch 2 – Measurements in Chemistry  
Ch 3 – Atomic Structure and the Periodic Table  
Ch 4 – Chemical Bonding: The Ionic Bond Model  
Ch 5 – Chemical Bonding: The Covalent Bond Model  
Ch 6 – Chemical Calculations  
Ch 7 – Gases, Liquids and Solids  
Ch 8 – Solutions  
Ch 9 – Chemical Reactions  
Ch 10 – Acids, Bases and Salts