GENERAL CHEMISTRY I                  CHEM 101 C                                 Fall Quarter, 2004

Lecturer/ Coordinator:   Dr. Sally Solomon    Office: 12-224
Recitation Teaching Staff:  Will be introduced in your first class.

A. Required Materials
Textbook: Chapters 1-14 of “Introduction to General, Organic and Biochemistry”, by
S. Solomon, McGraw-Hill  (reproduced by Barnes & Noble) Be sure it says 101C!!

B. Lecture
Students are responsible for all material covered in lecture and in recitation (Syllabus, section C).
Most of this material is found in the text, however,
• not all topics in the text will be covered.
• some material not discussed in the text will be covered
   (One example is the polymer chemistry scheduled for week 10.)
All 101C lectures (Wed and Fri @11:00) and recitations (Wed and Fri @12:00) are at the
same time. If you must be absent from a class, be sure to find a reliable classmate (not your
lecturer or recitation instructor) for the missed material.

C. Recitation/Quizzes
Assigned questions and problems (Section F) are done in class.  Recitation problem assignments
always correspond to lecture material already covered. Any changes in the schedule will be
announced in lecture.  Unannounced quizzes lasting about 10 minutes will be given in recitation.
Quizzes will always be on material previously covered in recitation.
There are no make-up quizzes.

D. Exams and Grade Breakdown

<table>
<thead>
<tr>
<th>Exam</th>
<th>Time</th>
<th>Date</th>
<th>Room(s)</th>
<th>Sections</th>
<th>% Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm 1</td>
<td>7:55 AM</td>
<td>Wed. Oct. 20</td>
<td>Stratton 113</td>
<td>11, 18, 20</td>
<td>25</td>
</tr>
<tr>
<td>Midterm 2</td>
<td>7:55 AM</td>
<td>Wed. Nov. 17</td>
<td>Stratton 113</td>
<td>11, 18, 20</td>
<td>25</td>
</tr>
<tr>
<td>Final</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>Quizzes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10*</td>
</tr>
</tbody>
</table>

Coverage on exams will be announced in lecture. Any material included on a midterm exam
has been covered both in lecture and recitation.
*The 10% contribution based on quiz grades can only raise your grade. Otherwise, your grade will
be calculated using midterm and final exams only and corrected for a total of 90 percentage points.

E. Make-Up Exam
Make-up exams are given to replace Exam 1 or Exam 2. The make-up exam is available ONLY to
students who have missed one of the two midterm exams. Formal excuses are not required and
should not be presented. When you come to the exam room, you will tell the proctor which exam
you missed. There is no make-up for the make-up.

Date: Tuesday  Nov 30th       Time: 4:00 to 5:00       Place: 12-108
F. Recitation Assignments

Note: SP refers to supplementary problems in Section G

Note: The questions/problems in parentheses may be added to the assignment. This will be announced after lectures on the material from those chapters.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecture Topics</th>
<th>Text Chapter</th>
<th>Assigned Questions and Problems</th>
</tr>
</thead>
</table>
| 1    | Sept. 29-Oct. 1 | Measurement Matter/Energy | 1 | W: no recitation  
F: no recitation |
| 2    | Oct. 6-Oct. 8 | Atoms | 3 | W: Ch 1 19, 37 a c, 40, 44; add d) nm, 46, 21, 26, 53  
F: Ch 2 13, 27, 28, 36-38 (30,31) Ch 3 15, 16b |
| 3    | Oct. 13-Oct. 15 | Bonding Nomenclature* | 4 | W: Ch 3 17, 19, 20, 22, 26, 28-30  
F: Ch 3 31 - 34, 37, 40, 43, (41, 45) |
| 4    | Oct. 20-Oct. 22 | The Mole Gases | 5 | W: Ch 4 11, 12, 14-18, 20, 23  
F: Ch 4 26, 28, 29, 32, 34, (38), 41, 44, 45, 48 |
| 5    | Oct. 27-Oct. 29 | Gases Liquids & Solids | 7 | W: Ch 5 15 acdfh, 22 a b, 25, 30, 32, 37 a d, 39, 40  
F: Ch 5 45, 47 a-c, 51 a b, SP 1 Ch 7 14, 16, 18 |
| 6    | Nov. 3-Nov. 5 | Solutions Reactions | 9 | W: Ch 7 22, 24-26, 28 Ch 8 4-6, 10  
F: Ch 8 20, 24, 29 Ch 9 14, 19 ab, 20 ac, 32, |
| 7    | Nov. 10-Nov. 12 | Acids & Bases | 11 | W: Ch 9 23 ad, 24, 25, 37,38, (40) Ch 10 (10),14-17  
F: Ch 10 24, 25 Ch 11 18, 19a-e,20 abdf |
| 8    | Nov. 17-Nov. 19 | Alkanes Alkenes | 12 | W: Ch 11 27-30, 33, 39, 41, 43  
F: Ch 12 17, 20, 23-25, 27 |
| 9    | Nov. 24-Nov. 2 | Holiday | 13 | W: Holiday  
F: Holiday |
| 10   | Dec. 1-Dec. 3 | Alkenes/Alkynes Aromatics | 13 | W: Ch 12 35, 37, 40, 43, 44 Ch 13 21, 22  
F: Ch 13 23, 25, 27 a-h, 31, 32 |
| 11   | Dec. 8-Dec. 10 | Polymers | Handout | W: Ch 13 35 Ch 14 8,9,11, 17, 20 (omit d), 25 a, 27  
Th Ch 13 46 SP 2-4 (5, 6) |
| 12   | Final Exam Week | Date and Rooms to Be Announced |

* Note: You will be asked to convert names to formulas (rather than formulas to names).

G. Supplementary Problems (SP in assigned problems)

1. For the decomposition of calcium carbonate to yield carbon dioxide and calcium oxide:
   a) write a balanced chemical reaction
   b) find the number of moles of carbon dioxide formed from 100 g calcium carbonate
   c) find the number of grams of calcium oxide formed from 100 g calcium carbonate
2. Give the reaction for the polymerization of 1-butene. Name the product and identify the “pendant” group.
3. Give the repeat units and names of the polymers produced from the polymerization of:
   a) propene    b) 1-hexene    c) 1,1-difluoroethene
4. Give the structures of the monomers needed to produce the following:
   a) PVC (polyvinylchloride)    b) poly-2-methylpropene (polyisobutylene)
5. Give the repeat unit of the polymer that forms from dihydroxydimethylsilane.
6. What is silicone rubber? Why is it useful in making artificial body parts?