Instructor: Dr. Daniel Brayton (please just call me “Dan”)
Office: Bilger 213
Email: dbrayton@hawaii.edu (best method)
Website: Laulima or “My UH” portal for grades and for supplementary (syllabus, etc)
Lecture: MWF 2:30 to 3:20 pm, Bilger hall 150 (smaller of the two Bilger lecture halls), CRN = 77884
Office Hours: Please feel free to come in for help during office hours or by appointment.
MWF before or after class (I’m on campus Monday through Friday ~10 am to 7 pm)

Available at the bookstore (with mastering chemistry program) or other places?
(the 3rd or even 2nd edition are fine if you want to save $, I’ll discuss in class the 1st day)

Grading: The weight of each portion of your grade will be as follows:
- on line homework 20 points (If you don’t do these you’ll drop an entire letter grade!!!)
  Due on the day of exams, but don’t wait until the night before!
- 3 midterm exams (25 points each) = 75 points total
- Final exam = 60 points (1 point = 1 question) Monday Dec 11th 2:15 to 4:15 pm
- Total class points 155

Mastering chemistry HW: You must get 20 points per chapter for full credit.
20 points can be achieved many ways. For example: 20 correct HW problems, or 40 half correct HW
problems, or 80 1/4 correct HW problems, etc. Your score is shown at the bottom of each chapter with
your total points and percent of problems completed (completed means the right answer is shown, whether
you figured it out or the program gave it to you after your maximum attempts)

Extra credit in the form of an increase by a “+” or “-” to your grade will be given for those that get over half
the points of each chapter. (for example a C+ will become a B-, A- to an A, etc)
Reminder: HW (each chapter) is due on the day of the exam, see syllabus below for actually dates.
Due dates are firm, no exceptions, so do not leave it until the night before.

This is a lecture course, not a problem solving study session!!!!
You need to do homework OUTSIDE OF CLASS TIME! At least 5 hours a week!!!
I will cover some problems and spend at least one lecture period before each exam reviewing, solving
problems, answering questions, etc.

The grading scale will be based on the following: (curved if deemed necessary)
90-100%  A  70-79 %  C  0-59 %  F
80-89 %  B  60-69 %  D

Grade Availability: Students are encouraged to see the instructor about his/her standing at any time during
the course. Grades will discussed in class periodically throughout the semester

Student Learning: I will present course material using PowerPoint presentation, demonstrations and
experiments. It is the student’s responsibility to put in the effort required to read and learn the material and
to complete the assigned homework (minimum of 4 hours/week). Chemistry is a quantitative science and,
therefore, throughout the semester you will solve mathematical problems both in class and as homework.
To become proficient at problem solving complete the homework problems and develop good study habits.
I will be happy to assist you in achieving this goal. I am available during office hours or by appointment if
you would like help.
To maximize the learning experience the student should:

1. Read the material before coming to class (for a list of topics covered in class see the schedule below).
2. Attend class faithfully and take notes to later review. A PowerPoint presentation is available at the address above under “Course materials”.
3. Bring the text to class to follow the lecture (useful to view figure and tables).
4. Complete the homework problems which are the odd numbered problems after each section in the chapter under the heading “Questions and Problems”. The answers for these problems are at the end of the chapter. The study guide contains the solutions to these problems. You are not required to turn in the homework problems out of the book.
5. Ask questions during class and/or office hours - questions; questions and answers given in class often help other students.
6. You are required to do the online mastering chemistry program assignments!
7. Realize that this is a skills building course and so will require a lot of study outside of class.
8. Please turn your cell phones to voice mail or vibrate mode during class.
9. All exams MUST be completed independently!!! An “F” grade will be given to anyone caught cheating.

**Study Groups:** Participation in study groups is an effective way to learn chemistry - learn by helping each other. Get to know each other and form study groups. Students who are part of study groups tend to outperform others.

**Learning Emporium.** The college of natural sciences has an emporium set up where students can get help in many science related subjects M-F 9-5 on the second floor of Bilger addition room 209.


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**TENTATIVE Chemistry 161 Lecture Schedule** (exam dates are subject to change)

<table>
<thead>
<tr>
<th>Days</th>
<th>Chapter</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/21-8/25</td>
<td>1, 2</td>
<td>Matter, Measurements, and Problem Solving</td>
</tr>
<tr>
<td>8/28-9/1</td>
<td>2, 3</td>
<td>Atoms and Elements</td>
</tr>
<tr>
<td>9/4 -9/8</td>
<td>3, 4</td>
<td>Molecules, Compounds, and Chemical Eq</td>
</tr>
<tr>
<td>9/11-9/15</td>
<td>4</td>
<td>Chemical Quantities and Aqueous Reactions</td>
</tr>
<tr>
<td>9/18-9/22</td>
<td>Review/Exam</td>
<td>Review/Exam</td>
</tr>
</tbody>
</table>

**Exam 1, Wed 20th (chapters 1-4)**

<table>
<thead>
<tr>
<th>Days</th>
<th>Chapter</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/25-9/29</td>
<td>5</td>
<td>Gases</td>
</tr>
<tr>
<td>10/2-10/6</td>
<td>6</td>
<td>Thermochemistry</td>
</tr>
<tr>
<td>10/9-10/13</td>
<td>7</td>
<td>The Atom’s Quantum-Mechanical Model</td>
</tr>
<tr>
<td>10/16-10/20</td>
<td>8</td>
<td>Periodic Properties of the Elements</td>
</tr>
<tr>
<td>10/23-10/27</td>
<td>Review/Exam</td>
<td>Review/Exam</td>
</tr>
</tbody>
</table>

**Exam 2, Wed 25th (chapters 5-8)**

<table>
<thead>
<tr>
<th>Days</th>
<th>Chapter</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/30-11/3</td>
<td>9</td>
<td>Free Energy</td>
</tr>
<tr>
<td>11/6-11/10</td>
<td>Vets Day</td>
<td>9, 10 Chem bonding I Lewis Structure</td>
</tr>
<tr>
<td>11/13-11/17</td>
<td>10</td>
<td>Valence, Bond Theory, and MO Theory</td>
</tr>
<tr>
<td>11/20-11/22</td>
<td>T-Day</td>
<td>Exam</td>
</tr>
</tbody>
</table>

**Exam 3 no class 23rd & 24th**
Exam 3, Wed 22nd (chapters 9-10)

11/27-12/1  11  Liquids, solids, and intermolecular forces
12/4-12/7  11/Review  Review (last class is Wed 12/6)

12/11-12/15  Finals  Final Exam Monday Dec 11th 2:15 to 4:15 pm

The final is comprehensive

Homework Assignments, 1 or 2 problems per chapter will be on a midterms and/or the final!!!

The answers to odd numbered problems are in the back of the book.

Suggest Homework Problems from the Book
Chapter 1, text book, pg 37 # 9, 37, 45, 53, 57, 61, 65, 71, 77, 83, 91, 111, 121
Chapter 2; text book, pg 77 # 3, 23, 29, 35, 49, 53, 58, 63, 67, 71, 75, 79, 81, 97
Chapter 3; text book, pg 125 # 22, 23, 29, 37, 45, 57, 61, 65, 71, 77, 85, 91, 97, 103, 129
Chapter 4; text book, pg 176 # 7, 16, 25, 31, 35, 43, 49, 53, 63, 67, 71, 77, 81, 83, 85, 89, 105
Chapter 5; text book, pg 230 # 11, 29, 32, 39, 41, 47, 49, 53, 57, 61, 69, 75, 81, 89, 95
Chapter 6; text book, pg 273 # 6, 19, 31, 39, 45, 49, 57, 63, 67, 71, 73, 77, 83, 89
Chapter 7; text book, pg 314 # 9, 25, 37, 39, 41, 45, 51, 57, 61, 67, 85
Chapter 8; text book, pg 358 # 9, 19, 25, 33, 41, 45, 49, 57, 59, 63, 67, 71, 81, 101
Chapter 9; text book, pg 399 # 5, 18, 22, 31, 39, 41, 45, 53, 57, 63, 69, 73, 77, 83, 97
Chapter 10; text book, pg 453 # 7, 11, 17, 25, 29, 35, 37, 43, 49, 61, 69, 75, 78, 87, 95
Chapter 11; text book, pg 230 # 11, 29, 32, 39, 47, 49, 53, 57, 61, 69, 75, 81, 89, 93