Chemistry Fundamentals I Syllabus Fall 2014

Course Number: CHM 2045C (4 credit hours)  Time: MWF 12:30-1:20 p.m.

Instructor: Dr. Emily Heider  Location: ENG1 227

Email: Emily.Heider@UCF.edu

Office Hours: MWF 10:30-11:30 in Chemistry building RM 333
Thurs 6:00-6:30 p.m.

Required Text:
ISBN 1269397168
AND
Coursepack for Chem 2045C by Emily Heider. 2012. Available only at UCF bookstore.
AND
A scientific calculator is also required for this course. Any scientific calculator that has
logarithm, scientific notation and exponent capability will be suitable.

Course Objectives
This is general chemistry course intended for students majoring in the sciences who
already have a background in chemistry. The following outline shows a list of topics that
will be covered. It is the first part of a two semester series and is equivalent to a total of 4
credit hours. It is assumed that you are conversant with the principles of algebra and
general mathematics. It is our intention to introduce a broad range of chemistry topics in
this course. This class is a prerequisite to a laboratory course (CHM 2046L) that can be
taken any time after successful completion of Chem 2045C.

Course Outline
The course will be divided up into a series of ten chapters:
Chapter 1: Matter, Measurement, Problem Solving
Chapter 2: Atoms and Elements
Chapter 3: Molecules, Compounds, Chemical Equations
Chapter 4: Chemical Quantities and Aqueous Reactions
Chapter 6: Thermochemistry
Chapter 7: The Quantum Mechanical Model of the Atom
Chapter 8: Periodic Properties of the Elements
Chapter 9: Chemical Bonding: Lewis Theory
Chapter 10: Molecular Geometry and Bonding
Chapter 5: Gases

Course Goals – ENGAGED Learning
It is possible to pass this course by simply memorizing all content. However, this will be
a very boring course if you do. Two of the most important skills in science are: A) problem solving, and B) learning to collaborate with others and present your findings.
The time spent in class will certainly convey the chemistry concepts that you must learn,
but a portion of class time will be spent on group work that will ideally allow you to learn
to solve problems, collaborate with your fellow students, and give you the opportunity to present your results. If you are averse to participating in class and/or working with other students, perhaps a different section of Chem 2045 is a better match for your style.

**Coursepack**
The Chem 2045 Coursepack is required for this section of Chem 2045. It is available for purchase at the UCF bookstore. The Coursepack consists of worksheets that will largely be completed DURING lectures and it is therefore essential to bring the Coursepack with you to each lecture period. Worksheets will not be turned in for grading.

**Quizzes**
Closed note quizzes will be given in the discussion sections, with due notice, as deemed necessary by the instructor. These will be given for a 30 minute period during the discussion section and it is therefore essential that you are present. **There will be NO make-up quizzes for late or absent students, although the lowest TWO quiz scores will be dropped.**

Quizzes and exams must be completed independently and no help from others or notes is permitted.

**Assignments**
Homework is assigned but will not be turned in or graded. Chemistry is a difficult subject, one learned only through working problems. You are expected to work all assigned homework problems. Those wishing to do better should do more problems from the book. Homework problems in the book are largely essay or math type problems. Many of the questions for exams and quizzes will look EXACTLY like problems from the homework. **You are encouraged to work together to solve homework problems.**

**Homework Problems:**
- Chapter 1: 33, 37, 39, 41, 43, 47, 49, 53, 55, 59, 66, 68, 69, 71, 73, 75, 77, 79, 82, 85, 87, 91, 92, 94, 97, 98, 101, 114, 138
- Chapter 3: 2, 5, 8, 23, 27, 29, 31, 33, 35, 37, 41, 43, 47, 49, 51, 53, 59, 63, 65, 67, 69, 73, 74, 79, 81, 87, 93, 100, 105, 109, 128
- Chapter 4: 4, 6, 9, 12, 15, 22, 25, 27, 31, 35, 37, 41, 43, 47, 49, 53, 59, 61, 63, 65, 71, 73
- Chapter 6: 5, 6, 10, 13, 19, 21, 25, 27, 33, 39, 41, 47, 49, 51, 53, 55, 57, 59, 65, 67, 73, 75, 79, 81, 83, 87, 91, 93, 103, 105
- Chapter 7: 3, 4, 5, 6, 7, 13, 16, 27, 28, 29, 32, 37, 39, 41, 43, 45, 47, 51, 53, 57, 59, 61, 65, 66, 69, 71, 73, 79, 106
- Chapter 8: 4, 8, 14, 16, 17, 29, 30, 32, 33, 34, 41, 43, 45, 46, 51, 53, 59, 63, 65, 67, 69, 71, 73, 75, 79, 83, 85, 87, 89, 93, 101
- Chapter 9: 4, 10, 15, 19, 35, 37, 39, 41, 45, 46, 49, 51, 53, 54, 55, 57, 59, 61, 63, 65, 66, 73, 75, 77, 79, 81, 87, 96, 101, 126
- Chapter 10: 3, 4, 5, 16, 22, 24, 27, 31, 32, 33, 35, 37, 39, 41, 45, 49, 51, 53, 55, 57, 59, 61, 63, 65, 71, 73, 79, 83, 85, 89, 90, 91, 92, 120, 123
- Chapter 5: 6, 11, 13, 19, 21, 23, 24, 25, 27, 29, 31, 33, 35, 37, 41, 45, 49, 51, 55, 57, 61, 63, 65, 71, 73, 81, 83, 85, 89, 90, 91, 92, 120, 123
**Exam Policy**
Exams will be given on the following schedule (although inclusive chapters are approximate):

- **In class Wednesday, 9/17** Exam 1 (Chapter 1-3)
- **In class Wednesday, 10/22** Exam 2 (Chapter 4,6,7)
- **In class Wednesday, 11/19** Exam 3 (Chapter 8-10)
- **Monday, December 8th at 1:00 p.m.** Final Comprehensive Exam (Chapters 1-10)

All midterm exams will be worth a total of 100 points each, and will be multiple choice problems that require calculations or conceptual understanding of content. You will be required to bring a #2 pencil and “raspberry” shaded scantron to each exam. The tests are not graded on a curve. The final exam will be worth 200 points. **If you miss an exam for any reason, you forfeit the points; however the lowest exam score (or half of the final score) will be dropped.**

**Writing Assignments**
Writing in the sciences is an essential form of communication that cannot be neglected during a student’s education. Research dissertations describe the results of academic research and put it in the context of the current literature; scientific articles convey the content and conclusions of research, and grant proposals fund the ongoing research. Without the writing medium to convey the results of research, the progress of science would cease. Seven writing assignments will be provided to the students during the course of the semester. The lowest two grades will be dropped.

**Grading Policy**
The grade a student receives for this course is based upon their mastery of the subject material and not the effort that they put into the course. The grades will be assigned according to percent of the number of points earned as follows:

- **Discussion Quizzes:** 100 points
- **Writing assignments:** 25 points
- **Midterm Exams:** 200 or 300 points (the lowest exam score will be dropped)
- **Final Exam** 200 or 100 points (if the final is the lowest score, then half will be dropped)
- **Total:** 525 points

The percent of the total points that you earn will be used to determine your grade:

- A 90.00 - 100%
- B 80.00 – 89.99%
- C 67.00-79.99%
- NC 50.00-66.99%
- Fail <50%

**Attendance**
Attendance in class will not be recorded. However, you must be present to take the quizzes in discussion sections or the exams in class.
Webcourses

Lecture content will be available for your use on Webcourses. Announcements about exams, quizzes, and scoring will also be found on Webcourses. You are highly encouraged to make use of this resource. Go to www.ucf.edu and select the myUCF option in top right corner to login.

Financial Aid Requirement
As of Fall 2014, all faculty are required to document students’ academic activity at the beginning of each course. In order to document that you began this course, please complete the Financial Aid quiz on Webcourses by the end of the first week of classes or as soon as possible after adding the course, but no later than August 27th. Failure to do so may result in a delay in the disbursement of your financial aid.

Academic Integrity and Dishonesty
Each student is expected to maintain academic ethics and honesty in all its forms, including, but not limited to, cheating as defined:

Cheating is the act of using or attempting to use, or providing others with, unauthorized information, materials or study aids in academic work. Cheating includes distributing examination answers & questions to, or taking examinations for, someone else, or preparing or copying another’s academic work.

You are expected to write all quizzes and examinations without using study aids, lists of equations (commit them to memory), or group participation. If you become aware of quiz or exam material being circulated before or while it is being administered, you are expected to make the instructor aware of it.

Disability Accommodations
The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. Students with disabilities who need accommodations in this course must contact Student Disability Services and then the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Ferrell Commons RM 132, email sds@mail.ucf.edu, phone (407) 823-2371 before meeting with the professor.

Important Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 18</td>
<td>Fall Classes Begin</td>
</tr>
<tr>
<td>August 21</td>
<td>Fall Drop/ Swap Deadline on myUCF</td>
</tr>
<tr>
<td>September 1</td>
<td>Labor Day (no classes)</td>
</tr>
<tr>
<td>October 27</td>
<td>Fall Withdrawal Deadline</td>
</tr>
<tr>
<td>November 11</td>
<td>Veterans Day (no classes)</td>
</tr>
<tr>
<td>November 27-28</td>
<td>Thanksgiving (no classes)</td>
</tr>
<tr>
<td>December 4-10</td>
<td>Fall Final Exam Period</td>
</tr>
</tbody>
</table>

The information in this syllabus may be changed at the instructor's discretion.