Chemistry Fundamentals I Syllabus Fall 2012

**Course Number:** CHM 2045C (4 credit hours)  
**Time:** T,H 10:15-11:45 p.m.  
**Instructor:** Dr. Emily Heider  
**Location:** CSB 101  
**Email:** Emily.Heider@UCF.edu

**Office Hours:** M,W 2:30-3:30 in Chemistry building RM 333

**Required Text:**  
In UCF bookstore: *Chemistry: A Molecular Approach* by Nivaldo Tro UCF edition  
OR  
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 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.

Quizzes

Closed note quizzes will be given in the discussion sections, with due notice, as deemed necessary by the instructor. These will very often be given at the very beginning of the discussion section period 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, 89, 90, 92, 95, 96, 99, 112, 134

Chapter 2: 4, 5, 7, 8, 10, 15, 29, 33, 34, 35, 37, 39, 41, 47, 48, 51, 53, 55, 57, 59, 61, 63, 65, 75, 76, 77, 79, 81, 83, 87, 92, 104, 116

Chapter 3: 2, 5, 8, 23, 27, 29, 31, 33, 35, 37, 41, 43, 47, 49, 51, 53, 55, 57, 59, 61, 63, 67, 69, 73, 75, 81, 87, 94, 99, 101, 120

Chapter 4: 4, 6, 9, 12, 15, 22, 25, 27, 31, 35, 37, 41, 43, 47, 49, 53, 57, 59, 61, 63, 67, 69, 71, 75, 79, 81, 83, 85, 87, 89, 91, 93, 101

Chapter 6: 5, 6, 10, 13, 19, 21, 25, 27, 33, 39, 41, 47, 49, 51, 53, 55, 57, 59, 63, 65, 71, 73, 75, 77, 79, 81, 83, 87, 91, 101, 135

Chapter 7: 5, 6, 7, 8, 9, 15, 18, 29, 30, 31, 34, 39, 41, 43, 45, 47, 49, 53, 55, 59, 61, 63, 67, 68, 71, 73, 75, 81

Chapter 8: 4, 10, 16, 18, 19, 31, 32, 34, 35, 36, 43, 45, 47, 48, 53, 55, 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, 69, 71, 73, 75, 77, 79, 83, 87, 92, 95, 120


Coursepack and Writing Assignments
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. Occasionally, a writing assignment affiliated with a given worksheet will be graded for credit. The writing assignments require short but complete answers written in grammatically correct English sentences. There will be seven such writing assignments throughout the semester, with notice about when they are due provided during lectures as well as posted on Webcourses. Each assignment will be worth 5 points. Late assignments will NOT be accepted, but the lowest TWO assignment scores will be dropped from the grading.

Exam Policy
Exams will be given on the following schedule (although inclusive chapters are approximate):
- In class Tuesday, 9/18: Exam 1 (Chapter 1-3)
- In class Thursday, 10/25: Exam 2 (Chapter 4,6,7)
- Take home -11/27-11/29: Exam 3 (Chapter 8-10)
- Tuesday, December 11th at 10:00 a.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.

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 70.00 - 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.
**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.

**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.

**Important Dates**

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<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>Thursday, August 23rd</td>
<td>Swap/Drop deadline</td>
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<tr>
<td>Monday, September 3rd</td>
<td>Labor Day</td>
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<tr>
<td>Monday, October 29th</td>
<td>Last day to Withdraw</td>
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<tr>
<td>Monday, November 12th</td>
<td>Veterans Day</td>
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<tr>
<td>Thursday, November 22nd</td>
<td>Thanksgiving Holiday</td>
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<tr>
<td>Monday, December 3rd</td>
<td>Classes End</td>
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The information in this syllabus may be changed at the instructor's discretion.