General Chemistry 141, Fall 2012

Sections	**Chem 141-01A and 12A**
Meeting Time	**MWF 12:00-1:05 pm OR**
	MWF 1:15-2:20 pm
Location	**Pierce 201**
Instructor	Dr. Annette Neuman
E-mail	annette.neuman@emory.edu
Office	Pierce 202
Office Hours	Mondays 3-5 pm, Wednesdays 3-5 pm, Fridays 9-11 am Or by appointment (e-mail me to set up a time)

Description

Oxford College is dedicated to a liberal arts education. The astrophysicist Carl Sagan remarked, "science is a way of thinking much more than it is a body of knowledge." To this end, the study of sciences such as chemistry is an integral part of the liberal arts. In this course, we will aim to develop a skill set that encompasses problem solving and critical thinking through the study of stoichiometry, solution reactions, atomic structure, periodic trends, molecular structure, bonding, and states of matter.

While many of you may not be considering a career in chemistry, the study of chemistry is valuable beyond the subject matter itself. The mastery of general chemistry requires a thorough understanding of fundamental principles and the ability to use those principles to analyze, classify, and predict. The mastery of medicine and other fields makes similar demands. Your success in general chemistry will not only provide you with knowledge about chemical compounds and reactions; it will also hone the critical thinking skills that will be invaluable in your career.

Materials

Required textbook: *Chemistry*, 11th edition, by Raymond Chang and Kenneth A. Goldsby
Optional: *Student Solutions Manual,* by Brandon Cruickshank
Scientific calculator: Calculators that can download and/or store information, can automatically solve equations, or can be programmed are not allowed.

Bring a notebook, pen or pencil, and calculator to every class. It is not necessary to bring your textbook.

Required for lab: Laboratory manual, sold by the Chemistry Department.
Carbon-copy lab notebook
Safety glasses

You must have all three materials for lab *before* your first lab meeting.

Grading

Problem sets	10 @ 10 pts	100 pts
Laboratory	200 pts	200 pts
In-class exams	4 @ 140 pts	560 pts
Final exam	140 pts	140 pts
Total		1000 pts

See the lab syllabus for information on how your lab grade will be calculated.

Your numerical grade will be obtained by the best score earned from the following formulas:

$$\text{Option 1: } \frac{\text{problem sets + lab grade + in-class exam scores + final exam score}}{10}$$

$$\text{Option 2: } \frac{\text{problem sets + lab grade + three best in-class exam scores + 2(final exam score)}}{10}$$

i.e., The lowest in-class exam score is dropped in favor of a strong final exam score.

Your final letter grade will be determined by the following scale:

93	90	87	83	80	77	73	70	67	60
A |	A- |	B+ |	B |	B- |	C+ |	C |	C- |	D+ |	D |	F

Problem Sets Diligently working problems is one of the major keys to success in general chemistry. To this end, 10 graded problem sets will be assigned throughout the semester. They will be due at the beginning of class on Wednesdays. Problem sets will be handed out one week in advance of their due date.

You are encouraged to collaborate with your classmates on problem sets. However, it will be in your best interest to make sure that you are able to work these problems on your own, because collaboration will not be allowed on exams.

Additional Problems Suggested problems from the textbook will be posted to the Learnlink conference. You should work these problems on your own or with a study group.

Exams We will have four 60-minute in-class exams. The exams will be given during the regularly scheduled class period.

Exam 1	Friday, September 21
Exam 2	Friday, October 12
Exam 3	Friday, November 9
Exam 4	Friday, December 7

Final Exam Final exams will be given during the scheduled exam period.
12:00 section: Tuesday, December 18, 9 am – 12 pm
1:15 section: Friday, December 14, 2-5 pm

Makeups Makeup exams are not given after missed exams. In extenuating circumstances, it may be possible for a student to take a quiz or exam ahead of time, if I am given at least seven days notice. It is not possible to give a makeup exam *after* the scheduled time and date of the exam.

Review Sessions Review sessions will be held one or two days before each exam, at a mutually agreed upon time.

Topics

Chapter 1 Chemistry: The Study of Change
Chapter 2 Atoms, Molecules, and Ions
Chapter 3 Mass Relationships in Chemical Reactions
Chapter 4 Reactions in Aqueous Solutions
Chapter 5 Gases
Chapter 6 Thermochemistry
Chapter 7 Quantum Theory and the Electronic Structure of Atoms
Chapter 8 Periodic Relationships Among the Elements
Chapter 9 Chemical Bonding I: Basic Concepts
Chapter 10 Chemical Bonding II: Molecular Bonding and Hybridization of Atomic Orbitals
Chapter 20 Chemistry in the Atmosphere (brief overview)

SI

Supplemental instruction (SI) is provided for all students in Chemistry 141. I will explain this important program that provides assistance for students who wish to have extra practice in problem solving.

Honor Code

Academic integrity is crucial to the Oxford community. Therefore, as in all courses, you will be expected to adhere to the Oxford College Honor Code. Academic misconduct, as defined in the honor code, will not be tolerated and will be immediately referred to the Honor Council. **Collaboration is encouraged on problem sets but is not permitted on exams or lab reports.**

Expectations

Electronics including but not limited to cellular phones, tablets (iPad and the like), laptop computers, and mp3 players may not be used during class or exam periods. If there is a reason you need a computer to assist you in the class, you must make arrangements with me.

If you are registered with Access, Disability Services, and Resources (ADSR), please submit the documentation letter to me during the first week of the semester so that I can make appropriate accommodations.

Attendance

All students are expected to attend all lecture and laboratory sessions. However, it is recognized that emergencies can arise that may result in absence from class. You should notify me if an absence is due to illness or other emergency. You are responsible for all material covered in lecture if you are absent.

Besides missing class, these also count as an absence:

1. Being late to class TWICE. (This means coming in after I've finished checking the class roster.) If you come in late, it is your responsibility to see me immediately after class to ensure that you are marked as being tardy and not absent. No adjustments will be made at a later time.
2. Coming to class more than 15 minutes late.
3. Leaving class early.
4. Going in and out of class.
5. Being inattentive or working on other assignments in class.

You are allowed *3 absences* from lecture. If you exceed the 3 absence limit for *any* reason, by any combination of absences and tardies, you will:

1. Lose 2 points for the next 2 absences (absences 4 and 5)
2. Lose 3 points for each additional absence

Learnlink

Please check the class conference daily for announcements. It should be on your desktop. If it is not, or if you have any problems with access, please contact me.

Assessment Student work submitted as part of this course may be reviewed by Oxford College and Emory College faculty and staff for the purposes of improving instruction and enhancing Emory education.

Tips for Success

1. Develop a good attitude. Chemistry can be both fun and interesting if you allow it to be.
2. Come to class every day, stay alert, and take good notes.
3. Read the assigned material before each class, read it again after each class, and read it a third time before the exam.
4. Form a study group with a few classmates and work problems together.
5. Use the resources available to you: SI sessions, office hours, review sessions, and your classmates are all excellent resources to help you achieve success in this class.
6. The pace of this course is rapid. Stay current with the material and don't get behind.