General Chemistry 142, Spring 2013

Sections	**Chem 142-01A and 10B**
Meetings	**MWF 10:45-11:50 am in Pierce 109 OR** **MWF 1:15-2:20 pm in Pierce 201**
Instructor	Dr. Annette Neuman
E-mail	annette.neuman@emory.edu
Office	Pierce 202
Office Hours	Mondays 3-5 pm, Tuesdays 1-3 pm, Wednesdays 3-5 pm (drop in) Or by appointment (e-mail me to schedule)

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 chemical kinetics and thermodynamics, equilibrium, and acid/base chemistry.

Some of you may believe that the study of science is simply a collection of facts to memorize. In fact, science is so much more complex and exciting than this! In Chemistry 142, you will use your knowledge of chemistry topics and critical thinking skills to solve novel problems.

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

Your course grade will be computed as a weighted average comprising 80% of your lecture grade and 20% of your lab grade.

In lecture, you will have seven equally weighted grades (100 points each):
- Total problem set score (10 problem sets at 10 points each)
- Four in-class exams
- Final exam (200 points; counts as two exam grades)

Your lowest exam grade will be dropped, so that your lecture average will be composed of the average of your five highest exams and your total problem set 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

Note: You must earn a passing grade in both LECTURE and LAB to pass Chemistry 142. If you fail either the lecture or the lab, you will receive an F in the course.

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 posted to the course Blackboard site.

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 Blackboard site. 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, February 8
Exam 2	Friday, March 1
Exam 3	Friday, April 5
Exam 4	Friday, April 26

Make sure that you have a pen or pencil and an **acceptable** calculator with you for each exam. You will not be allowed to use a graphing calculator on exams.

Final Exam Final exams will be given during the scheduled exam period.
Section 10B: Thursday, May 2, 9:00-12:00
Section 01A: Monday, May 6, 9:00-12:00

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 23 Transition Metals Chemistry and Coordination Compounds (some sections)
Chapter 11 Intermolecular Forces and Liquids and Solids
Chapter 12 Physical Properties of Solutions
Chapter 13 Chemical Kinetics
Chapter 14 Chemical Equilibrium
Chapter 15 Acids and Bases
Chapter 16 Acid-Base Equilibria and Solubility Equilibria
Chapter 17 Entropy, Free Energy, and Equilibrium
Chapter 18 Electrochemistry
Chapter 19 Nuclear Chemistry (some sections)

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 you disregard this expectation, you will be asked to leave. 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 THREE TIMES. (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

Excessive absences can significantly affect your course grade, so try not to miss class.

Blackboard The Chemistry 142 page on Blackboard will be the primary means of communicating outside of class. It will also house supplementary course resources. **Please be sure to check the course page daily.**

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.

Note Chemistry 142 is a continuation of the material you learned in Chemistry 141 and requires a mastery of stoichiometry, thermochemistry, periodic relationships, and chemical bonding. If you did not make at least a C in Chemistry 141, you will have a difficult time in this course and will likely make a D or F. You should sit in on Chemistry 141 for review, or retake the class, before enrolling in Chemistry 142.

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, chemistry tutors, 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.