

Chemistry 141

General Chemistry

Fall 2007



EMORY
OXFORD
COLLEGE

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COURSE DESCRIPTION: This course covers laws and theories of chemistry, atomic and molecular structure, chemical bonding, stoichiometry, gases, liquids and solids, and properties of solutions. The class consists of three hours of lecture and one three-hour laboratory per week.

RESOURCES:

- Chang, Chemistry, 9th edition , McGraw Hill
- Optional study guide and solutions manual
- Laboratory Manual, sold by the Chemistry Department
- A scientific calculator (not programmable)
- Carbon-copy lab notebook
- Goggles or safety glasses must be purchased and must be worn in the lab at all times. If you come to the lab without safety glasses, you will not be admitted.
- Lab coat or apron optional
- Learnlink Class Conference

MISSION: Oxford College is dedicated to the goal of excellence in undergraduate liberal arts education. Science, including chemistry is an integral part of the liberal arts. In this course you will have an opportunity to master these liberal arts skills:

Reasoning:

- Problem solving
- Critical Thinking
- Logic
- Calculation/Computation
- Investigation
- Analysis of data

Language:

- Listening and interpreting
- Reading
- Writing

Aesthetics:

- Observing
- Seeing relationships among form, pattern, harmony and shape

Imagination:

- Prediction
- Developing scientific insight (hypotheses)

LEARNING GOALS: The primary learning goals for this class are for you to:
Utilize critical thought and reasoning to understand chemical behavior at the microscopic and macroscopic levels.

From your knowledge of chemistry and chemical systems, be able to develop solutions to problems which you have not encountered before.

CONTENT GOALS: You will be expected to master these areas of chemistry:

- The scientific method
- Conversion between different measuring systems
- Significant figures
- The structure of the atom
- Nomenclature
- Molecular mass and moles
- Stoichiometry
- Reactions in aqueous solution
- Molarity
- Gases
- Thermochemistry
- Quantum theory and electromagnetic radiation
- Electron configurations
- The periodic table
- Bonding
- Molecular geometry and hybridization
- Organic chemistry
- Chemistry of the atmosphere

CLASS POLICIES:

Lecture: Lectures will cover material from the text as well as supplemental material not in the text. We will be covering chapters 1-10, 17 and 24. You should read the assigned material before each lecture and be prepared to ask any questions you may have during the lectures. Please remember to turn off your cell phones before class.

Attendance: Attendance is required for each lecture and laboratory class. It is your responsibility to sign the attendance sheet each class period. You are allowed three absences in lecture (regardless of the reason) and NO absences in lab. There are no “excused” absences. For each absence beyond three, three points will be deducted from your final average. If you are more than fifteen minutes late to class it will count as an absence. Makeup exams are not given. If you miss an exam and present me with an acceptable excuse, the grade on the final exam will count in place of the missed grade. If the excuse is not acceptable, the exam grade will be a zero.

Grades: The grade breakdown for lecture is as follows:

Critiques (2)	15%
Quiz 1	15%
Quiz 2	15%
Quiz 3	15%
Quiz 4	15%
Final Exam	25%
Total	100%

Critiques: Each student will choose two articles of interest in the area of chemistry/biochemistry and write a 1-2 page critical analysis of each. Due dates and more information will be posted on Learnlink. Late critiques will receive a 10% deduction per day.

Quizzes: Quizzes will be closed book, and generally consist of 10-15 problems which must be worked out with all work shown. Partial credit will be given. Quiz dates will be announced in class and on Learnlink.

Final Exam: The final exam will be cumulative, with an emphasis on material covered since Quiz 4. The final exam will take place during the regularly scheduled final exam period.

Homework: Homework will not be graded. However, students are expected to work problems from the book in preparation for the exams. A student assistant will be available outside of class to assist in problem solving and reviewing for the exams. Times and locations will be posted on Learnlink.

Lab Grades: Your lab grade will count in one of two ways, whichever results in a higher grade in the course for you:

- A) Your course grade will be computed by adjusting your grade on the lecture portion using your lab average as shown below. This method normally benefits students whose exam average is a high B or an A:

<u>Lab average</u>	<u>Lecture grade adjustment</u>
90 to 92.9	+1
93 and up	+2

- B) Your course grade will be computed by taking 80% of your lecture grade and 20% of your lab grade. This method usually benefits students whose exam average is a B or lower.

Grading Scale:

The grading scale is as follows:

A = 90 - 100
B = 80 - 89
C = 70 - 79
D = 60 - 69
F = 59 OR BELOW

There will be no “curve” in this class. A grade of “incomplete” will only be assigned in extreme circumstances and only after presentation of written documentation of hardship is presented to the dean’s office. Your exam average AND your lab average must both be passing or you will receive a grade of F in the course regardless of your final numerical average.

Honor Code: The responsibility for maintaining standards of unimpeachable honesty in all academic work and in campus judicial proceedings falls upon every individual in Oxford College of Emory University. The Honor Code is based on the fundamental expectation that every person in Oxford College will conduct his or her life according to the dictates of the Honor Code and will refuse to tolerate actions in others that violate the Honor Code.

On exams, only the use of a pen/pencil and a non-programmable calculator is allowed. Lab reports and article critiques should be the student’s own work; collaboration is not allowed. Any outside references should be properly cited. Any student suspected of cheating or plagiarism will be referred to the Dean’s office for disciplinary action.