



Chemistry 1211K (KHAN, FALL 2007)

Welcome to Chemistry 1211K!

Chemistry encompasses a wide array of phenomena. Photosynthesis, combustion of fuels, and reactions in the atmosphere are a few examples. Interestingly, the human body may be considered a laboratory with a large number of reactions in progress simultaneously. Fortunately, diverse chemical phenomena are systematically studied using the concepts of structure and energetics. These concepts are a central theme in Chemistry 1211K.

Four words summarize a tried and tested strategy for learning the most in this course. *Take your homework seriously.* Homework assignments will be given regularly during the semester. Approximately 60 % of questions on the examinations will closely resemble these assignments. As a student, I always found it useful to supplement lectures with informal study sessions with my peers. You will be pleasantly surprised to find that a fellow student can clarify a concept or provide cute short-cuts while solving problems.

General Information

Instructor	Farooq A. Khan Phone (678) 839 - 6027 Office: 2-117 TLC email: fkhan@westga.edu
Class time	M, W 1:00 - 3:15 PM
Textbook	Chemistry: The molecular Nature of Matter and Change by Martin Silberberg, 4 th edition
Office Hours	Mondays 11:00 am – 12:00 noon; 3:30 – 4:45 pm Wednesdays 11:00 am – 12:00 noon; 3:30 – 4:45 pm Thursdays 10:00 am – 12:00 noon; 1:00 – 4:45 pm

Additional office hours, by appointment

Attendance

Attendance is required. If a student misses four or more activities, he or she may be awarded a grade of F for the course.

Learning Outcomes

Students are expected to acquire a basic understanding of the following topics: composition of matter, reactions and reaction stoichiometry, properties of gases, thermochemistry, atomic structure, and chemical bonding. They are also expected to acquire an awareness of the role of chemistry in everyday life. Students will also learn to apply the scientific method in laboratory activities, collect and analyze scientific data and formulate appropriate conclusions from data analyses and communicate their findings.

A Word about Expectations

This course will no doubt be unlike any course you have taken before. The studio approach relies greatly upon self-study, teamwork, and hard work. Using technology such as the world wide web, much time will be freed up during the session time to put what you learn into practice. This, of course, is what we all strive to do when teaching chemistry. A trade-off to this is that more emphasis will be placed upon you, the student, to do more independent learning outside of class.

Under the new studio format, the class meets for 2 hours and 15 minutes each two days per week for a total of 4.5 hours of class time. Workshops will meet an additional 2 hours per week. As a result, I expect that you will spend more time outside of class working on course material than is typically the case in “standard” courses. This is a necessity to perform well in the class.

During the course of the class, it may seem to you that I am doing more facilitating than teaching. I will take this as a compliment since the best learning occurs when the student takes risks and develops a strong intellectual independence. There will be times when you may leave class not understanding something and it will be up to you to learn it on your own. Group study is a method I want to promote strongly in helping you succeed in the course. Teaching to, and learning from peers is a very effective way to study material. It

is my sincere hope that this change in pedagogy will result in a higher quality and more enjoyable chemistry experience.

Examinations

In class examinations will be given on the following days:

Wednesday, September 12

Wednesday, October 3

Wednesday, November 7

Wednesday, November 28

The laboratory final examination will be given in class on Monday, December 3.

The final examination will be given on Monday, December 10 during 2:00 – 4:00 pm.

It is based on all the topics covered during the semester. It consists of 70 multiple-choice questions, and is prepared by the American Chemical Society.

No make up examinations will be given. In case of an illness or a dire emergency, a student may be excused from one in class examination, provided the instructor is contacted prior to the examination. If excused, the score for this examination will be the average of all in class examinations.

Workshop Chemistry

Workshops (CHEM 1001) are an important part of CHEM 1211K. In workshops, the large class is broken down into smaller groups. In addition to regularly scheduled studio sessions, you **must attend** a workshop that meets once a week outside of class to discuss chemistry problems and improve your understanding of the material.

Workshops are something like study groups, with two prominent differences.

1. Each week's workshop will go over a set of assigned questions. There will be a workbook available in the bookstore which contains material for each workshop, week by week.

2. Each workshop will be led by a student leader who has had the course previously and who has been trained for undertaking this responsibility. The leader will act more as a facilitator than as a tutor. The purpose of workshops is to build confidence in your own ability to do chemistry problem-solving. Each workshop will be scheduled for a two-hour block of time. Although some workshops will not last the whole two hours, you should plan on putting this amount of time into each workshop if you elect to participate.

Why should you want to commit to two more hours spent on chemistry each week in addition to your time in class? Here are some good reasons.

- You should plan, on average, to spend at least six hours a week outside of lecture and lab studying chemistry. The workshop can be two of them.
- Working with other students and with a leader can be more productive than doing all your studying alone. In the structured workshop setting other students can help you see something you missed and as you explain an idea to someone else it becomes more clear in your own mind. Workshops at other institutions have found that students participating average significantly better on chemistry tests than those not attending workshops.
- **It directly affects your grade.** The workshop portion of your grade will be based on:

1. Attendance. Don't arrive late; don't leave early.
2. Participation in group efforts to solve problems.
3. Preparation. Practice problems should have been solved, or at least attempted, before the relevant workshop.
4. Attitude. This style of grading is very unique. Please keep in mind that you are not judged on actual right answers, but the effort you put forth.

Grades

Your grade will be calculated based on the following components:

In-class examinations (4 @ 100 points each)	400 points
ACS Final	120 points
Activities	120 points
Laboratory Final	40 points
Workshops	120 points
TOTAL	800 points

Letter grades

Score	Grade
90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
0% - 60%	F

Policy on cheating

Occurrences of cheating are rare. However, cheating by one individual raises questions about fairness for the rest of the class, and indeed, endangers the honor code that governs our examination system. It is after considerable thought and agonizing that I have arrived at the following formula. If an individual cheats on a quiz, examination or lab report for the first time, he/she will obtain a score of zero for that particular quiz or examination or lab report. If an individual is caught cheating a second time during the semester, he/she will receive a grade of F for the entire course.