

Principles of Chemistry II *Spring 2008*

CHEM 1212K Sections LXT, LXE, LXF TLC 3108

Tuesday and Thursday: 12:20 – 1:50 pm, Friday: 11:50 – 1:50 pm

Instructor

Dr. Sharmistha Basu-Dutt

Office: TLC- 2131

Phone: (678)839-6018

Office Hours:

M, W, F 10:00 am – noon

T, R 11:00 am – noon; 2:00 pm – 3:00 pm

E-mail: sbdutt@westga.edu

Purpose

This is the second course in a two-semester sequence covering the fundamental principles and applications of chemistry for science majors. Topics to be covered include equilibrium, thermodynamics, kinetics, and electrochemistry. A guided inquiry approach integrating lecture and laboratory will be used in the course to promote active student learning.

Textbook

Chemistry: The Molecular Nature of Matter and Change by Martin Silberberg, 4th edition, McGraw Hill is required. Students Solutions Manual accompanying textbook is optional.

Learning Outcomes

Each student will:

- acquire a basic understanding of equilibrium, acids and bases, solubility, thermodynamics, kinetics, electrochemistry, and selected descriptive inorganic chemistry.
- learn to apply the scientific method in laboratory projects, collect and analyze scientific data and formulate appropriate conclusions from data analysis.

Course Policies and Guidelines

- The official communication method between the instructor and students will be through campus e-mail (myUWG email account).
- Some of the course materials including the syllabus, class-notes, sample exams are available through WebCT Vista.

- The class meets on Tuesdays and Thursdays 12:20 pm – 1:50 pm and on Fridays 11:50 pm – 1:50 pm in TLC 3108. Please come to class on time, and do not leave early.
- You are expected to behave professionally in this course, which means considering the effect that your behavior will have on other people involved in the course.
- Turn off pagers and cellular phones, and do not use them in class.
- You will not be allowed to use personal laptops in the classroom.
- Eating or drinking in the classroom/laboratory will not be allowed.
- In addition to regularly scheduled lecture and laboratory sessions, you must attend a workshop that meets once a week (on Mondays).
- You will earn a failing grade in the course if more than 30% of in-class activities are missed.
- No make up quizzes or exams will be given. In case of an illness or a dire emergency, the instructor must be contacted prior to the examination in-person, via phone or email. Accommodations for missed exams, quizzes and assignments will be handled depending on the severity of the situation between the student and the instructor.
- You should be prepared to spend at least **10 hours per week** studying chemistry outside the classroom.
- The best way to make sure that you have thoroughly understood the material covered in class is to **READ THE TEXTBOOK** and work through the appropriate problems (solved exercises in the textbook, problems solved/assigned in class, problems included in workshop and workbook) on a regular basis.

In-Class Assignments

These assignments include computer assignments, laboratory activities and announced/unannounced quizzes where you may need to use a scientific calculator and the textbook. Remember to bring your calculators and textbooks to class everyday since you cannot share these resources. All of the results from in-class activities will be submitted to the instructor before leaving the class. Late assignments lose 10% per day for tardiness. There will be no makeup sessions for missed assignments.

Examinations

There will be four examinations and a comprehensive final examination during the semester. Each examination will be closed book and notes. You will need to bring a calculator to the tests. If necessary, I will provide the scantron sheets, periodic charts and conversion tables during the tests. In order to get full credit on tests, quizzes and other assignments, you must **SHOW ALL WORK AND CALCULATIONS**. Points will be deducted if you have correct responses with incomplete calculations and/or explanations.

The standardized examination from the American Chemical Society will serve as the final examination and will cover all topics from CHEM 1211K and CHEM 1212K. It consists of multiple-choice questions, and is prepared by the American Chemical Society. If there is a conflict with the final exam time, you must provide me with written authorization from the Dean of Arts & Sciences to move your final exam time.

Academic Honesty Policy

We take academic honesty very seriously. Plagiarism of any sort will not be tolerated. Plagiarism is the use of someone else's ideas or words as your own. This definition includes copying another student's exam or assignment, as well as using material from a book or Internet site without acknowledging the source. If you plagiarize any part of an assignment for this course, you will receive a zero for the entire assignment, and disciplinary action will be taken.

Workshop Chemistry

In addition to regularly scheduled lecture and laboratory sessions, you will be REQUIRED to attend a one and a half hour workshop to discuss chemistry problems and improve your understanding of the material. Your workshop will be led by an upper-level student leader who will facilitate activities that provide practice and build confidence in your ability to solve chemistry problems.

Workshop Grades

You are not judged on actual right answers, but the effort you put. 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 assigned from the textbook by your instructor should have been solved, or at least attempted, before the relevant workshop. Workshop leaders will randomly choose problems from the list to assign points for this part of the workshop. 4) Attitude.

Semester Grades

All exam, quiz and lab activity grades will be based on your ability to DEMONSTRATE full understanding of the material. Full credit will only be given if you SHOW ALL YOUR WORK, not just for obtaining the correct answer.

Your grade will be calculated based on the following components:

In-class exams (4 @ 100 points each)	400 points
Final (Comprehensive)	100 points
Quiz	75 points
Lab activities	100 points
Student presentations	25 points
Workshops	100 points
TOTAL	800 points

The grading scale will be as follows:

90% : A; 80 – 89% : B; 70 – 79% : C; 60 – 69% : D; < 60% : F

Tentative Schedule for the Course

WEEK	<i>Tuesday</i>	<i>Thursday</i>	<i>Friday</i>
1	January 8 - No class	January 10 – Chapter 11	January 11 – Structure-property
2	January 15 – Chapter 11	January 17 – Chapter 12	January 18 – Phase changes
3	January 22 – Chapter 12	January 24 – Chapter 12	January 25 – Clausius Clapeyron
4	January 29 – Chapter 13	January 31 – Chapter 13	February 1 – Solutions
5	February 5 – EXAM 1	February 7 – Chapter 13	February 8 – Colligative properties
6	February 12 – Chapter 16	February 14 – Chapter 16	February 15 - Kinetics
7	February 19 – Chapter 16	February 21 – Chapter 17	February 22 – Kinetics
8	February 26 – Chapter 17	February 28 – EXAM 2	February 29 – Equilibrium constant
9	March 4 – Chapter 17	March 6 – Chapter 18	March 7 – Acid base titrations
10	March 11 – Chapter 18	March 13 – Chapter 18	March 14 – Acid base titrations
	March 18 – Spring Break	March 20 – Spring Break	March 21 – Spring Break
11	March 25 – Chapter 19	March 27 – Chapter 19	March 28 - Buffers
12	April 1 – Chapter 20	April 3 – Chapter 20	April 4 - Thermodynamics
13	April 8 – EXAM 3	April 10 – Chapter 20	April 11 – Student Presentations
14	April 15 – Chapter 21	April 17 – Chapter 21	April 18 – Student Presentations
15	April 22 – Chapter 21	April 24 – EXAM 4	April 25 – Student Presentations
16	April 29 - Review	May 1 – Reading Day	May 2 – No class
		May 8 – FINAL EXAM 11 am – 1 pm	