

General Chemistry CHEM 112
Spring 2011

Professor: Nicole Crowder
Office: 339 Jepson
Contact: ncrowder@umw.edu, (540)-654-1411
Lecture: MWF 9:00-9:50 am, Jepson 313
Lab: Thursday 8:00-10:45 am, Jepson 214

Office Hrs: **M** 3:00-3:50; **W** 12:00-1:00, 3:00-4:00; **Th** 11:00-12:30; **F** 1:00-1:50

Required Materials: Chemistry: The Central Science, 11th ed., Brown, LeMay, & Bursten,
Mastering Chemistry subscription
Coursepack for Section 1
Lab Notebook with carbonless duplicate pages
Laboratory goggles and lab coat
Calculator with scientific notation and exponential functions

Web Site: This course will make use of the Blackboard course management system. Please check here frequently as materials posted will include course announcements, assignments, and other course materials as necessary.

Objectives: Chemistry is everywhere, whether you realize it or not; it can be exciting, useful, or dangerous. This semester we will focus on chemical reactions such as oxidation-reduction, acid-base, and nuclear decay. Discussion will also include an investigation of reaction kinetics, equilibrium, and thermodynamics. After completing the course, a student should

- Understand the chemical principles governing chemical equilibrium, kinetics, and thermodynamics
- Be able to solve problems related to chemical equilibrium, kinetics, and thermodynamics
- Have gained hands-on experience in the lab and learned how to conduct scientific experiments

Grading:	Points	Total
Practice Problems	50	50
Quizzes (best 8 of 9)	25	200
Laboratory	250	250
In-Class Exams (4)	75	300
Final Exam	200	<u>200</u>
		1000

Students with a 75 average or lower on **2/24** will receive a Mid-Semester Deficiency Report.

In-Class Behavior: Please act respectfully in class of other students and myself. This includes turning your cell phone, etc. off during class time, using laptops only for note taking purposes, and arriving to class on time. You are expected to participate in all activities and discussions.

Quizzes: A total of nine 10-15 minute quizzes will be given throughout the term at the end of class. Quiz questions will be similar to problems in the text or come from the assigned reading or lecture material. The lowest quiz grade will be dropped. There will be no make-up quizzes.

Exams: There will be four in-class exams during the semester which will emphasize material introduced since the last exam. There will be no make-up exams without prior arrangements with me.

The final exam will be comprehensive and must be taken at the time scheduled by the University: **April 25th, 8:30-11:00 am**. According to University policy, any student who does not take the final exam will fail the course.

Exam Policies: No cell phones, PDAs, or other personal electronic communication devices will be permitted in the classroom during exams. A calculator may be used, but no formulas or information may be stored in the memory.

If you feel a mistake has been made in the grading of your exam, you must write out what you wish to be re-graded and why (your reasoning is critical) on a separate sheet of paper. This must be turned in to me with the exam no later than one week after the graded exam is returned. Please note that the *entire* exam will be re-graded, and the new score (higher or lower) will be recorded. Exam answers must be in non-erasable ink if you wish to retain the right to request a re-grade.

If you feel there has been a numerical error in calculating your exam score, please bring this to my attention no later than one week after the graded exam is returned.

Laboratory: Detailed information regarding the laboratory component of this course can be found in the lab coursepack. It is important to note that due to the hands-on nature of the laboratory, **if a student misses three (3) lab periods, they will fail the course**. If a student misses the laboratory final, they will fail the course. Group work in the laboratory may require a team effort to gather data, but not the calculations. You are responsible for your own report. Be sure you can personally justify anything you turn in.

Attendance: Attendance in lab is mandatory.

Attendance in lecture is highly recommended. Occasionally, material will be presented in lecture that is beyond the scope of your textbook or with a different emphasis than that of the text, and you will be responsible for learning this material even if you are absent.

Regardless of attendance, all assignments are due on the scheduled date. **No late assignments will be accepted without my prior consent.**

Absences: You should notify me of an expected absence as early as possible.

Make-up exams will not be given except in the event of EXTREMELY extenuating circumstances.

If you must miss a lab, a make-up session is usually possible if you can attend one of the other lab sections in the same week as your missed lab.

Practice Problems: Problems from the textbook will be assigned and posted on Blackboard. These assignments **must** be completed on www.masteringchemistry.com. In order to receive credit for the assignment, you must receive at least 60% of the possible points for the assignment. The assignment must be completed by the specified due date. These assignments are for your benefit as they will help you master the course material and prepare you for quizzes and exams; doing problems beyond those assigned should also be useful, especially if you find you are having difficulty with the assigned problems. You are allowed to work on these problems with other students, but you may not copy or plagiarize. Remember that you must work alone on quizzes and exams, so it is in your best interest to be sure **you** understand the material.

Reading: Reading of the appropriate sections of the textbook should be done *before* coming to class. You will be responsible for this material, *even if it is not covered in lecture*.

Academic Dishonesty: In accordance with the University's Honor Code, all work submitted for grading must be your own and be pledged as such by signing the complete honor pledge at the top of the assignment. Academic dishonesty in any shape or form will not be tolerated. Suspected violations of the Honor Code will be addressed according to the policy established by the Honor Council. Please familiarize yourself with the University's policies of academic dishonesty: ignorance is not an excuse!

Disability Resources: The Office of Disability Resources has been designated by the University as the primary office to guide, counsel, and assist students with disabilities. You will need to request appropriate accommodations through this office as soon as possible, and then make an appointment with me to discuss your approved accommodation needs. Please bring your accommodation letter with you to the appointment. I will hold any information you share with me in the strictest confidence unless you give me permission otherwise.

If you have allergies to any chemicals or other emergency medical information, please notify me as soon as possible.

How to Succeed in Chem 112:

- Spend about one hour per day on chemistry (reading, reviewing notes, doing problems)
- Attend lecture regularly, sit near the front, and take careful notes
- Use your textbook wisely
- Review the appropriate sections of the text before coming to class
- Review the appropriate sections of the text after coming to class and organize your notes
- Do the practice problems alone and in groups
- Use the computer and web aids provided with your book
- Come to review sessions prepared with questions
- Seek the instructor's help when needed (office hours, before/after class, email)
- In the event that you require additional help beyond the instructor, you are highly advised to seek peer-tutoring through Academic Services (<http://www.umw.edu/acsv/Services/index.htm>)

**Course
Schedule:**

The tentative schedule that follows is how I see the course arranged. It is not set in stone; if there is material that is confusing to the class, we will spend more time on it. The quiz and exam dates will remain as scheduled. If all of the “scheduled” material has not been presented prior to the quiz/exam, the quiz/exam will include only what has been covered.

<u>Date</u>	<u>Topic</u>	<u>Chapter</u>	<u>Assignment</u>
Jan. 10	Chemical Kinetics	14	
Jan. 12	Chemical Kinetics	14	
Jan. 14	Chemical Kinetics	14	
Jan. 17	MLK Jr. Day, NO CLASS	-	
Jan. 19	Chemical Kinetics	14	Q1
Jan. 21	Chemical Kinetics/Equilibrium	14/15	
Jan. 24	Chemical Equilibrium	15	MC 1, Q2
Jan. 26	Chemical Equilibrium	15	
Jan. 28	EXAM 1	14, 15	MC 2, EXAM
Jan. 31	Acid-Base Equilibria	16	
Feb. 2	Acid-Base Equilibria	16	
Feb. 4	Acid-Base Equilibria	16	
Feb. 7	Acid-Base Equilibria	16	Q3
Feb. 9	Acid-Base Equilibria	16	
Feb. 11	Aqueous Equilibria	17	MC 3
Feb. 14	Aqueous Equilibria	17	Q4
Feb. 16	Aqueous Equilibria	17	
Feb. 18	EXAM 2	16, 17	MC 4, EXAM
Feb. 21	Properties of Solutions	13	
Feb. 23	Properties of Solutions	13	
Feb. 25	Properties of Solutions	13	
Feb. 28	Spring Break, NO CLASS	-	
Mar. 2	Spring Break, NO CLASS	-	
Mar. 4	Spring Break, NO CLASS	-	
Mar. 7	Properties of Solutions	13	Q5
Mar. 9	Aqueous Equilibria	17	MC 5
Mar. 11	Aqueous Equilibria	17	
Mar. 14	Aqueous Equilibria	17	Q6
Mar. 16	Aqueous Equilibria	17	
Mar. 18	EXAM 3	13, 17	MC 6, EXAM
Mar. 21	Chemical Thermodynamics	19	
Mar. 23	Chemical Thermodynamics	19	
Mar. 25	Chemical Thermodynamics	19	
Mar. 28	Chemical Thermodynamics	19	Q7
Mar. 30	Electrochemistry	20	MC 7
Apr. 1	Electrochemistry	20	
Apr. 4	Electrochemistry	20	
Apr. 6	Electrochemistry	20	Q8
Apr. 8	Electrochemistry	20	
Apr. 11	Electrochemistry	20	
Apr. 13	Nuclear Chemistry	21	Q9
Apr. 15	Nuclear Chemistry	21	MC 8
Apr. 18	Nuclear Chemistry	21	
Apr. 20	EXAM 4	19-21	MC 9, EXAM
Apr. 22	Review	-	
Apr. 25	FINAL EXAM	13-17, 19-21	EXAM

Chem 112 Lab Schedule

1/13	Lab Check-in, Safety Solution Preparation
1/20	Kinetics
1/27	Qualitative Equilibrium
2/3	Titrations
2/10	K_A Determination
2/17	Project 3
2/24	Project 3
3/3	SPRING BREAK
3/10	Quality Assurance
3/17	Colligative Properties
3/24	Solubility of KHT
3/31	REDOX
4/7	Project 4
4/14	Project 4
4/21	Check-out Laboratory Final