Spring 2010 Chemistry 223 *with* Dr. Michael A. Russell

Mt. Hood Community College, Gresham, Oregon, USA 97030
Phone: **(503) 491-7348** *Email:* **mike.russell@mhcc.edu**
Office Hours: **MWF** 8-9 **MW** 10-11 *Office:* **2568**
Chemistry 223 Website: **http://mhchem.org/223**

Required Materials:
Chemistry The Central Science (11th Edition) by Brown *et al.*, ISBN 0-135-031-486
The Chemistry 223 Companion (Lab Manual, Problem Sets, etc.)
Graphing calculator (such as the TI-83, TI-89, etc.)
Bound Laboratory Notebook
Scantron Sheets for exams (50 Questions on **each** side)
Safety goggles for lab

Course Description: This course offers the fundamental basis of chemistry for science, pre-professional, and chemical engineering majors. A strong emphasis is placed on a mathematical approach. The third term covers equilibrium, introduction to acids and bases, spontaneity of reactions, ionic equilibria, oxidation-reduction and electrochemistry.

Prerequisites: A C or better in CH 222.

Course Philosophy: To be successful, students enrolled in a 200 level chemistry course should complete all assignments before coming to class, attend classes regularly, participate in discussions, and think critically to discover the fundamental theories inherent to this course. All homework assignments represent the *minimum* requirement for understanding the principles of chemistry. It is assumed that A and B students will perform enough *unassigned* exercises to master the concepts.

The Honor Principle: All students will be expected to behave with the highest moral and academic integrity while enrolled in this class. Plagiarism, cheating or sharing information on tests or laboratory reports, disruptive behavior, and other related offenses will be dealt with according to the directives stated in the current *Mt. Hood Community College Student Guide*.

Grading:		
	Midterm Exams (2 total, 140 points each)	280 points
	Quizzes (6 total, lowest quiz dropped, 20 points each)	100 points
	Lecture Final Exam	200 points
	Final Lab	80 points
	Class Presentation	100 points
	Problem sets (6 total, 10 points each)	60 points
	Eight lab experiments (20 points each)	160 points
	Lab Completion Bonus	20 points
	Total points:	**1000** points

Tentative grading distribution: **A**: 90-100% **B**: 80-89% **C**: 70-79% **D**: 60-69% **F**: less than 60%
Opportunities for extra credit are available and explained in the "Extra-Credit Guide" handout.

Exams and Quizzes will be held in the recitation portion of lab. No make-up quizzes will be given. If you need to miss an exam due to illness or personal emergency, call and leave a message to assure a make-up exam. Failure to call results in a failed exam. Note that **cell phones are not allowed as a calculator substitute**, and using a cell phone results in an immediate grade of zero.

Each student will give a **Class Presentation** this term. For more information, see the handout entitled "Class Presentations FAQ".

Laboratory Safety and Etiquette rules can be found in the lab packet for this course and on the website. Information regarding **lab reports**, the mandatory **lab notebook**, the **lab completion bonus** and **missed lab sessions** can be found in the lab packet and on the course website as well.

Problem Sets: We will be using problem sets found in the CH 223 Companion, available at the bookstore. All problems should be attempted prior to class (we will be discussing them during recitation), and arriving late to a problem set session will invoke a point penalty. Late problem sets will also receive a point penalty. Details regarding problem set grading will be discussed during the first recitation of the term.

"What's Due This Week" Schedule for CH 223 Spring 2010

Week	Date	Lab Assignment
1	3/30	*Begin* "Determination of an Equilibrium Constant" *Lab* Introduction *to the course*
2	4/6	*Begin* "Chemical Equilibrium - Le Chatelier's Principle" *Lab* *Due:* Problem set #1 *Chapter 15* *Lab Due:* "Determination of an Equilibrium Constant" (Lab #1) *Take* Quiz #1
3	4/13	*Begin* "Titration Calculations" *Lab* *Due:* Problem set #2 *Chapter 16* *Lab Due:* "Chemical Equilibrium - Le Chatelier's Principle" (Lab #2) *Take* Quiz #2 **April 16, 9 AM:** *Last chance to reserve a Class Presentation topic*
4	4/20	*Begin* "Introduction to Acids and Bases" *Lab* *Due:* Problem set #3 *Chapter 16 and Chapter 17 (17.1 - 17.3)* *Lab Due:* "Titration Calculations" (Lab #3) *Take* Quiz #3
5	4/27	**EXAM #1** - *Chapters 15, 16 & 17 (17.1 - 17.3)* *Begin* "Titration of Weak Acids" *Lab* *Lab Due:* "Introduction to Acids and Bases" (Lab #4) *Due:* Peer-reviewed Class Presentation Rough Draft Paper
6	5/4	**CLASS PRESENTATIONS** - *Final paper due at presentation* *Lab due:* "Titration of Weak Acids" (Lab #5)
7	5/11	*Begin* "Determination of K_{sp}, $\Delta G°$, $\Delta H°$ and $\Delta S°$ for $Ca(OH)_2$" *Lab* *Due:* Problem set #4 - *Chapter 17 and Chapter 19* *Take* Quiz #4
8	5/18	*Begin* "Qualitative Analysis of Group I Cations" *Lab* *Due:* Problem set #5 *Chapter 19 and Chapter 20* *Lab due:* "Determination of K_{sp}, $\Delta G°$, $\Delta H°$ and $\Delta S°$ for $Ca(OH)_2$" (Lab #6) *Take* Quiz #5
9	5/25	**EXAM #2** - *Chapters 17, 19 & 20* *Begin* "Qualitative Analysis of Group III Cations" *Lab* *Lab Due:* "Qualitative Analysis of Group I Cations" (Lab #7)
10	6/1	*Begin* "Qualitative Analysis: ID of an Unknown" *Final Lab – Lab Notebook due* *Due:* Problem set #6 *Chapter 22, Chapter 23 and Chapter 24* *Lab due:* "Qualitative Analysis of Group III Cations" (Lab #8) *Due:* Take-home Quiz #6 *at time of final lab* *Final Lab due:* "Qualitative Analysis: ID of an Unknown" (FL)
11	6/9	**LECTURE FINAL** *(7:45 AM) - see:* "A.C.S. Study Guide" - no Lab Final!