CHM2046C, General Chemistry and Qualitative Analysis
Spring 2005 (20052) 207824
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Website: http://web.fccj.org/~nmullins/chm2046/
Office Hours: Office Hours: T: 10:30-11:30 AM; 4-5:00 PM; W: 11:00-12:30, 3-5:00, 7:30-8:00 PM, R: 1-5:00 PM
Meeting Times: M: 5:30-6:30 in C-202, 6:40-9:30 PM in C-213
W: 5:30-7:20 PM in G-304.
BEST TIME TO CALL: Anytime-If I am not available, please leave your name, daytime phone number and a detailed message. Please speak slowly so that I can write down your phone number. ***Messages will be returned within 2 working days***.

Course Objectives: To introduce the student to the analysis of inorganic reactions. This course emphasizes the reactions, kinetics, and processes associated with chemistry. Acid/Base reactions, precipitation reactions and electrochemical processes will be emphasized. Equation writing, problem solving, and analytical skills will be emphasized.

Prerequisite: Completion of CHM 2045C with a grade of "C" or better.

Philosophy: The purpose of my instruction in this class is to help you master the skills and analytical thought processes required for upper level science course work. It is also my job to prepare you for the work force, and I will foster the qualities that they requested in applicants. They describe the ideal applicants as: 1. Self-directed, 2. Self-motivated, 3. Problem solvers(preventers), 4. Critical thinkers, 5. Systems thinkers, 6. Technology competent, 7. Active Team Participant, and 8. Integral part of the learning community. My part of the team is to organize the material so that you may learn it efficiently and correctly. I have not done my job if I accept work that is "close enough," for misconceptions may hinder you in later course work. Above all, remember that the more work that you put in, the more help I can give you. Ask when you have questions, and let me guide your understanding. Your success depends on your effort and initiative.

COURSE MATERIALS:

- **Required:** Chemistry: Matter and Its Changes, Brady & Senese, 4th Ed.
- 2046C General Chemistry II Lab Manual, Mullins
- Safety glasses, NCR paper lab notebook, black ballpoint pen and glass marking pen (Sharpie Brand) for the laboratory.
- Calculator: This course will emphasize the use of a graphing calculator. Students should bring a TI-83 (or a TI-82, TI-85 or TI-86) calculator to class and lab.

Learning Aids: Sadly, you are nearly on your own here- most completers of the course graduate and transfer. I am available for assistance both during office hours and also by email. I may be able to meet you online if you email me and set up an appointment. The student learning assistance laboratories (LAC) have chemistry tutors, computer programs and films available to assist students. I post incomplete course lecture notes before the lecture on my web site.

Attendance is mandatory. Students are expected to attend all class meetings, to arrive on time and to stay for the entire scheduled period. A student absent from class should get the notes from a fellow classmate. FN grades will be awarded for students who are failing and with absences of 2 weeks or more. If you fail to attend more than 6 hours, your opportunity to have a dropped exam and any "curve" opportunity will not apply.

Grades will be assigned using a 10-point scale: 90+ A, 80-89 B, 70-79 C, 60-69 D, and below 60% F, and calculated as:
70% exam average + 5% quiz average + 20% lab average+5% homework. The exam average will include 4 regular exams and a comprehensive final. Each regular exam, after the first exam, will be comprehensive and may include 10 to 15 points of previously tested information. No make up exams will be given, but students may take exams earlier than scheduled if necessary. <u>The lowest regular exam grade will be dropped if the student has met the attendance guidelines, and has **completed** the homework with an average of 70%.</u>

Extra Credit: There are self-assessments for each chapter that we will cover in the course. If you complete the self assessment by the time of the exam on the chapter, you may earn up to 2.5%. If you complete the self-assessment after the exam, but before the final, you may earn up to 1.25%.

Alternate extra credit**:** 5 hours volunteer tutoring in the LAC will take the place of the quizzes. You must check with me to schedule time, first come first serve. You must have had a grade of "B" or above in CHM2045 to take advantage of this option.

Warning: Beginning fall semester, 1997, according to guidelines established by Florida House Bill 1545, all students may enroll in a specific college credit course only twice at the regular tuition rate. If the first two attempts are unsuccessful (all grades will count as an attempt including audit, IW, AW, W and NP), the third time a student enrolls in a course he/she must pay the full cost of instruction. This cost is equivalent to the out-of-state tuition rate; approximately four times the cost of regular tuition. Only "drops" submitted by the advertised deadline date (during the first week of a term) will not count as being enrolled.
Academic Misconduct will not be tolerated. Students found to be cheating will be expelled from the class and expulsion from FCCJ will be pursued. Cheating includes (but is not limited to) programming test information into calculators, using cheat sheets on exams, changing lab data, misrepresenting someone else's work as your own or allowing someone to copy your work. Note: If any chemistry information is found programmed onto your calculator on the day of an exam, you will receive a 0 for that exam, and you will be referred to the Dean of Students for further action. See your student manual or the site: http://www.fccj.edu/resources/catalogs/2004_2005/rules/index.html for additional information.

Nomenclature: Students are expected to know the formula and charges for the common polyatomic ions, and should be comfortable with the nomenclature of aqueous acids, and ionic compounds.

TESTING: What to bring (in addition to a good attitude!): Writing implement, No scrap paper &/or blue books-they will be provided. Used or unused scrap paper must be turned in before you leave the testing area, Programmable calculator. (Memories will be checked!) ALL requests for special accommodations (due to disability) are arranged by the Disabled Student Specialist located in the DSS office

In the U Building. Please call 646-2191 (Voice and TDD) for assistance. Requests must be made at the beginning of the term. Specific services (such as note taker, tutor, reader, scribe, and interpreter) can be provided upon receipt of documentation. NO special accommodations can be made without documentation from ODSS.

How to prepare for my class:

- **Before Class**: Obtain notes from the Internet. Read sections of text relating to notes.
- **After lecture:** Recopy and organize your notes. Missed ideas? Mark or highlight a question in the margins of your notebook to ask next meeting. Attempt problems covered in the sections covered in lecture. Difficulty? Set up an appointment for help, or go to the LAC. Work extra problems in any section that you have difficulty. The solutions are available for at least ½ of the problems, and set-ups are found in the solutions manual, thus you can work ½ of the problems with confidence.
- **Week before exam:** Outline your notes. Include any formulas that you need. Attempt sample exam, using the same amount of time as you will be allotted (2 hr) submit your worked exam to me online, or set up an appointment. I do not post keys to the sample exams- you must attempt it, and I will verify your work. This keeps you from memorizing a problem, a common student error that is not rewarded during an exam process!

This course has 6 contact hours per week. This means that it is reasonable to assume that you will need to **study at least 12-18 hours in addition to this (each week)** to achieve mastery of the material. Students are STRONGLY encouraged to establish study groups that meet regularly outside of class to discuss homework and to prepare for exams.

To the Student: Your election to take this class entitles you to a first rate presentation of general chemistry. In exchange for this gift you have certain responsibilities as described:

1. Keep this syllabus throughout the semester. It is a binding agreement on my part to you. Any revisions will be given to you in written form. Read it carefully, as the articles herein contained bind you.

2. Submit your work to me when requested. Any lab work not submitted at the time of collection will receive credit <u>only</u> if it is submitted by <u>5pm</u> on the third day after the due date to me, personally, or in my mailbox in the C-building. The late penalty is 10% per day. **Work submitted in my mailbox in C building is not secure. Submit late work here at your own risk. If it appears before I arrive for the day, it is presumed to have been left the previous night.**

<u>Homework assignments and Pre-Labs are never accepted late.</u> <u>Pre-labs are due at the start of the lab period on which the lab is performed.</u>

3. Questions regarding grades, comments, etc . . . , will only be addressed within <u>one week</u> of the return of the graded material. It is your responsibility to meet this deadline. Failure to do so will result in the grade standing as it is, even if the error is mine. I will cheerfully acknowledge and correct my mistakes; please ask.

4. Wheedling and bargaining is not tolerated regarding point assignations. Remember that your job is to meet my requirements. The curriculum is established by state guidelines, and it is not subject to debate. My expectations are also closed to debate. <u>If you are unsure what is expected, ask before the work is due for submission.</u>

5. All submitted work must be legible. Anything that I cannot read is marked wrong. No debate.

<u>Guidelines for graded work: Must be legible. No more than one problem per line on a page. Units must be specified, and to the proper number of significant figures. Your setup must be shown, and the final answer boxed. Multiple pages must be stapled if you want credit for your work!!!</u>

Lab Grade: 80% Lab reports, 10% Lab Practical, 10% Instructor's evaluation of student's lab-work. Instructor's evaluation includes: preparation of lab notebook, adherence to procedure, adherence to accepted safety practices, and clean-up. ***Students who fail to submit (or who are absent for) more than 2 labs will receive a grade reduction of 10%. Students who fail to submit (or who are absent for) more than 3 labs will receive a course grade of F.***

Lab write-ups will be collected electronically, and sample calculations of all types should be submitted by hand. Work will be submitted to Turnitin!, a plagiarism checking software.

Tentative Schedule
CHM2046C 207824 M: 5:30-6:30 PM; Lab M: 6:40-9:30 W: 5:30-7:20

Monday C-202	Monday Lab C-213	Wednesday C-202
10-Jan Solution Calculations	Safety, Spreadsheets	12-Jan Kinetics
17-Jan MLK Day------------------------ Holiday		19-Jan Kinetics
24-Jan Kinetics Part 1	Kinetics Part 2	26-Jan Kinetics
31-Jan Equilibrium	Equilibrium	2-Feb Equilibrium
7-Feb Exam 1(Kin & Equil)	Titration	9-Feb Acid/Base
14-Feb Acid/Base	Group I	16-Feb Acid/Base
21-Feb President's Day --------------------Holiday		23-Feb Acid/Base
28-Feb Exam 2(Acid/Base)	Group II	2-Mar Colligative Properties
7-Mar Colligative Properties	Group II	9-Mar Solubility
14-Mar------------------------ Spring Break---------------------------15-Mar		
21-Mar Solubility	Colligative Properties	23-Mar Solubility
28-Mar Solubility	Ksp	30-Mar Solubility
4-Apr Exam 3 (Coll & Sol)	Group IV	6-Apr Thermo
11-AprThermo	Complexation	13-Apr Echem
18-Apr Echem	Electrochemistry	20-Apr Echem
25-Apr Echem & Review	Check-out	27-Apr Exam 4(Thermo & Echem)
4-May FX 5:30-7:30 PM		