

Course Syllabus

Course Information

CHM 1112, General Chemistry lab
Fall 2007

Professor Contact Information

Dr. Sandhya Gavva
972-883-2279
sgavva@utdallas.edu
BE 3.330
Office Hour: T 10-11 Noon

Course Pre-requisites, Co-requisites, and/or Other Restrictions

One year of High School Chemistry and Chm 1311 and 1111 or equivalent

Course Description

Objectives: : This course is continuation of CHM1111, incorporate experiments in kinetics, acid base chemistry, chemical equilibrium, electrochemistry and colligative properties.

Student Learning Objectives/Outcomes

1. Be able to locate, explain the importance of chemical literature, and use common sources.
 2. Be able to synthesize and crystallize compounds and calculate yields
 3. Use graphing techniques and data analysis to evaluate data
 4. Be able to use spectrophotometer to determine equilibrium constant of a chemical system.
 5. Be able to explain and analyze the chemical reactions.
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Required Textbooks and Materials

General Chemistry Laboratory Manual

Department of Chemistry

University of Texas at Dallas

Safety Goggles/glasses, composition note book and a calculator

Suggested Course Materials

Assignments & Academic Calendar

There will be eight wet lab, three dry lab experiments during the semester. The wet lab will be 90 % of your lab grade, and dry lab will be 10%. There will be no makeup wet labs, no makeup dry labs; and you are not allowed to perform your experiments in another Lab section. Your final grade for the lab will be determined after dropping the lowest wet lab score.

| <u>Day/Time</u> | <u>Section</u> | <u>Teaching Assistan</u> | <u>Office</u> | <u>E-mail</u> |
|-----------------|----------------|--------------------------|---------------|------------------------|
| M 8:30 -11 30 | 101 | James McVaugh | BE3.502 | jpm062000@utdallas.edu |
| 11:30 --2:30 | 102 | James McVaugh | BE3.502 | jpm062000@utdallas.edu |
| W 8:30 -11 30 | 103 | James McVaugh | BE3.502 | jpm062000@utdallas.edu |

Safety Policy:

No individual will be allowed in the lab without safety glasses. No individual will be allowed in the lab wearing short pants or skirt, or open-toed shoes. Do not sit on the benches. Chemical residues might contaminate your clothing. Do not eat or drink in the laboratory. If you must take a break, wash your hands thoroughly before leaving. Please refer to the *Undergraduate Laboratory Policies**. Given proper warning, students who do not comply with the safety rules will be asked to leave without receiving a grade for the experiment.

*<http://www.utdallas.edu/nsm/chemistry/resources/safety.html>

**CHM 1112
Fall 2007
SCHEDULE**

| Week of | | Exp # | Experiment | Report Due |
|---------|---------|-------|-----------------------------|------------|
| Aug 27 | **** | | Check in Safety... | |
| Sep 3 | Dry Lab | 12 | Chemical Literature | Sep 10 |
| Sep 10 | Wet Lab | 13 | Synthesis of Alum | Sep 17 |
| Sep 17 | Wet Lab | 14 | Vapor Pressure | Sep 24 |
| Sep 24 | Wet Lab | 15 | Molar Mass Determination | Oct 1 |
| Oct 1 | Wet Lab | ***** | Hand Out | Oct 8 |
| Oct 8 | Wet Lab | 16 | Hard Water Analysis | Oct 15 |
| Oct 15 | Wet Lab | 18 | Equilibrium Constant | Oct 22 |
| Oct 22 | Wet Lab | 19 | Molar Solubility | Oct 29 |
| Oct 29 | Wet Lab | 20 | Antacid Analysis | Nov 5 |
| Nov 5 | Dry Lab | **** | Hand Out | Nov 12 |
| Nov 12 | Wet Lab | 22 | Electrolysis/ Check -out | By Nov 16 |

Every one will check out of the lab during the week of Nov 12th. Failure to check out the lab will result in withholding of the lab grade

Grading Policy:

| | |
|---------------------|------|
| Lab Preview/Quizzes | 10 % |
| Lab Readiness | 10 % |
| Lab Report | 80% |

- Data Sheet
- Calculations

Course & Instructor Policies:

WET LAB: BE 3.508

Lab Preview: The lab experience is much more enjoyable when you have the basic, initial understanding of the experiment. Preview questions are designed to help you understand the concepts and techniques involved in each experiment. Previews will not be collected. However, you must show the preview to the instructor to receive the grade. The lab preview questions will help you better prepare for the quizzes. Answers to the lab previews will be available in the lab one week later. LATE previews will not be accepted and you will be given a ZERO

Lab Readiness: You are responsible for all of the required material and equipment for each experiment. You must dress appropriately and have all of the required materials (ie. Goggles, close-toed shoes, lab manual, pen...etc.).

Lab write ups: There is no formal report(s) required for this course. However, you will turn in the data sheets with all the required information for each experiment. Where appropriate, it is essential that you include calculations, detailed observations, balanced equations, percentage error, a brief conclusion* of the experiment, etc. Write ups are due on the next lab period (i.e., one week after the previous lab was completed). For example, if an expt. is performed between 11-2 PM on Monday, Sep 10, 2007, the lab report for that exp. will be due at the beginning of the next lab period at 11:00 AM on Monday, Sep 17, 2007. LATE write ups will be accepted but 10% of the maximum points allowed will be subtracted from a late write up EACH DAY it is late.

Data: Any data you collected during the experiment must be written in pen. In case of wrong entries, make a new table and explain what happened. Calculations can be written in pencil. Do not scratch off any original data. Use scientific notations to improve accuracy. 0.000789

does not equal to 0.0008, its 7.89×10^{-4} . Calculating this way might improve % error. Keep all the data and calculations neat. If we can't read them, obviously we cannot grade them. Before you leave the lab, TA must review and sign the data sheet.

Calculations:

If you made an error in the calculation, points will be taken off for that part; however, we will go through your calculation and use the wrong data to see if rest of the calculations are correct. Points will be deducted if you identify the wrong unknown or if you have high percentage errors. All materials in this lab come from the lab manual. Although some concepts might not be covered in the lecture, you should still be able to perform if you have read the manual carefully. Seek help if you have trouble.

Cleanup:*

Leave sufficient time at the end of laboratory period for cleaning up. Make sure you thoroughly clean all the equipment, glassware and also clean up your bench. If you do not comply with cleanup and other general rules pertaining to the lab, your grade for that lab will be lowered by 10%.

Stock Room:

Chemistry Stock Room: BE 2.412 (DOWN STAIRS)
You will need to replace broken items from the Chemistry stockroom, BE 2.412. You need to fill out a breakage form with appropriate information. The items are charged to you as breakage at the end of the semester.

THIS WILL BE STRICTLY ENFORCED. YOU ARE ALSO REQUIRED TO PAY TO BURSARS OFFICE FOR ANY ITEMS IN YOUR LAB DRAWER THAT BECOME BROKEN OR LOST DURING THE SEMESTER

FAILURE TO PAY FOR BROKEN OR LOST DRAWER ITEMS WILL RESULT IN WITHHOLDING OF YOUR LAB GRADE

Technical Support

If you experience any problems with your UTD account you may send an email to: assist@utdallas.edu or call the UTD Computer Helpdesk at 972-883-2911.

Field Trip Policies

Off-campus Instruction and Course Activities

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean. Below is a description of any travel and/or risk-related activity associated with this course.

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD printed publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Series 50000, Board of Regents, The University of Texas System*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391) and online at <http://www.utdallas.edu/judicialaffairs/UTDJudicialAffairs-HOPV.html>

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic Dishonesty, any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Copyright Notice

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials, including music and software. Copying, displaying, reproducing, or distributing copyrighted works may infringe the copyright owner's rights and such infringement is subject to appropriate disciplinary action as well as criminal penalties provided by federal law. Usage of such material is only appropriate when that usage constitutes "fair use" under the Copyright Act. As a UT Dallas student, you are required to follow the institution's copyright policy (Policy Memorandum 84-I.3-46). For more information about the fair use exemption, see <http://www.utsystem.edu/ogc/intellectualproperty/copypol2.htm>

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:

The University of Texas at Dallas, SU 22

PO Box 830688

Richardson, Texas 75083-0688

(972) 883-2098 (voice or TTY)

disabilityservice@utdallas.edu

If you anticipate issues related to the format or requirements of this course, please meet with the Coordinator of Disability Services. The Coordinator is available to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Services to notify them of your eligibility for reasonable accommodations. Disability Services can then plan how best to coordinate your accommodations.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members

to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the Professor.