

General and Quantitative Chemistry 1412 Lab

Course: Chemistry 1412 laboratory sections meet in room Science 308

Laboratory Section 01: MWTR 2:00 – 5:50 p.m. (STC 310)

Laboratory Section 02: MWTR 2:00 – 5:50 p.m. (STC 311)

Lab Instructor: Dr. Tasneem Hossain-Kumar

Office: Science Building Room# 302

Office Hours: TR 11:00 AM – 11:30 AM

Contact Information: tasneem.hossain-kumar@tamuc.edu; phone: 903-886-5399

Lab TAs:

Office:

Office Hours:

Contact Information:

Lab Manual: Experiments in General Chemistry, 9th Edition, by R.A.D Wentworth, published by Gammon, Houghton Mifflin Company, New York, NY.

Supplies: **Non-programmable Calculator**, **Safety Goggles** with side shields and a **Padlock** are a Must for the lab work (**No Exception**); Appropriate lab attire. Lab coats (optional) on lab day.

Lab: The laboratory experiments are an integral part of this course. They are designed to illustrate some of the principles and reactions that are presented in lecture with the hope that the chemistry will thus become more concrete and less abstract. Students are expected to attend all labs and hand in lab reports by the beginning of the next lab session. There will be no make-up labs no matter what the excuse is for the absence. Total Twelve labs + check in; All labs to be done in STC 310 and STC 311 under instructors' supervision. **Safety Glasses and appropriate attire must be worn at all times in the laboratory.** You must bring your own safety goggles and padlock in the laboratory. No open toe shoes, flip-flops or shorts are allowed in the lab. Students must come prepared and on time for lab. 5 % of the lab grade is dependent on student's behaviors in the lab to clean up their lab area and glassware after completion of their lab work and to replace all items used to their proper location. Any students who is pregnant or has other special needs should consult with his/her physician before taking a chemistry class involving laboratory work.

Laboratory Reports: *The following are directions for preparing for the laboratory experiments and completing laboratory reports. It is essential that you read these rules carefully and understand what is expected.*

- Labs can't be done without safety glasses.
- *Late arrival (more than 20 minutes) will result in forfeit of the grade for that lab.*
- Prelab: Students should read the lab manual and answer the pre lab questions of that experiment at the beginning of the lab.
- In Lab: *Data and report sheet must be neatly completed during the lab period and must be signed off by the instructor prior to leaving.*
- Questions/Post-labs if any should be completed after.
- Clean-up of the lab station is required after completion of the experiment.
- The lowest scoring lab is dropped.

- Complete lab reports (Data and Post Lab) must be handed-in the next week class day following the experiment for grading. Late submissions will result in a 20 % deduction.
- There will be 13 labs assigned with written lab reports. **A minimum of 12 labs must be completed (with report) to pass the class.** Each Lab is total 100 points. First zero grade is dropped. There will be four reports for four labs in each week and each lab report will be due next day only Thursday report will be due next week Monday. But the last time any previous lab report will be accepted is by Monday of the next week. Only initialed data sheet and post lab questions from the lab notebook will be accepted. There will be a minimum of 20% grade deduction for each late lab report. Zero grade if this final deadline is not met.

Grading

Laboratory Portion: 25% of course grade The lab report with the lowest score will be dropped. The average of the grades for the rest of the laboratories will constitute the laboratory grade.

Prelab Reports:	20%
Postlab Reports and Data:	70%
Conduct, Lab Cleanliness:	10%
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Total	100%

LABORATORY LEARNING OUTCOMES / COURSE OBJECTIVES:

By the end of the semester I intend for my students to have realized a number of objectives.

1. All students must be able to readily identify glassware commonly used in the chemistry laboratory and know how to properly utilize the glassware.
2. Learn basic chemistry techniques, such as how to calculate percent yields, how to properly use measuring devices, how to properly clean glassware at the end of an experiment.
3. Learn the safety requirements and methods needed to work in a chemistry laboratory. Learn how to safely handle, utilize and dispose of chemicals.
4. Learn how to document laboratory experiments, how to maintain a scientific notebook.
6. Communication in the form of laboratory reports will be clear, purposeful, and make appropriate use of evidence, data and technology as applicable.
7. In laboratory experiments, you should be able to both individually and within a team with fellow classmates, conduct laboratory experiments, critically analyze data, draw conclusions from the data, and clearly and concisely report the observations and conclusions drawn from the laboratory experiments.

Tentative Laboratory Calendar

You must bring a lock to your first laboratory meeting. Safety goggles, long pants and closed toed shoes are required to be worn during all laboratory experiments.

Tentative Lab Schedule for Chem 1412L

Date	Day of the Week	Name of the Experiments
7/7/14	Monday	Check in equipment, Safety Lecture & Quiz
7/8/14	Tuesday	Experiment 12B: Softening Hard Water
7/9/14	Wednesday	Experiment 12A: A Molar Mass From Freezing Point
7/10/14	Thursday	Experiment 13: The Rate of an Iodine Clock Reaction
7/14/14	Monday	Exam I (Chapter 12 - Chapter 13)
7/15/14	Tuesday	Experiment 14A: Le Chatelier's Principle
7/16/14	Wednesday	Experiment 14B: Determination of an Equilibrium Constant
7/17/14	Thursday	Experiment 15: The Relative Strengths of Some Acids
7/21/14	Monday	Exam II (Chapter 14 - Chapter 15)
7/22/14	Tuesday	Experiment 16A: Equilibria with Weak Acids and Weak Bases
7/23/14	Wednesday	Experiment 16B: An Acid-Base Titration Curve
7/24/14	Thursday	Experiment 17A: A Solubility Product Constant
7/28/14	Monday	Exam III (Chapter 16 - Chapter 17)
7/29/14	Tuesday	Experiment 17B: Qualitative Analysis of Ag^+ , Cu^+ , Zn^{+2} , and Ca^{+2} ions
7/30/14	Wednesday	Experiment 18: Spontaneity
7/31/14	Thursday	Experiment 19A: Oxidation-Reduction Reactions
8/4/14	Monday	Exam IV (Chapter 18 - Chapter 19)
8/5/14	Tuesday	Laboratory Check Out
8/6/14	Wednesday	Review Session
8/7/14	Thursday	Final Exam (Chapter 12 - Chapter 23)

CLASS ATTENDANCE POLICY: All students are expected to attend class on a regular basis and attendance will be recorded. The Department of Chemistry adheres to the attendance policy set by the University as stated in the most current Undergraduate Catalog. Being late by more than 5 minutes is equivalent to missing a laboratory. You must be on time in order to take an exam. Excessive absence is defined as missing more than 10% of the laboratory sessions without excusable reasons. Excessive absence will be reported to the Dean of the College and the Dean of Students. In addition, according to the TAMU-Commerce Procedure A13.02. Good class attendance will be necessary in order to pass the course.

STUDENT CONDUCT POLICY: All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment (see Student's Guidebook, Policies and Procedures, Conduct). Any student engaging in disruptive behavior will be dismissed from class on the first offence. A second offence may constitute dismissal from the course.

CHEATING AND OTHER BREACHES OF ACADEMIC CONDUCT: Academic cheating, plagiarism, and other forms of academic misconduct may result in removal of the student from class with a failing grade or may in extreme cases result in suspension or expulsion from the University as described in the "Code of Student Conduct" section of the "Student's Guidebook".

STUDENTS WITH DISABILITIES:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact: Office of Student Disability Resources and Services
Texas A&M University-Commerce, Gee Library, Room 132
Phone (903) 886-5150 or (903) 886-5835, Fax (903) 468-8148
StudentDisabilityServices@tamu-commerce.edu