



General Chemistry Laboratory I - CHEM 1111-04L Syllabus

Instructor: Dr. Ram Bhatta

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Lab Hours: T 3:00pm-5:45pm

Lab Location: Science and Technology Building, Room# 321

Instructional Method: Face-to-Face

Office: STEM 311Y

Office hours: M 10am-11am; R 9am-10am; F 10am-11am; and by appointment

Course Description

This is the accompanying laboratory for CHEM 1311: General Chemistry I. The first semester of a two semester sequence, the lab introduces many chemical concepts, problems, and calculations. Topics range from taking measurements, calibration, and statistical analysis, densities of solids through linear least squares analysis, verification of Boyle's Law, Charles' Law and Avogadro's Law, empirical formula of compounds, introduction to calorimetry, heat of chemical reactions, introduction to Acid-Base Chemistry, introduction to pH, and gravimetric analysis. **Prerequisite:** MATH 1314 or equivalent. **Corequisite:** CHEM 1311.

Course Materials

Laboratory handouts: You must print a copy of all handouts from Blackboard before each lab session. Reports are submitted with permanent blue or black non-water-soluble ink. Five points are deducted for data recorded in pencil. Refer to attached schedule for the sequential list of labs. The completed laboratory handouts (i.e. laboratory reports) in PDF format are due at the end of the day in which the laboratory experiment was performed unless otherwise stated in Blackboard. All students submit individual reports for grading.

Calculator: scientific/engineering calculator. Examples of acceptable calculators include TI30Xa and TI36X.

Proper attire for lab:

- A) Closed-toe shoes that covers your foot in its entirety.
- B) The following list is not appropriate lab attire: shorts, skirts, mid-riff shirts. tank tops. $\frac{3}{4}$ length pants. pants with large holes.
- C) Lab coats

D) Approved safety goggles THIS POLICY WILL BE STRICTLY ENFORCED AND STUDENT IN NONCOMPLIANCE WILL BE DISMISSED FROM THE LABORATORY AND WILL RECEIVE NO CREDIT FOR THAT WEEK'S EXPERIMENT. We take YOUR safety in the laboratory very seriously and we expect the same from you.

Goggles and laboratory coats are ALWAYS worn properly in the laboratory. Your instructor may change goggle/lab coat wear depending on the laboratory activity.

Learning Objectives

By the end of this course students will be able to:

1. Demonstrate their understanding of safe laboratory practices, such as responsible disposal techniques and proper use of personal protective equipment (PPE) while performing experiments.
2. Identify the categories of hazards associated with chemicals and use Safety Data Sheets (SDS) as well as reference materials.
3. Apply the chemistry concepts learned in CHEM 1311 to the design, execution, and analysis of chemical experiments.

Student responsibilities

Communication. The best way to contact instructors is via email. All correspondence between professors and students must occur via Texas A&M University San Antonio email accounts. Students are expected to access Blackboard regularly for updates on the course, announcements, and other course materials. All students are strongly encouraged to come to office hours or make appointments at other times to discuss course material and ask questions. Discussions concerning grading/grades will not be addressed through email and will only be discussed during office hours or scheduled appointments.

Attendance Policy

Late Work Policy. Punctuality is essential to maintaining a safe and efficient laboratory environment. Timely arrival ensures that you are present for important safety instructions and lab procedures. **Late Arrivals:** If a student arrives more than 10 minutes late, they will not be permitted to participate in the lab for that day. This will result in a grade of "0" for that week's lab report. Please plan your schedule accordingly to ensure prompt attendance at every lab session.

Lab Partners. Students will work in groups of two unless directed otherwise by the instructor.

Conduct and Behavior. My goal is to create a safe and engaging learning environment. Class disruptions are unacceptable, asking questions to clarify material during class does not qualify as a disruption and is encouraged. If you disrupt the class, you will be asked to leave for the day. Technology in the classroom may be a great resource but it can also hinder the learning process. Therefore, students are not allowed to wear ear buds and headphones and/or use cellphones during class. All cellphones must be on vibrate or turned off for the entirety of the class/lab period. In case of an emergency call, leave the room before answering the call. Texting during class is absolutely prohibited. The use of laptops, tablets or other devices for non-class related activities is not allowed. Electronic Devices during Exams. All electronic devices must be completely stored during exams and quizzes. Academic misconduct and attempts to cheat during the exam will be pursued according to Texas A&M-San Antonio code of conduct policy. You are discouraged from leaving the room during an exam. If you need to use the restroom, ask and leave all electronic devices with the instructor. Aggressive Behavior. The academic environment is meant for discussing ideas in a respectful manner. Tolerance, empathy, respect, and courtesy help us create a safe environment. Abusive and aggressive behavior will result in contacting the University Police Department and immediate removal of the student from the classroom. Visitors. Only students enrolled in the course are allowed in the classroom. No visitors are allowed. IMPORTANT. Each student receives this information during the first lecture. It is your responsibility to read this material and be familiar with the course content, procedures, and grading.

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Financial Aid and Verification of Attendance. According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which includes class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended the first week of class. Any student receiving Federal financial aid who does not attend the first week of class will have his/her aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of his/her federal aid.

The Jaguar Writing Center provides writing assistance to graduate and undergraduate students in all three colleges. Writing tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Students can make individual or group appointments with a writing tutor. The Writing Center has two locations: Central Academic Building, Suite 208. The writing center can be reached by emailing

writingcenter@tamusa.edu or calling (210)-784-1222. Appointments can also be made through JagWire using under the student services tab.

The Six-Drop Rule. Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student's GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as "F" grades and will impact the student's GPA.

Disability Services and 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 disability. If you believe you have a disability that may require accommodations, please contact *Disability Support Services (DSS)* for the coordination of services. DSS is located at the Main Campus on the 2nd floor of the Central Academic Building in room 210. The phone number for DSS is (210) 784-1335 and email is dsupport@tamusa.edu.

Academic Dishonesty is any act, or attempt, which gives an unfair advantage to the student. Academic dishonesty includes, but is not limited to –Plagiarism-Cheating-Lying-Bribery As a member in an academic community, students at Texas A&M University - San Antonio are expected to exhibit a high level of honesty and integrity in their pursuit of higher education, be mature, be self-directed and be able to manage their own affairs. Students who are unwilling to abide by these basic expectations will find themselves facing academic and/or disciplinary sanctions. Students are expected to share in the responsibility and authority with faculty and staff to challenge and make known acts that violate the Texas A&M University - San Antonio Code of Conduct. Texas A&M University - San Antonio faculty have the discretion to impose grade penalties as deemed necessary and are **obliged to and will report** any form of academic dishonesty. For more information on the process of reported academic misconduct, please refer to

<http://www.tamusa.edu/studentengagementsuccess/StudentRightsAndResponsibilities/Academic-Misconduct/index.html>

Academic Dishonesty falls under Acts of Dishonesty in the Student Handbook's Code of Conduct. University policy prescribes serious consequences for acts of academic misconduct including, but not limited to, a grade of 'F' on the particular paper or assignment or a failing grade in the course. Also, a referral may be issued to the Office of Student Rights and Responsibilities where the sanctions can vary up to possible expulsion from the University. Considering the potential consequences of academic misconduct, it is obviously in students' best interests to avoid even the appearance of such behavior. If you are ever unclear whether a specific act might constitute academic misconduct, please contact your instructor for an assessment of the situation. All student term papers and other written assignments are subject to analysis by anti-plagiarism software.

Veterans and active duty military personnel are welcomed and encouraged to communicate, in advance if possible, and special circumstances (e.g., upcoming deployment, drill requirements, disability accommodations). You are also encouraged to visit the Patriots' Casa in person room 202, or to contact the *Office of Military Affairs* with any questions at military@tamusa.edu or (210)784-1397

The Academic Learning Center offers free, appointment-based tutoring to Texas A&M University-San Antonio students. The Learning Center is made up of subject-area tutoring for Math and Sciences (including Statistics for most majors). Please call us at 210-784-1332 to see if the ALC offers tutoring for your course. Also, please come visit us in Modular C, Room 140 to learn more about our subject specific hours

Counseling Resources As a college student, there may be time when personal stressors interfere with your academic performance and/or negatively impact your daily functioning. If you or someone you know is experience life stressors, emotional difficulties, or mental health concerns at A&M-SA, please contact the Office of Student Counseling & Wellness Services (SC & WS) located in Modular C Room 166 (Rear entrance) or call 210-784-1331 between the hours of 8:00AM and 5:00PM. All mental health services provided by SC & WS are free, confidential (as the law allows), and are not part of a student's academic or university record. SC&WS provides brief individual, couples, and group therapy, crisis intervention, consultation, case management, and prevention services. For more information, please visit www.tamusa.edu/studentcounseling. In a crisis situation, please walk-in to the SC & WS services between 8:00AM and 5:00PM to be seen by a licensed clinician. After hours, please contact UPD at 911 or text "HOME" to 741-741 24/7/365 to connect with a trained crisis counselor. The National Suicide Prevention hotline also offers a 24/7/365 hotline at 1-800-273-8255

The complete academic calendar is available online:

<https://www.tamusa.edu/academics/academic-calendar/index.html>

Please be familiar with key dates such as last day to drop the class, final exam etc.

Tentative Schedule □

| Week # | Day | Experiment |
|--------|--------|--|
| 1 | Aug 27 | Introduction, Syllabus, Safety training |
| 2 | Sep 3 | No Lab |
| 3 | Sep 10 | Introduction to Excel |
| 4 | Sep 17 | Measurement and Error Part 1 and Part 2 |
| 5 | Sep 24 | Volume and Mass Measurement |
| 6 | Oct 1 | Density of Metals |
| 7 | Oct 8 | Empirical Formula |
| 8 | Oct 15 | Texas Limestone |
| 9 | Oct 22 | Texas Limestone |
| 10 | Oct 29 | Titrations |
| 11 | Nov 5 | Molar Mass of Butane/ Infographic topic due |
| 12 | Nov 12 | Emission Spectroscopy/ Infographic rough draft due |
| 13 | Nov 19 | Geometric Structure |
| 14 | Nov 26 | Work on infographics-No lab |
| 15 | Dec 3 | Final infographic due |
| 16 | Dec 10 | Finals week-No labs |

***These are the tentative topics. Instructor reserves the right to make changes as deemed necessary.**

Data Sheets: Are to be turned in at the end of the lab period, unless instructed otherwise. These will be graded for correctness and accuracy, not just completion.

All written assignments must be worked on individually. All written assignments are subject to analysis by anti-plagiarism software. Plagiarism will result in a grade of a zero for the assignment.

Grading:

10 laboratory worksheets x 50 points each = 500 points

Group project = 80

There will be NO extra credits. Laboratory worksheets/reports are the only opportunities students have to earn points in this course. Worksheets will be graded based on completeness, accuracy, and correctness.

$$\text{Your grade: } \left(\frac{\text{Total points earned}}{580} \right) * 100$$

All laboratory report/worksheet grades will be posted to Blackboard. However course percentages, letter grades, etc. are not to be considered as official and students should use caution when using those to evaluate overall course grades. To calculate your grade, use the equation above. Using that equation, letter grades will be determined as:

Letter Grades:

| Letter Grade: | A | B | C | D | F |
|----------------------|--------------------|---------------------|---------------------|---------------------|------------------|
| % of Total Points: | 90.0 - 100% | 80.0 - 89.9% | 70.0 - 79.9% | 60.0 - 69.9% | 0 - 59.9% |

Should you have a question concerning the way that your lab was graded, or if you think that there was an error in calculating the lab score, then it is your responsibility to bring the matter to the attention of the instructor within two calendar days of the date when your lab score was updated on your blackboard.

IMPORTANT. Each student receives this information during the first lecture. It is your responsibility to read this material and be familiar with the course content, schedule, grading and safety procedure.