SYLLABUS GENERAL CHEMISTRY I-LABORATORY (2025_FALL_12806_CHEM_1111 _L02_General Chemistry I Lab) **Start Date**: 08/22/2025 **End Date:** 12/7/2025 **Type:** Classroom **Building:** Warnock Science **Room**:00307 **Class hours:** Wednesday 01:00PM-02:40PM	 **Instructor:** Esra BALCIOGLU **E-mail:** esra.balcioglu@sulross.edu **Office hours:** By Appointment **Office Phone:** 432 8378614 **Campus Office:** MAB 112/A

Contacting Me: The best way to reach me is via email. Do not hesitate to contact me for any reason. I will respond to email inquiries as soon as possible.

COURSE MATERIALS

The following course materials are required:

1. **Textbooks:**
   General Chemistry 1 Laboratory Manual CHEM 1111. Dr. David Leaver. Sul Ross State University.
   Laboratory Manual for Introductory Chemistry: Concepts and Critical Thinking, 7th Edition.
2. Recommended-American Psychological Association (October 2019). Publication Manual of the American Psychological Association, Seventh Edition, https://apastyle.apa.org/products/publication-manual-7th-edition-spiral
3. Scientific calculator.

Additional resources, including supplementary readings, videos, and other materials, will be made available on Blackboard throughout the semester.

SRSU Library Services and Support

The Bryan Wildenthal Memorial Library at Sul Ross State University is your go-to hub for academic resources, offering a wealth of materials and services to the entire SRSU community at no cost. You'll find a vast collection of books, articles, and online databases readily accessible at **www.library.sulross.edu.** If you're accessing resources off-campus, simply use your Lobo ID and password to log in. For checking out physical materials, remember to bring a photo ID.

Need assistance? Our librarians are here to help! You can reach them via email at srsulibrary@sulross.edu, by phone at 432-837-8123, or by visiting them in person.

Course Description

This laboratory course provides hands-on experience with fundamental chemistry experiments, including recrystallization, crystal growth, redox and metathesis reactions, basic organic chemistry techniques, chromatography, and titrations. Emphasis is placed on applying the scientific method, experimental design, proper data collection and analysis, and preparation of formal laboratory reports.

Prerequisite: MATH 1314 or equivalent.
Corequisite: CHEM 1311.
Lab Fee: $8

Course Learning Objectives
By the end of this course, students will be able to:
- Classify matter and describe its physical and chemical properties.
- Explain atomic and molecular structure, periodic trends, and the formation of ions.
- Apply stoichiometry to quantify relationships in chemical reactions.
- Analyze and predict the outcomes of reactions in aqueous solutions and gases.
- Describe electronic structure and chemical bonding using basic bonding models.
- Solve quantitative chemistry problems using appropriate units, significant figures, and scientific notation.

Student Learning Outcomes (SLOs) for Chemistry Majors
Graduates with a major in chemistry will be able to:
- Organic Chemistry – Demonstrate proficiency in drawing molecular structures, and explaining organic reactions, stereochemistry, structural analysis, and biochemical reaction mechanisms.
- Inorganic Chemistry – Apply principles of coordination chemistry, valence theory, and molecular theory to explain bonding and reactivity.
- Analytical Chemistry – Demonstrate competence in qualitative and quantitative analysis, including calibration, equilibrium, gravimetric, titrimetric, spectroscopic, and electrochemical methods, supported by data interpretation.
- Physical Chemistry – Explain and apply concepts of atomic and molecular structure, thermodynamics, electrochemistry, surface and solid-state chemistry.
- Research Skills – Locate, evaluate, and interpret chemical literature, and design and conduct a research project using appropriate methodologies.

B.Sc. in Chemistry – Marketable Skills
Graduates of the Chemistry program will be able to:
1. **Professional Skills** – Demonstrate reliability, punctuality, and effective time management in professional and academic settings.
2. **Laboratory & Analytical Skills** – Analyze and synthesize chemical compounds, perform spectroscopic and other characterizations, and interpret data using scientific reasoning.
3. **Scientific Writing** – Write clear, well-structured scientific papers and properly cite and evaluate scholarly references.
4. **Oral Communication** – Deliver effective oral presentations on scientific topics, supported by appropriate visual aids and professional communication techniques.

Student Learning Outcomes for Core Curriculum Chemistry Courses
Students completing chemistry courses in the Core Curriculum will be able to:
1. **Critical Thinking Skills** – Apply inquiry, analysis, and evaluation of scientific information to solve real-world chemistry problems. Performance will be assessed through exams, laboratory experiments, and self-assessments.
2. **Communication Skills** – Demonstrate effective written and oral communication by preparing laboratory reports (observations, explanations, and conclusions) and engaging in class discussions. Communication will also be reinforced through opportunities for reflection and self-assessment.
3. **Empirical and Quantitative Skills** – Apply mathematical reasoning to collect, manipulate, and analyze experimental data in order to draw valid scientific conclusions.
4. **Teamwork** – Work effectively in collaborative laboratory settings by engaging constructively with peers, considering multiple perspectives, and contributing to the achievement of shared goals.

Late Assignment Submission Policy
All coursework and assignments must be submitted **by the stated deadlines**. Late work is generally **not accepted**, as students are informed of all due dates at the beginning of the term and are expected to plan accordingly.
Exceptions will only be made in cases of **documented and university-recognized excuses**. If a student misses an assignment or exam, they must promptly provide a valid explanation and supporting documentation.
Students are strongly encouraged to review the syllabus regularly and stay informed of all deadlines throughout the semester.

Academic Integrity
Students are expected to uphold the highest standards of academic honesty as outlined in the **Sul Ross Student Code of Conduct**. Academic dishonesty—including cheating, plagiarism, collusion, fabrication, or falsification of records, will not be tolerated. The use of **AI tools (e.g., ChatGPT)** is prohibited unless specifically authorized.
Violations may result in penalties ranging from a failing grade on the assignment or course to dismissal from the University. All assignments and lab reports, including pre-lab work, must be completed individually and reflect the student's own efforts.
Maintaining academic integrity preserves both the value of your education and the credibility of the University.

APA Style
This course will use the American Psychological Association (APA) Seventh Edition formatting and style guide for all written assignments. If you have any questions or concerns regarding the use of APA, a few resources have been provided below. Please note that all external sources must be appropriately cited. A failure to do so constitutes plagiarism and is a violation of the course academic honesty standards. Beside numerous online sources you can also visit the following link for help with APA https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_style_introduction.html.

Student Support Services
Sul Ross State University offers various programs to help students succeed, including advising, counseling, mentoring, tutoring, supplemental instruction, and writing assistance. For a complete list of services, visit Student Support Services **at** https://www.sulross.edu/section/311/student-support-services. For more information, contact SSS at (432) 837-9118 or visit Ferguson Hall, Room 105.

Counseling Services: Sul Ross students have access to nine free counseling sessions through TimelyCare. For 24/7 support, visit TimelyCare/SRSU. In-person counseling is also available in Ferguson Hall, Room 112 (Alpine campus), and via telehealth for remote and RGC students.

Students with Special Needs - Americans with Disabilities Act as Amended (ADAAA)
Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Alpine students seeking accessibility/accommodations services must contact Mary Schwartze Grisham, M.Ed., LPC, SRSU's Accessibility Services Coordinator at
432-837-8203, or email mschwartze@sulross.edu The office is located on the first floor of Ferguson Hall # 112, and the mailing address is P.O. Box C-122, SRSU, Alpine. Texas, 79832.

Course Evaluation

Laboratory Expectations and Safety Policies

1. Preparation

- Review the assigned experiment **before** coming to lab.
- Bring required materials, including a **scientific calculator**.

2. Dress Code & Personal Conduct

- Proper attire is mandatory: shorts, flip-flops, chewing gum, and open-toed shoes are **not allowed**.
- Students arriving without appropriate clothing will be asked to leave the lab. **No exceptions.**
- Food and drinks are **strictly prohibited** in the laboratory.

3. Protective Equipment

- **Safety glasses are required** for all General Chemistry laboratory sessions.
- Safety glasses may be purchased from the SRSU Bookstore.
- Prescription glasses qualify as safety glasses.
- Students will not be permitted to participate without eye protection.
- A **laboratory coat** is strongly recommended (available at the SRSU Bookstore).

4. Health & Safety Considerations

- Students who are pregnant, or who become pregnant during the semester, must notify Dr. Esra Balcioglu immediately.

5. Technology & Electronics

- A **scientific calculator** is required for all lab sessions and exams.
- **Cell phones** must be turned off during laboratory sessions and may not be used during exams.

Attendance Policy:

Attendance in the laboratory is mandatory.
Students must arrive on time and sign in at the beginning of each lab session.
Plan to remain in the laboratory for the entire scheduled period.
The TA may deduct points for late arrivals or early departures.
Students who miss three or more labs will receive an automatic grade of F for the course.
Students who are pregnant, or become pregnant during the semester, must notify Dr. Esra Balcioglu immediately for safety considerations.

Assignment Policy:

Lab Manual Assignments
Pre-Lab Exercises – Due at the beginning of the lab in which the experiment will be performed.
Data Sheets – Due at the next lab period following the completion of the experiment.
Written Assignments
Pre-Lab Write-Up – Due at the beginning of the lab in which the experiment will be performed.
Lab Reports – Due at the next lab period following the completion of the experiment.
Guidelines for writing lab reports are provided on the next page and in the General Chemistry II Laboratory Manual.

Laboratory Grading

- Each experiment is worth 30 points, distributed as follows:
- Pre-lab definitions: 5 points
- Attendance: 5 points
- Experimental work and timely submission of data/result sheets or written lab report: 20 points
- Late submissions will result in point deductions:
- 10% penalty if not submitted at the beginning of lab.
- An additional 10% per day will be deducted for each day the assignment is late.

- All assignments must be:
- Completed and submitted on time.
- Legible and properly formatted.
- Submitted by the following week unless otherwise specified.

Outline for Written Pre-Lab Reports
- Aim – State the goal of the experiment in your own words.
- Reagents – List all chemicals used, including relevant quantities (grams, volume, molarity, etc.).
- Apparatus – List all equipment required.
- Method – Outline the steps of the experiment in your own words.

Outline for Written Lab Reports *(to be prepared using MS Word or equivalent)*
- Aim – State the goal of the experiment in your own words.
- Reagents – List all chemicals used, with quantities (grams, volume, molarity, etc.).
- Apparatus – List all equipment used.
- Method – Outline the experimental steps, noting any deviations from the lab manual.
- Data & Results – Record observations and findings (e.g., percent yield, melting point).
- Discussion – Analyze results, answer assigned questions and explain the significance of your findings. Address whether results were expected or unexpected, and why.
- Conclusion(s) – Summarize key outcomes, highlighting the success or limitations of the experiment.

Course Schedule

This course schedule is subject to change as needed to meet the needs of the course. Students will be notified of adjustments when they are made. Also, any additional reading materials, resources and other information will be posted on Blackboard.

Students will be notified of how to access this information by the instructor. ***All times are in central time***

Week	Dates	Topics	Assignments
1	August 25-31	- **Course Introduction & Requirements**	Syllabus & Semester Project Guidelines
2	September 1-7	- **Safety Practices and Procedures in the Laboratory (Exp.1)**	
3	September 8-14	- **Chemical Calculations and Symbols (Exp. 2)**	
4	September 15-21	- Naming of Chemical Compounds (Exp. 3)	
5	September 22-28	- Balancing Chemical Equations (Exp. 4)	
6	Sep 29-Oct 5	- Recrystallization of Growing Crystals (Exp. 6)	
7	October 6-12	- Metathesis Reactions (Exp. 7)	
8	October 13-19 October 17, **Final Day for Midterm Exam**	-Percentage of Water of Hydrate (Handout 1)	
9	October 20-26	- Reduction & Oxidation Reaction and Limiting Reagent (Handout 2)	
10	October 27- Nov 2	- Synthesis of Aspirin (Exp. 8)	
11	November 3-9	Analysis of Antacid Tablets (Exp. 11) & clean up	
12	November 10-16		
13	November 17-23		
14	November 24-Nov 30 Thanksgiving Day Holiday (11 / 26-28)	***November 25th, the last day before Thanksgiving.***	
15	December 1-7 December 4	**Last Class Day before Finals**	
15	December 5-7	Final Exams	