

CHM 1311-XTL General Chemistry I

Fall 2026 Course Syllabus

Course	CHM 1311-XTL, General Chemistry I
Credits	3 credit hours; lecture course
Term	Fall 2026, August 24 through December 9
Delivery	Fully online and asynchronous through Blackboard
Instructor	Yahya Absalan
Email	yabsalan@sulross.edu
Office hours	By appointment; meetings may be arranged online
Official platform	Blackboard and Sul Ross email

This syllabus explains the learning outcomes, required work, assessment structure, and weekly content for CHM 1311-XTL. Because the course is asynchronous, students are responsible for monitoring Blackboard, completing each module on time, and communicating promptly when assistance is needed.

Course Description

General Chemistry I introduces matter and measurement; atomic theory and atomic structure; moles and chemical calculations; aqueous reactions and concentration; gases; electronic structure and periodic trends; chemical bonding; Lewis structures; molecular geometry; and hybridization. The course emphasizes quantitative reasoning, chemical language, problem solving, and the connection between microscopic models and observable behavior.

Core Curriculum Objectives

Course activities support the following Texas core objectives:

- Critical thinking through analysis, evaluation, calculation, and evidence-based conclusions.
- Communication through clear written explanations, symbolic representations, equations, tables, and molecular models.
- Empirical and quantitative reasoning through the interpretation and manipulation of numerical and observable data.
- Teamwork and responsible participation through appropriate online interaction and collaborative learning when authorized.
- Personal and social responsibility through ethical academic practice and consideration of how scientific choices affect others.

Student Learning Outcomes

By the end of the course, students should be able to:

- Use chemical terminology, units, significant figures, dimensional analysis, and quantitative problem-solving methods correctly.
- Describe atomic structure, isotopes, ions, electronic configurations, and periodic trends.
- Convert among mass, moles, particles, and chemical formulas, and solve stoichiometric problems.
- Write and balance chemical equations and analyze precipitation, acid-base, and oxidation-reduction processes.
- Apply concentration relationships, solution stoichiometry, gas laws, and the ideal gas equation.
- Draw Lewis structures and use bonding models, resonance, formal charge, VSEPR theory, and polarity to predict molecular behavior.

Required Course Materials and Technology

Item	Requirement
Textbook	Raymond Chang, <i>Chemistry</i> , 14th edition. OpenStax <i>Chemistry 2e</i> may be used as a supplementary reference.
Blackboard	Reliable access is required for announcements, modules, lecture materials, homework, exams, grades, and course communication.
Calculator	A scientific calculator capable of exponential and logarithmic operations. Phones, smart watches, and internet-enabled devices may not be used as calculators during exams.
Technology	A dependable computer, internet connection, current browser, PDF reader, and software needed to view and submit course files.

Asynchronous Course Format and Participation

There are no required weekly class meetings. Each Blackboard module contains the assigned content, instructions, and deadlines. Students should plan regular study periods throughout the week rather than attempting to complete an entire module at once. Participation may include module check-ins, short activities, discussion prompts, or other work identified in Blackboard. Logging in without completing assigned academic activity does not constitute participation.

Blackboard announcements and Sul Ross email are official course communications. Students should check both frequently. Email messages should identify CHM 1311-XTL and the relevant assignment or module. The instructor will respond as promptly as reasonably possible during the work week.

Assessment and Grading

Component	Weight	Purpose
Participation	10%	Blackboard engagement, module check-ins, discussions, and assigned learning activities.
Homework	20%	Problem sets and other assignments that develop conceptual understanding and quantitative skill.
Three exams	50%	Three unit exams; together they account for 50% of the course grade.
Final examination	20%	A cumulative assessment emphasizing integration of the semester's major concepts.

Letter	Percentage	Letter	Percentage	Letter	Percentage
A	90.00-100	B	80.00-89.99	C	70.00-79.99
D	60.00-69.99	F	Below 60.00		

Homework and participation

Assignments and due dates are posted in Blackboard. Students must show their reasoning and include units where appropriate. Submitted work must be readable and in the requested file format. Because chemistry develops cumulatively, students should complete all assigned problems, including items not selected for detailed grading.

Examinations

The course includes three unit exams and one cumulative final examination. Exam availability, time limits, permitted materials, and submission procedures will be announced in Blackboard. Students who experience an approved absence, accommodation issue, or documented technical problem should contact the instructor promptly. Unauthorized assistance, collaboration, materials, or devices during an exam constitute academic misconduct.

Deadlines and make-up work

Blackboard is the authoritative source for deadlines. Students should begin assignments early enough to manage ordinary technical problems. Extensions or make-up arrangements require timely communication and may be granted for documented circumstances, university-approved absences, or approved accommodations.

Principles for Success

- Work consistently. Budget several study sessions each week for reading, viewing course materials, and solving problems.
- Practice actively. Chemistry is learned by solving problems, checking units, explaining reasoning, and correcting errors.
- Ask questions early. Email the instructor or request an appointment before a misunderstanding affects later topics.
- Use feedback. Review returned work, identify recurring errors, and revise your study approach before the next assessment.
- Maintain complete records. Save copies of submitted work and confirmation of successful Blackboard submissions.

Important Fall 2026 Dates

Date	Academic milestone
August 24	Fall 2026 classes begin; CHM 1311-XTL opens in Blackboard.
September 9	Census date and last day to drop a full-term course without an academic record.
November 6	Last day to drop a full-term course with a grade of W.
December 9	End of the 16-week Fall 2026 term. The final examination deadline will be posted in Blackboard.

Tentative Course Schedule

The schedule below provides the required general description of course topics and major assessments. Exact module deadlines are posted in Blackboard. The instructor may revise the sequence or timing when needed to support student learning; changes will be announced.

Week	Dates	Chapter	Topics	Major work
1	Aug 24-30	1	Course orientation; matter; classification and properties; physical and chemical changes; measurement and units	Orientation and Chapter 1 work
2	Aug 31-Sep 6	1	Scientific notation; significant figures; dimensional analysis; accuracy; precision; density; temperature	Chapter 1 homework
3	Sep 7-13	2	Atomic theory; development of atomic models; subatomic particles; atomic number; mass number; isotopes	Chapter 2 activities
4	Sep 14-20	2	Molecules and ions; molecular and empirical formulas; ionic formulas; nomenclature; acids; bases; hydrates	Chapter 2 homework
5	Sep 21-27	1-2 / 3	Review and assessment of Chapters 1-2; atomic mass; the mole; Avogadro's number; molar mass	Exam 1; begin Chapter 3
6	Sep 28-Oct 4	3	Chemical equations; balancing; mass relationships; stoichiometry; limiting reactants; theoretical and percent yield	Chapter 3 homework
7	Oct 5-11	4	Solutions; electrolytes and nonelectrolytes; precipitation; solubility; molecular, complete ionic, and net ionic equations	Chapter 4 activities
8	Oct 12-18	4-5	Acid-base and oxidation-reduction reactions; concentration; solution stoichiometry; gravimetric analysis; gas variables	Chapters 4-5 homework
9	Oct 19-25	5 / 3-5	Ideal gas equation; gas stoichiometry; real gases; review and assessment of Chapters 3-5	Exam 2
10	Oct 26-Nov 1	7	Nature of light; electromagnetic radiation; black-body radiation; photoelectric effect; atomic spectra; Bohr model	Chapter 7 activities
11	Nov 2-8	7	Wave-particle duality; de Broglie relation; uncertainty; quantum numbers; orbitals; electron configurations	Chapter 7 homework
12	Nov 9-15	8 / 7-8	Periodic table; classification of elements; electron configurations of ions; periodic trends; review and assessment	Exam 3
13	Nov 16-22	9	Ionic and covalent bonding; lattice energy; electronegativity; bond polarity; Lewis structures; formal charge	Chapter 9 homework
14	Nov 23-29	9-10	Resonance; bond energy; introduction to molecular geometry; VSEPR theory; Thanksgiving recess	Chapters 9-10 activities
15	Nov 30-Dec 6	10	Molecular geometry; bond angles; polarity; hybridization; cumulative review	Chapter 10 homework and review
16	Dec 7-9	1-10	Cumulative synthesis and final assessment	Final examination

University and Course Policies

Accessibility and accommodations

Sul Ross State University is committed to equal access. Students seeking accommodations should contact Accessibility Services, submit the university accommodation request for this course, and provide the resulting official notice to the instructor. Accessibility Services may be reached at 432-837-8203 or in Ferguson Hall, Room 112. Students should begin the process as early as possible.

Academic integrity

Students must submit their own work and must follow the collaboration and resource rules stated for each assignment. Prohibited conduct includes copying, unauthorized collaboration, using unapproved sources or devices during an assessment, submitting work prepared for another course, or presenting another person's ideas or work as one's own. Violations may result in a reduced or failing grade and referral under university procedures.

Generative artificial intelligence

Unless an assignment explicitly permits it, generative AI may not be used to produce answers, calculations, explanations, or other material submitted for credit. When AI use is expressly permitted, students must follow the assignment's disclosure and citation instructions and remain responsible for accuracy. Students should never place names, identification numbers, health information, private communications, or confidential course materials into an AI system.

Student responsibilities

Students are responsible for knowing the applicable Student Handbook and catalog requirements, checking Sul Ross email and Blackboard, meeting deadlines, maintaining academic honesty, and communicating promptly about circumstances affecting course participation. Federal, state, local, and university rules apply to online conduct.

Distance education expectations

Students in this distance course have access to university academic support services. Course correspondence should use Sul Ross accounts, and graded work should be submitted through Blackboard unless the instructor directs otherwise. Students are responsible for maintaining the equipment, software, and connectivity needed for the course and for protecting login credentials.

Respectful learning environment

The course supports inquiry, civil disagreement, and respectful communication. Harassment, intimidation, discrimination, or personal attacks are inconsistent with the learning environment. Online posts and messages should address ideas and evidence professionally.

Privacy and course materials

Course recordings, slides, assignments, exams, solutions, and other materials are provided for enrolled students' educational use. They may not be posted publicly, sold, distributed outside the course, or uploaded to external services without written permission. Students should also protect the privacy of classmates in online discussions and communications.

Student Support and Official Resources

Resource	Information
Counseling	Sul Ross students have access to counseling support, including TimelyCare and university counseling services. See the university website for current access instructions.
Library	The Bryan Wildenthal Memorial Library and Archives provides books, databases, research assistance, interlibrary loan, and distance services. Email srsulibrary@sulross.edu or call 432-837-8123.
Student Handbook	Consult the current Sul Ross Student Handbook for conduct, complaint, and academic procedures.
Academic calendar	Confirm official dates through the Sul Ross academic calendar and Registrar pages.