

# General Chemistry I

## Class

CHEM 1411

An introduction to fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, properties of gases, and an introduction to thermodynamics and descriptive chemistry. These principles will be illustrated in an accompanying laboratory. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS. Three hours lecture and three hours laboratory per week.

## Course Learning Objectives

When this course is completed, the student will have learned to:

- Define the fundamental properties of matter.
- Classify matter, compounds, and chemical reactions.
- Determine the basic nuclear and electronic structure of atoms.
- Identify trends in chemical and physical properties of the elements using the Periodic Table.
- Describe the bonding in and the shape of simple molecules and ions.
- Solve stoichiometric problems.
- Write chemical formulas.
- Write and balance equations.
- Use the rules of nomenclature to name chemical compounds.
- Use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems.
- Determine the role of energy in physical changes and chemical reactions.
- Convert units of measure and demonstrate dimensional analysis skills.

## Required Textbooks

Chemistry from OpenStax, free online at [www.openstax.org/details/chemistry](http://www.openstax.org/details/chemistry). **Lab Text:** General Chemistry 1441 Laboratory Manual, Seventh edition, ISBN-10 9781609046569

## Disabilities

### ADA Statement:

Any student with a documented disability (e.g. learning, psychiatric, vision, hearing, etc.) may contact the Office on the Weatherford College Weatherford Campus to request reasonable accommodations. *Phone:* 817-598-6350  
*Office Location:* Office Number 118 in the Student Services Building, upper floor. *Physical Address:* Weatherford College 225 College Park Drive Weatherford, TX.

## Academic Integrity

Academic Integrity is fundamental to the educational mission of Weatherford College, and the College expects its students to maintain high standards of personal and scholarly conduct. Academic dishonesty of any kind will not be tolerated. Academic dishonesty includes, but is not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials including unauthorized use of Generative AI. Departments may adopt discipline specific guidelines on Generative AI usage approved by the instructional dean. Any student who is demonstrated to have engaged in any of these activities will be subject to immediate disciplinary action in accordance with institutional procedures.

## Lab Fee

\$24.00