

Calallen ISD 2025-2026
Syllabus

Campus: Calallen High School

Course and/or Grade Level: Chemistry

Course Description: Students conduct laboratory and field investigations, use scientific practices during investigations, and make informed decisions using critical thinking and scientific problem solving. Students study a variety of topics that include characteristics of matter, use of the Periodic Table, development of atomic theory, chemical bonding, chemical stoichiometry, gas laws, solution chemistry, acid-base chemistry, thermochemistry, and nuclear chemistry. Students investigate how chemistry is an integral part of our daily lives.

Semester 1: August 13 – December 19, 2025

1st Quarter Topics	2nd Quarter Topics
Safety & Measurement • Lab safety & MSDS • Metric System • Scientific Notation • Significant Figures • Density Atomic Theory/Structure • Atomic Theory History • Atomic Models • Structure of an Atom • Electromagnetic Spectrum & Light Periodic Table • History • Families & Properties	Periodic Table (continued) • Electron Configuration • Periodic Trends Bonding • Ionic, Covalent & Metallic • Bonding Polarity • Lewis Structures • Molecular Geometry/VESPR • Bonding Properties Chemical Formulas • Nomenclature • Writing & Balancing Equations • Types of Reactions • Acids/Bases

Semester 2: January 5 – May 29, 2026

3rd Quarter Topics	4th Quarter Topics
Intro to the Mole • Dimensional Analysis • Particles to Mole • Molar Mass & Mass to Mole • Volume to Mole • Percent Composition Stoichiometry • Limiting/Excess Reactants • Mole Ratio • Percent Yield • Stoichiometric Calculations Inter/Intramolecular Forces • Molecular Polarity • Types of IMF • Matter & Energy • Kinetic Molecular Theory	Solutions • Mixtures vs. Solutions • Properties of Water • Solubility • Molarity & Dilutions Gas Laws • Avogadro's Law • Dalton's Law • Boyles, Charles, Guy-Lussac Laws • Ideal Gas Law Thermochemistry • Specific Heat & Calorimetry • Thermochemical Equations • Heating Curves • Standard Heat of Formation

**Minor adjustment to the schedule may be made based on campus schedules and student needs.*