

## General & Honors Chemistry at PCLC (NGSS-Aligned, A–G Certified\*)

Grade Level: 10th – 12th

A–G Certified: Yes, if approved by charter school or PSP

Pre-requisite: Completion of Algebra 1

### Lab Materials:

Lab supplies are provided for in-person learners.

Online learners will receive a supply list to perform experiments at home.

Lab supply costs may be covered by charter school funds if purchased through an approved vendor.

### Course Overview

This A–G level Chemistry course is designed to provide students with a rigorous understanding of the fundamental principles of chemistry, emphasizing both theoretical knowledge and laboratory practice. The course meets once weekly for 2.25 hours over 30 weeks per year (15 weeks per semester). Each week includes live lectures and hands-on labs, with readings, homework, lab reports, and assessments completed independently at home. Two in-class final exams are administered per year.

### Core topics include:

Structure of the atom and the periodic table

Chemical bonding and molecular structure

Reactivity and chemical properties

Mole concepts and stoichiometry

Gases, solutions, and acids & bases

Reaction rates and chemical equilibrium

Redox reactions and electrochemistry

Introduction to biochemistry and organic chemistry

Instruction emphasizes laboratory skills, quantitative analysis, and scientific reasoning. Students conduct weekly labs or demonstrations to reinforce content knowledge and develop proficiency in experimental design, data analysis, and scientific communication. Assignments include homework, lab notebooks, and textbook-based problem sets, with tests administered at home under parental supervision and returned the following week.

### Honors Chemistry Option

Additional readings, assignments, and advanced problem-solving tasks

Preparation for the CLEP Chemistry exam for potential college credit

Office hours are available by appointment for additional support

Honors Chemistry is also A–G certified.

This course aligns with NGSS High School Chemistry standards, including:

HS-PS1-1: Structure and properties of matter

HS-PS1-2: Chemical reactions and energy changes

HS-PS1-3: Stoichiometry and quantitative analysis

HS-PS1-5: Chemical bonding and molecular structure

HS-PS1-6: Conservation of mass in reactions

HS-PS3-3: Energy transfer in chemical systems

Additional Resources:

A–G Course List Verification: [UCHS Articulation](#)