

AP Chemistry

Collierville High School

Course Overview

The AP Chemistry course provides students with a college-level foundation to support future advanced course work in chemistry. Students cultivate their understanding of chemistry through inquiry-based investigations, as they explore topics such as: atomic structure, intermolecular forces and bonding, chemical reactions, kinetics, thermodynamics, and equilibrium.

Course Content

- **BIG IDEA 1:** The chemical elements are the building blocks of matter, which can be understood in terms of the arrangements of atoms.
- **BIG IDEA 2:** Changes and physical properties of materials can be explained by the structure and the arrangement of atoms, ions, or molecules and the forces between them.
- **BIG IDEA 3:** Changes in matter involve the rearrangement and/or reorganization of atoms and/or the transfer of electrons.
- **BIG IDEA 4:** Rates of chemical reactions are determined by details of the molecular collisions.
- **BIG IDEA 5:** The laws of thermodynamics describe the essential role of energy and explain and predict the direction of changes in matter.
- **BIG IDEA 6:** Bonds or attractions that can be formed can be broken. These two processes are in constant competition, sensitive to initial conditions and external forces or changes.

Laboratory Requirement

This course requires that 25 percent of the instructional time provides students with opportunities to engage in laboratory investigations.

Prerequisites

Students should have successfully completed a general high school chemistry course and Algebra II.

Course Cost - \$95