

AP Chemistry

at a glance

Purpose

The purpose of the class is to provide a college-level course in chemistry and to prepare the students to seek credit and/or appropriate placement in college chemistry courses. This course is structured around the six big ideas articulated in the AP chemistry curriculum framework provided by the College Board.

The Big Ideas are:

#1 The chemical elements are fundamental building materials of matter, and all matter can be understood in terms of arrangements of atoms. These atoms retain their identity in chemical reactions.

2 Chemical and physical properties of materials can be explained by the structure and the arrangement of atoms, ions, or molecules and the forces between them.

3 Changes in matter involve the rearrangement and/or reorganization of atoms and/or the transfer of electrons.

4 Rates of chemical reactions are determined by details of the molecular collisions.

5 The laws of thermodynamics describe the essential role of energy and explain and predict the direction of changes in matter.

6 Any bond or intermolecular attraction that can be formed can be broken. These two processes are in a dynamic competition, sensitive to initial conditions and external perturbations.

Study Guides

Fast Track to a 5 by Cengage Learning

Princeton Review

Barrons

Albert io (online)



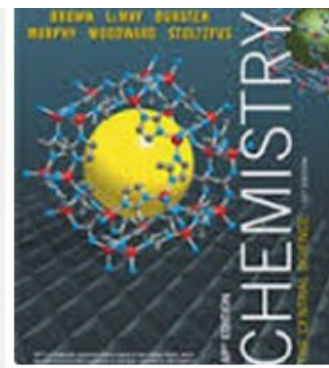
Laboratory work

Labs are integrated throughout the course while using basic laboratory equipment to support the learning objectives listed within the AP Chemistry Curriculum Framework. Many of the labs provide students with the opportunity to connect their knowledge of chemistry and science to major societal or technological components, to help them become scientifically literate citizens.



Students engaged in hands-on laboratory work

Labs develop conceptual and practical understanding of content knowledge, while gaining experience with inquiry and the seven science practices. Most of the labs utilize guided inquiry format, and these form a foundation for student understanding of the chemical principles discussed in lectures.



Textbook

Brown, Theodore L., et.al., *Chemistry: The Central Science* – 10th ed. Pearson Prentice Hall 2006.

Other Resources:
Hein and Arena, *Foundations of College Chemistry*: 13th ed. John Wiley and Sons.
Zumdahl, Steven S and Susan A., *Chemistry*– 9th ed. Cengage Learning 2008