

Department: Science

Course Name: Advanced Placement Chemistry

Course Description:

AP Chemistry is a full-year course for those students who, after one year of chemistry, desire to attain college credit. The advanced curriculum includes stoichiometry, electrochemistry, thermodynamics, and equilibrium. Problem solving, daily laboratory work, and application are emphasized. Students enrolled in AP Chemistry must take the Advanced Placement (AP) examination. This course explores the history and development of chemistry and is strongly oriented towards problem solving to improve chemical competence. The material presented shadows those topics suggested by the AP Chemistry guidebook. Prerequisites: Honors Chemistry and completion of Honors Algebra II/Trigonometry. AP Chemistry requires a double block to ensure sufficient lab time.

Content:

Matter properties and measurement

Atoms and atomic theory

Mole concept

Naming chemical compounds

Chemical reactions

Aqueous solutions

Electrons in atoms

Periodic properties

Bonding and geometry

Periodic properties

Gases

Kinetics

Thermochemistry

Free energy and entropy,

Physical properties of solutions

Equilibrium,

Acids and bases

Electrochemistry

Nuclear chemistry

Organic chemistry

Skills:

Gather and analyze lab data

Develop basic computer spreadsheet skills

Utilize a learning management system for accessing content, assignments, and assignment submissions

Demonstrate knowledge of college-level chemistry

Apply concepts to related topics

Text and Materials:

Chemistry: The Central Science by Brown, LeMay (Publisher: Pearson) 15th edition

Methods of Instruction:

Lecture
Interactive online lessons
Laboratory Experimentation
Demonstrations
Computer projects
Class projects
Demonstration projects

Methods of Evaluation:

Quizzes
Tests(both online and on paper)
Homework(submitted with LMS)
Class work
Class participation
Laboratory reports
Laboratory participation

