



High Bluff Academy

Course Description: Honors Chemistry

This course includes the development of fundamental principles of chemistry and their applications. Students will perform 7-10 laboratory activities each semester and will learn to present their results in a formal laboratory report.

First Semester Topics:

1. The classification of matter
2. The physical and chemical properties of matter
3. Periodic Table, Periodic Properties, descriptive properties of matter
4. atomic structure
5. Chemical nomenclature, formulas, and balancing chemical equations
6. Dimensional analysis
7. Stoichiometry
8. Gas Laws

Second Semester Topics:

1. Solution Properties
2. Acids and Bases
3. Ionic Equations
4. Oxidation-Reduction Equations
5. Kinetics and Chemical Equilibrium
6. Chemical Thermodynamics
7. Nuclear Chemistry
8. Organic chemistry with an introduction to Biochemistry and industrial polymers

TEXTBOOKS: Chemistry. Addison-Wesley 2005 & General Chemistry. Ebbing-Gammon 8th Edition

Prerequisites: Biology, Algebra 2

Expanded Topics in Preparation for AP Chemistry

1. Solubility Rules
2. Quantum Theory of the Atom
3. Lewis-Dot Expanded
4. Exception to the Octet Rule
5. Formal Charge Lewis Formula
6. Molecular Geometry
7. VSEPR
8. Molecular Orbitals
9. Rate Law and Mechanisms
10. Chemical Equilibrium

High Bluff Academy is accredited by the Western Association of Schools and Colleges (WASC). The above course is approved by the University of California system (A-G) and the National Collegiate Athletic Association (NCAA).