

Chemistry

COURSE DESCRIPTION

The goal of Chemistry is to study matter and its interactions; to initiate a lifetime of using an organized, evidence-based approach to solving problems; and to recognize the importance of chemistry in the understanding of all other sciences with its application to daily life. Chemistry is a standards aligned course that uses inquiry and experimentation to promote scientific literacy. Students will understand how the nature of matter and chemical reactions can influence the quality of their environment and lives through the study of:

- Classification of matter using physical and chemical properties
- Atomic theory, isotopes and radiation
- The periodic table, and electron configuration
- Chemical bonding, polarity
- Stoichiometry
- Gas laws, including volume, temperature, and pressure relationships
- Energy in endothermic and exothermic reactions
- Solubility, including molarity
- Reaction rates
- Equilibrium
- Acid and base reactions
- Oxidation / Reduction reactions and electrochemistry
- Organic chemistry, organic compounds, periodicity
- Energy and the electromagnetic spectrum
- Nuclear chemistry, fission/fusion, power/fossil fuels
- The history and nature of science

Grades 10-12

Term/Credit:

Two semesters = 2 credits

Prerequisite:

Successful Completion of Environmental Foundations