Chemistry - Course Syllabus

Description:
This rigorous full-year course engages students in the study of the composition, properties, changes, and interactions of matter. The components of this course include chemistry and its methods, the composition and properties of matter, changes and interactions of matter, factors affecting the interactions of matter, electrochemistry, organic chemistry, biochemistry, nuclear chemistry, mathematical applications, and applications of chemistry in the real world.

Textbook: Chemistry Principles - Excel Education Systems, Inc.©

Course objectives:
Throughout the course, you will meet the following goals:

- Understand and apply the methods of chemistry: scientific thinking, measurements, and using mathematics as a tool for logically solving chemistry problems.
- Describe the composition and properties of matter as well as the changes that matter undergoes.
- Trace the development of the atomic theory.
- Examine the relationship between the elements on the periodic table.
- Describe chemical reactions and interactions and their causes and effects in real-world applications.

Contents:

**Semester A**
1: Introduction to Chemistry Principles
2: Matter and Change
3: Measurement
4: Atomic Structure
5: Electrons in Atoms
6: The Periodic Table
7: Chemical Nomenclature
8: Ionic and Metallic Bonding
9: Covalent Bonding
10: The Mole
11: Chemical Reactions
12: Stoichiometry
13: States of Matter

**Semester B**
14: The Properties of Gases
15: Water
16: Solutions
17: Thermochemistry
18: Kinetics
19: Chemical Equilibrium
20: Entropy and Free Energy
21: Acids and Bases
22: Oxidation Reduction Reactions
23: Electrochemistry
24: Nuclear Chemistry
25: Organic Chemistry
26: Biochemistry

Grading Scale
- A = 90-100%
- B = 80-89%
- C = 70-79%
- D = 60-69%
- F = under 59%

Grade Weighting
- Chapter Quizzes ............ 70%
- Cumulative Exam ........... 30%
- 100%