

Chemistry

Course Overview and Syllabus

Course Number: SC3210

Grade level: 9–12

Prerequisite Courses: None

Credits: 1.0

Course Description

This rigorous full-year course engages students in the study of the composition, properties, changes, and interactions of matter. The course covers the basic concepts of chemistry and includes 18 virtual laboratory experiments that encourage higher-order thinking applications. 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.

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.
- Apply critical thinking, reasoning, and decision-making skills to solve mathematical and non-mathematical chemistry problems.
- Appreciate how chemistry affects daily life and society.

Student Expectations

This course requires the same level of commitment from you as a traditional classroom course would. Throughout the course, you are expected to spend approximately 5–7 hours per week online on the following activities:

- Interactive lessons that include a mixture of instructional videos and tasks
- Assignments in which you apply and extend learning in each lesson
- Assessments, including quizzes, tests, and cumulative exams

Communication

Your teacher will communicate with you regularly through discussions, email, chat, and system announcements. You will also communicate with classmates, either via online tools or face to face, as you collaborate on projects, ask and answer questions in your peer group, and develop your speaking and listening skills.

Grading Policy

You will be graded on the work you do online and the work you submit electronically to your teacher. The weighting for each category of graded activity is listed below.

Grading Category	Weight
Assignments	10%
Labs	20%
Lesson Quizzes	20%
Unit Tests	30%
Cumulative Exams	20%
Additional	0%

Scope and Sequence

When you log into Edgenuity, you can view the entire course map—an interactive scope and sequence of all topics you will study. The units of study are summarized below:

Unit 1: The Nature and Processes of Science

Unit 2: Matter, Atomic Structure, and the Periodic Table

Unit 3: Chemical Bonding and Molecules

Unit 4: Chemical Reactions and Stoichiometry

Unit 5: The Kinetic Molecular Theory and States of Matter

Unit 6: Water and Solutions

Unit 7: Thermodynamics

Unit 8: Reaction Kinetics and Equilibrium

Unit 9: Acids and Bases

Unit 10: Oxidation-Reduction and Electrochemistry

Unit 11: Organic Chemistry and Biochemistry

Unit 12: Nuclear Chemistry