

# Chemistry

## Course Overview and Syllabus

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**Course Number:** SC3210MI

**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:** Atoms and the Periodic Table
- Unit 2:** States and Changes of Matter
- Unit 3:** Chemical Bonding and Reactions
- Unit 4:** Stoichiometry and the Gas Laws
- Unit 5:** Energy in Chemical Reactions
- Unit 6:** Reaction Rates and Equilibrium
- Unit 7:** Solutions, Acids, and Bases
- Unit 8:** Redox and Nuclear Chemistry
- Unit 9:** Organic Chemistry