

# NGSS Biology

## Course Overview and Syllabus

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**Grade level:** 9–12

**Credits:** 1.0

**Prerequisite Courses:** none

### Course Description

This year-long high school course engages students in the study of life and living organisms, and examines biology and biochemistry in the real world. The course encompasses traditional concepts in biology and encourages exploration of new discoveries in the field. The components include biochemistry, cell biology, cell processes, heredity and reproduction, the evolution of life, taxonomy, human body systems, and ecology.

This course is aligned with the Next Generation Science Standards, which were developed by states to improve science education for all students. The goals of these standards are to develop a thorough understanding of content as well as improve key skills like communication, collaboration, inquiry, problem solving, and creative thinking.

### Course Objectives

Throughout the course, you will meet the following goals:

- Identify the characteristics of life and levels of organization within an organism.
- Understand the differences between living and nonliving things as well as abiotic and biotic factors and their role in the environment.
- Identify parts of a cell and describe the functions and processes that control cellular activities.
- Explore the laws of inheritance and predict patterns in heredity.
- Understand how genetic and environmental factors influence natural selection.
- Examine the taxonomy that organizes all organisms.
- Recognize the structures and functions of systems of the human body.
- Describe the interdependence of organisms in an ecosystem and propose solutions to issues impacting the environment.

## Student Expectations

This course requires the same level of commitment from you as a traditional classroom course. 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
- Labs that allow you to explore concepts and applications
- Assignments in which you apply and extend learning
- Assessments, including quizzes, tests, and cumulative exams

## Communication

Your teacher will communicate with you regularly through discussions, e-mails, chats, 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
Quizzes	20%
Tests	30%
Exams	20%
Assignments	10%
Labs	10%
Projects	10%

## 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 Building Blocks of Life

**Unit 2:** Cell Biology

**Unit 3:** Cellular Processes

**Unit 4:** Molecular Genetics

**Unit 5:** Heredity

**Unit 6:** Evolution of Life

**Unit 7:** Taxonomy

**Unit 8:** The Human Body

**Unit 9:** Ecology