

Science and Mathematics in the Real World

Course Overview and Syllabus

Grade level: 9–12

Prerequisite Courses: None

Credits: 0.5

Course Description

Science and Mathematics in the Real World is a semester-long high school course where students focus on how to apply scientific and mathematical concepts to the development of plans, processes, and projects that address real world problems, including sustainability and “green” technologies. This course also highlights how science, mathematics, and the applications of STEM will be impacted due to the development of a greener economy. This course exposes students to a wide variety of STEM applications and to real world problems from the natural sciences, technology fields, the world of sports, and emphasizes the diversity of STEM career paths. The importance of math, critical thinking, and mastering scientific and technological skill sets is highlighted throughout. Challenging and enjoyable activities provide multiple opportunities to develop critical thinking skills and the application of the scientific method, and to work on real world problems using STEM approaches.

Course Objectives

Throughout the course, you will meet the following goals:

- Discover how science and mathematics can be applied in the real world
- Evaluate mathematics as a technological tool and the role of science in our environment
- Convert a research question into a feasible research design
- Collect, analyze, and evaluate data
- Discuss statistical analysis and the related concept of statistical significance
- Explore basic statistics, including the chi-square test, the t-test, and the use of contingency tables
- Show how scientific research is distilled into a publishable report

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:

- Interactive lessons that include a mixture of videos, readings, 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
Lesson Quizzes	20%
Unit Tests	20%
Cumulative Exams	20%
Assignments	10%
Projects	30%
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:** Introduction to Science and Mathematics All Around Us
- Unit 2:** Making the Connection: Math and Science in Context
- Unit 3:** Mathematics and Science in the World of Sports
- Unit 4:** Greening Our Environment Using Science and Mathematics
- Unit 5:** Science and Mathematics Inside Population Growth