

Environmental Science explores the biological, physical, and sociological principles related to the environment in which organisms live on Earth, the biosphere. Course topics include natural systems on Earth, biogeochemical cycles, the nature of matter and energy, the flow of matter and energy through living systems, populations, communities, ecosystems, ecological pyramids, renewable and non-renewable natural resources, land use, biodiversity, pollution, conservation, sustainability, and human impacts on the environment.

The course provides students with opportunities to learn and practice scientific skills within the context of relevant scientific questions. Scientific inquiry skills are embedded in the direct instruction, wherein students learn to ask scientific questions, deconstruct claims, form and test hypotheses, and use logic and evidence to draw conclusions about the concepts. Case studies of current environmental challenges introduce each content lesson and acquaint students with real-life environmental issues, debates, and solutions. Lab activities reinforce critical thinking, writing, and communication skills and help students develop a deeper understanding of the nature of science. Virtual Lab activities enable students to engage in investigations that require long periods of observation at remote locations and to explore simulations that enable environmental scientists to test predictions. Throughout this course, students are given an opportunity to understand how biology, earth science, and physical science are applied to the study of the environment and how technology and engineering are contributing solutions for studying and creating a sustainable biosphere.

This course is built to state standards.

Length: Two Semesters

Unit 1: Introduction to Environmental Science

Unit 2: Earth's Physical Systems

Unit 3: The Biosphere

Unit 4: Ecology

Unit 5: Semester 1 Wrap-Up

Unit 6: Humans and the Environment

Unit 7: Environmental Challenges

Unit 8: Politics and the Environment

Unit 9: Sustainability for the Future

Unit 10: Semester 2 Wrap-Up