

Course Syllabus

Description: With the current changes in global climate, rising sea levels, and warming oceans, it is important for students to discover the state of Earth's systems and the consequences of human activities. AP Environmental Science provides students with a global view of their world and their role in it. It examines the scientific principles and concepts required to understand the interrelationships between ocean, land, and atmosphere that guide the natural world and allow Earth to be a planet suitable for life. Laboratory activities within the course support their learning of these relationships through reflective, hands-on, or virtual experiences. In addition, students identify and analyze environmental problems that are natural and human-made, determining their own ecological footprint in the world to discover how their activities affect the world around them. They evaluate the relative risks associated with environmental problems and examine alternative solutions, such as clean energy, sustainable practices, and conservation, for resolving or preventing future environmental problems.

The course description for this Advanced Placement courses is located on the College Board site at [Advanced Placement Environmental Science College Board description](#) .

Grade Level(s): 9, 10, 11, 12

Prerequisites: Algebra I and two years of high school science, with labs

AP Course Code: 2001380

Estimated Completion Time: 2 segments / 32–36 weeks.

Major Topics and Concepts:

Segment 1:

Module 1: Ecosystems

- 01.00 Ecosystems Checklist
- 01.01 Introduction to Ecosystems
- 01.02 Biomes
- 01.03 Cycles
- 01.04 Primary Productivity
- 01.05 Trophic Levels and Energy Flow
- 01.06 Food Chains and Food Webs
- 01.07 Ecosystems Discussion-Based Assessment
- 01.08 Ecosystems Module Exam

Module 2: Biodiversity and Populations

- 02.00 Biodiversity and Populations Checklist
- 02.01 Biodiversity

- 02.02 Ecological Relationships
- 02.03 Natural Disruptions
- 02.04 Adaptation and Succession
- 02.05 Population Species
- 02.06 Population Growth
- 02.07 Demographics
- 02.08 Human Population
- 02.09 Biodiversity and Populations Discussion-Based Assessment
- 02.10 Biodiversity and Populations Module Exam

Module 3: Earth Systems

- 03.00 Earth Systems Checklist
- 03.01 Plate Tectonics
- 03.02 Soil and Watersheds
- 03.03 Atmosphere and Wind
- 03.04 Solar Radiation and Seasons
- 03.05 Weather and Climate
- 03.06 Earth Systems Discussion-Based Assessment
- 03.07 Earth Systems Module Exam

Module 4: Natural Resources

- 04.00 Natural Resources Checklist
- 04.01 Tragedy of the Commons
- 04.02 Agricultural Practices
- 04.03 Food Production
- 04.04 Mining and Urbanization
- 04.05 Ecological Footprints
- 04.06 Sustainability
- 04.07 Pest Management
- 04.08 Natural Resources Discussion-Based Assessment
- 04.09 Natural Resources Module Exam
- 04.10 Segment One Exam

Segment 2:

Module 5: Energy Resources

- 05.00 Energy Resources Checklist
- 05.01 Energy Sources
- 05.02 Fossil Fuels
- 05.03 Nuclear Energy
- 05.04 Renewable Energy Resources I
- 05.05 Renewable Energy Resources II
- 05.06 Energy Conservation
- 05.07 Energy Resources Discussion-Based Assessment

- 05.08 Energy Resources Module Exam

Module 6: Air Pollution

- 06.00 Air Pollution Checklist
- 06.01 Introduction to Air Pollution
- 06.02 Smog
- 06.03 Air Pollutants
- 06.04 Acid Deposition
- 06.05 Noise Pollution
- 06.06 Air Pollution Discussion-Based Assessment
- 06.07 Air Pollution Module Exam

Module 7: Water and Land Pollution

- 07.00 Water and Land Pollution Checklist
- 07.01 Effects of Pollutants
- 07.02 Impact on Aquatic Ecosystems
- 07.03 Solid Waste
- 07.04 Sewage Treatment
- 07.05 Lethal Dose Response
- 07.06 Human Health and Diseases
- 07.07 Water and Land Pollution Discussion-Based Assessment
- 07.08 Water and Land Pollution Module Exam

Module 8: Global Change

- 08.00 Global Change Checklist
- 08.01 Ozone Depletion
- 08.02 Greenhouse Effect
- 08.03 Global Climate Change
- 08.04 Effects on Oceans
- 08.05 Threats to Biodiversity
- 08.06 Global Change Discussion-Based Assessment
- 08.07 Global Change Module Exam
- 08.08 AP Exam Prep
- 08.09 Segment Two Exam

Course Assessment and Participation Requirements: To achieve success, students are expected to submit work in each course weekly. Students can learn at their own pace; however, “any pace” still means that students must make progress in the course every week. To measure learning, students complete self-checks, practice lessons, multiple choice questions, projects, discussion-based assessments, and discussions. Students are expected to maintain regular contact with teachers; the minimum requirement is monthly. When teachers, students, and parents work together, students are successful.

