



***Department of Teaching & Learning***  
***Parent/Student Course Information***

***Advanced Placement Environmental Science***  
***(SC 4270)***  
***One credit, one year***  
***Grades 11-12***

*Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.*

**COURSE DESCRIPTION**

Advanced Placement Environmental Science is a college-level course that deals with advanced concepts in environmental science in detail. The course is designed in accord with the requirements of the College Board. Students are expected to take the Advanced Placement Environmental Science Examination at the end of the course.

**COURSE GOALS**

- Provide students with scientific principles, concepts and methodologies required to understand the interrelationships of the natural world
- Identify and analyze environmental problems both natural and human-made
- Evaluate the relative risks associated with natural and man-made problems
- Examine a variety of solutions for resolving and/or preventing natural and man-made problems

**PREREQUISITE**

Biology and Chemistry

**OPTIONS FOR NEXT COURSE**

Advanced Placement Biology (Biology and Chemistry prerequisite)

Advanced Placement Chemistry (Chemistry prerequisite)

Advanced Placement Physics 1 (Algebra II/Trigonometry prerequisite)

Advanced Placement Physics C: Mechanics (Algebra II/Trigonometry and Calculus prerequisite)

Oceanography (Earth Science prerequisite)

Astronomy (Earth Science prerequisite)

Physics (Algebra II prerequisite or co-requisite)

**REQUIRED TEXTBOOK**

*Living in the Environment: AP Edition 18<sup>th</sup> Edition, Cengage (2015)*

**MINIMUM REQUIREMENTS**

- Read and outline assigned chapters in the textbook on a daily basis
- Complete all homework assignments/projects in a timely manner
- Participate in the laboratory activities, prepare written laboratory reports and adhere to all safety procedures
- Read science journals, magazines and books to expand the ideas and topics presented in class

- Demonstrate knowledge and understanding of all core objectives through laboratory investigations, projects, oral and/or written tests, quizzes and reports

**The Knowledge, Skills and Attitudes that Comprise the Advanced Placement Environmental Science Course are Summarized as Follows From the Prescribed Curriculum:**

**I. Earth Systems and Resources**

- A. Earth Science Concepts
- B. The Atmosphere
- C. Global Water Resources and Use
- D. Soil and Soil Dynamics

**II. The Living World**

- A. Ecosystem Structure
- B. Energy Flow
- C. Ecosystem Diversity
- D. Natural Ecosystem Change
- E. Natural Biogeochemical Cycles

**III. Population**

- A. Population Biology Concepts
- B. Human Population (dynamics, size and impacts of growth)

**IV. Land and Water Use**

- A. Agriculture (feeding a growing population and pest control)
- B. Forestry
- C. Rangeland
- D. Other Land Use (urban land development, land conservation and public and federal lands)
- E. Mining
- F. Fishing
- G. Global Economics

**V. Energy Resources and Consumption**

- A. Energy Concepts
- B. Energy Consumption
- C. Fossil Fuel Resources and Use
- D. Nuclear Energy
- E. Hydroelectric Power
- F. Energy Conservation
- G. Renewable Energy

**VI. Pollution**

- A. Pollution Types (air, noise, water and solid waste)
- B. Impacts on the Environment and Human Health
- C. Economic Impacts

**VII. Global Change**

- A. Stratospheric Ozone
- B. Global Warming
- C. Loss of Biodiversity

**LABORATORY AND FIELD INVESTIGATIONS**

The AP Environmental Science course includes a strong laboratory and field investigation component. The goal of this component is to compliment the classroom portion of the course by allowing students to learn about the environment through firsthand observation and experimentation.

**NOTE:** Students should keep records of their field investigations and laboratory work in such a fashion that the reports can be readily reviewed. Some institutions want to see a record of the laboratory work done by an advanced placement student before making a decision about granting credit.

Dr. Aaron C. Spence, Superintendent  
Virginia Beach City Public Schools  
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For further information please call (757) 263-1070.

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