Advanced Placement®** Environmental Science

COURSE DESCRIPTION:
AP Environmental Science is a yearlong examination of the interrelationships of the natural world. Students identify and analyze environmental problems and their effects, and evaluate the effectiveness of proposed solutions. Students learn to think like environmental scientists: making predictions based on observations, writing hypothesis, designing and completing field studies and experiments, and reaching conclusions based on the analysis of data derived from these experiments. Students apply the concepts of environmental science to their everyday experiences and current events and issues in science, politics, and society. The course provides opportunities for guided inquiry and student-centered learning to foster critical thinking skills.

COURSE OBJECTIVES:
After completing the course, the student will be able to:

- Read, understand, and interpret a variety of scientific information.
- Demonstrate proficiency in explaining, analyzing and evaluating environmental problems and their solutions.
- Apply the concepts and procedures of scientific reasoning to understanding the natural world.
- Perform field studies and experiments, interpret the results of observations and communicate results and conclusions.

PREREQUISITES: Two years of laboratory sciences, usually biology/life science and either Chemistry or Physics; Algebra; Earth Science is desirable

COURSE LENGTH: Two semesters

REQUIRED TEXT: *Living in the Environment: Principles, Connections, and Solutions*, 16/E | Miller | ©2009 | Cengage
ISBN: 0495556718

Lab Kit, Quality Science Labs, LLC ISBN: 978-0-9818762-1-4

COURSE OUTLINE:

Semester 1

Unit I: Introduction to Environmental Problems
- Environmentally Sustainable Societies
- Environmental Problems Part I
- Environmental Problems Part II
- Principles Of Sustainability

Unit II: Ecological Principles
- Science, Matter, And Energy
- Earth Structure And Systems
- Ecology
- Biodiversity And Evolution
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Unit III: Human Impact on Sustainability
- Impacts Of The Human Population
- Climate And Terrestrial Biodiversity
- Aquatic Biodiversity

Unit IV: Sustaining Biodiversity
- The Species Approach
- The Ecosystem Approach
- Sustaining Aquatic Biodiversity

Unit V: Sustaining Land And Water Resources
- Food, Soil, And Pest Management
- Water Resources
- Geology And Nonrenewable Minerals

Semester 2

Unit VI: Sustaining Energy Resources
- Energy Conservation and Efficiency
- Nonrenewable Energy
- Renewable Energy

Unit VII: Human Health and Environmental Hazards
- Biological and Chemical Hazards
- Air Pollution
- Water Pollution
- Solid and Hazardous Waste

Unit VIII: Environmental Impacts of Urbanization

- Climate Change
- Sustainable Cities

Unit IX: Sustaining Human Societies

- Economics and the Environment
- Politics and the Environment
- Ethics and the Environment

Unit X: Applying Principles of Environmental Science

- Issues in Environmental Science

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