AP Environmental Science
Course Outline

Semester I

I. Introduction
- a. Ethics – Worldview Statements, Environmentalism, Risk Management
- b. Natural Resources – Definitions, Identifying
- c. History – Environmental Movement, Ecologists
- d. Sustainability – Principles, Development, Earth Summit

II. Ecosystems
- a. Governing Principles – Thermodynamics, Conservation of Matter
- b. Relationships – Organisms, Food Webs, Energy Transfer, Balance
- c. Cycles – Oxygen, Water, Carbon, Nitrogen, Sulfur, Phosphorous
- d. Biodiversity – Benefits, Threats
- e. Ecosystem Management – Principles, Practice

III. Populations
1. Human
    - a. Current – Facts, Numbers, Density, Natural Resources
    - b. Population Control – Debate, Cultural Perspectives
    - c. Exponential Growth – Effects on Natural Resources
    - d. Soils - Land Use Planning
    - e. Food Supply – Green Revolution, Aquaculture, Genetic Engineering
    - f. Automobiles – Current Use and Effect on Environment
2. Animal
    - a. Growth Curve Charts – Exponential, Arithmetic
    - b. Carrying Capacity

IV. Energy
- a. Types – Coal, Petroleum, Natural Gas, Solar, Wind, Geothermal, Biomass, Tidal, Nuclear
- b. Production – Using Solar Panels

Semester II

V. Atmosphere
   a. Acid Rain – Causes, Preventions, Human Interaction
   b. Global Warming – Kyoto Protocol, Causes, Preventions, Human Interaction
   c. Ozone Depletion – Causes, Preventions, Human Interaction
   d. Pollution – Clean Air Act, Types, Particulate Matter

VI. Wildlife
   a. Animal Rights – Activists, Welfare, Consumerists
   b. Endangered Species – End. Sp. Act, Zoo Management, Current Listed
   c. Wildlife Management – Techniques, Theories, Issues
   d. Mammals – Characteristics, Field Guides, Scat, Tracks
   e. Birds – Characteristics, Identification, Feathers
   f. Fish – Characteristics, Fly Tying, Fishing Techniques

VII. Water
   a. Current – Facts, Water Chemistry, Drought
   b. River Watch – Watershed Management, Water Quality
   c. Water Rights – Senior/Junior, History, Western Water Story
   d. Damming – Benefits, Consequences
   e. Contamination – Clean Water Act, Pollutants

VIII. Forestry
   a. Forest Management – Old Growth, Timber Management
   b. Fire Management – Definitions, Mgmt. Debate, Benefits, Fire Control

IX. Waste Management
   a. Reduce, Reuse, Recycle – Recycled Paper, Recycling Debate
   b. Landfill Management – Problems, Hazardous Wastes

X. Conclusion
   a. What You Can Do?