Course Code: S405AP
Board Approval Date: August 27, 2018

AP Environmental Science

GOAL:

The AP Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science. Because it is designed to be a course in environmental *science,* rather than environmental studies, the AP Environmental Science course must include a strong laboratory and field investigation component.

The GOAL of this course is to provide you with the scientific principles, concepts, and methodologies to understand the interrelationships of the natural world, to identify and analyze environmental problems, both natural and human-made, and to evaluate the risks associated with these problems and examine alternative solutions for resolving and / or preventing them.

TEXTBOOK:

- G. Tyler Miller, Living in the Environment. 18th Edition

SUMMER ASSIGNMENT:

- Due by Mid-Summer…..date to be determined.
  - Read Chapter 2 in Textbook (Science, Matter, Energy, and Systems)
  - Use Mrs. Wagner's copy of the Chapter 2 SQ3R notes to complete the timed assessment on Schoology.
- Due on First Day of School
  - Complete WRITTEN Chapter 1 SQ3R notes.
  - You will use your SQ3R notes to complete a timed assessment on Schoology.
  - Complete Math Skills Review.

ASSESSMENTS / TECHNIQUES:

- Lecture
  - Outlines are provided and in class notes will be taken during discussion. Notes must be kept in a 2" or 3" binder.
- Activities / Discussions
  - Role-Play Activities / Debates
  - Reinforcement Activities
- Laboratory Activities
  - 2 double lab periods per cycle…..not every lab period will be devoted to lab, but may be split with lecture or an activity.
  - Lab Reports
    - Each student is responsible for maintaining a copy of each lab that is conducted in class within their lab notebook – a ½" or 1" binder that is kept in the classroom.
    - Labs will be turned in to Mrs. Wagner individually or as a lab group.
  - APA Lab Papers
    - One formal lab paper will be written each quarter.
      - MP1 – Stream Assessment
      - MP2 – Genetically Modified Plants OR Hydroponic Plants
      - MP3 – LD50 and Seed Salinization
      - MP4 – Tomatosphere Project
  - REQUIREMENTS:
    - Old sneakers for Stream Studies (needed immediately)
    - Old energy / electric bill from your home (Needed in Marking Period 3)
    - 2L Soda bottles (2 – Needed for Marking Period 3)
- Homework
  - Reading in textbook with corresponding Reading Guide.
    - We will use the SQ3R model of Cornell Notes to create Active Note-Taking Reading Guides for each chapter.
  - Reinforcement Activities

- Quizzes
    - Math practice Proficiency Quizzes on Schoology or EdPuzzles for review of lecture or reading.
- Exams
    - 1 per unit (Multiple Choice and Free Response Questions).....all AP level questions
    - 1 lab practical exam per marking period

PRACTICE AP EXAM:

A practice AP Environmental Science Exam will be given in early April. This exam will count for participation points, and will model the rigor of the AP exam in May. It will also be used during review as a diagnostic guide for what your areas of weakness and strength are with the APES content. ***ALL STUDENTS ARE REQUIRED TO TAKE THIS PRACTICE TEST.***

AP EXAM:

The 3 – hour exam consists of 2 sections. In section 1 (multiple-choice), students are given 90 minutes to answer 100 questions. In section 2 (free-response), they must answer 4 questions in 90 minutes.

	%	Number of Questions	Minutes Allowed
Section 1	60	100	90
Section 2	40	4	90

TEST DATE: MONDAY, MAY 6th, 12 noon

FINAL EXAM POLICY:

- Students who have maintained a 90% or higher for their overall grade **AT THE TIME OF THE AP EXAM**, will be exempt from the final exam.
- All students with a grade lower than a 90% will be required to take the AP Environmental Science Final Exam.
    - **It will be administered during the first lab period following the AP exam date.**

ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE

UNIT 1: HUMANS AND SUSTAINABILITY
- Chapter 1: Environmental Problems, Their Causes, and Sustainability
- Chapter 2: Science, Matter, Energy, and Systems

UNIT 2: BIODIVERSITY
- Chapter 4: Evolution and Biodiversity
- Chapter 7: Climate and Biodiversity
- Chapter 8: Aquatic Biodiversity

UNIT 3: ECOLOGICAL PRINCIPLES AND SUSTAINABILITY
- Chapter 3: Ecosystems

UNIT 4: POPULATIONS
- Chapter 5: Biodiversity, Species Interactions, and Population Control
- Chapter 6: The Human Population and Its Impact

UNIT 5: SUSATAINING BIODIVERSITY
- Chapter 9: Sustaining Biodiversity – Saving Species and Ecosystem Services
- Chapter 10: Sustaining Terrestrial Biodiversity – Saving Ecosystems and Ecosystem Services
- Chapter 11: Sustaining Aquatic Biodiversity and Ecosystem Services

UNIT 6: SOIL AND AGRICULTURE
- Chapter 12: Food Production and the Environment

UNIT 7: ENERGY
- Chapter 14: Nonrenewable Mineral Resources
- Chapter 15: Nonrenewable Energy
- Chapter 16: Energy Efficiency and Renewable Energy

UNIT 8: AIR AND CLIMATE CHANGE
- Chapter 18: Air Pollution
- Chapter 19: Climate Disruption

UNIT 9: WATER
- Chapter 13: Water Resources
- Chapter 20: Water Pollution

UNIT 10: RISK, TOXICOLOGY, AND HUMAN HEALTH
- Chapter 17: Environmental Hazards and Human Health
- Chapter 21: Solid and Hazardous Waste

UNIT 11: SUSTAINING HUMAN SOCIETIES
- Chapter 22: Urbanization and Sustainability
- Chapter 23: Economics, Environment, and Sustainability