Advanced Placement Environmental Science

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**Introduction**

The Advanced Placement Environmental Science course at WTHS is an advanced science elective that allows qualified and interested students to explore the field of environmental science. These students use knowledge gained in previous classes to analyze and make inferences about the environment they live in. The students focus on comprehension and application of the principles of ecology, population dynamics, energy resources, pollution and land and water management. The learning process takes place within each unit of study via the students hypothesizing, researching, experimenting, observing, inferring and debating.

This course is taught as if it were taught at the collegiate level. You must work as if you are a collegiate student. You must be self motivated and willing to put in time doing things you might not have done in past classes. Participation is crucial. The heart of environmental science is the analysis of problems. This cannot be done without open discussion between people on opposite sides of the topic. My expectation is that all of you will perform well. I also expect that all of you will take and do well on the APES exam.

**Goals**

The following are general goals to be met this year. All of the will be done keeping in mind the ultimate goal: **Prepare for and do well on the APES College Board Exam.**

1. Learn about the natural world which surrounds us, and how we interact with it.

2. Learn how changes to human behavior can affect the natural world.

3. Analyze past, current and future human behaviors, and how the ye have or will shape the

 environment.

4. Hone research, debate, public speaking and writing skills for use in any career.

5. Refine test taking skills for the APES exam.

**Textbooks**

 *Living in the Environment 11th ed.,* Miller and Spoolman

 *Taking Sides: Clashing Views on Environmental Issues 16th ed.,* Easton

**Assessment**

Students performance will be measured using the following percentages:

Test – 50%

Quizzes – 20 %

Laboratory or Fieldwork Experiences – 25%

Debate – 5%

TESTS: Major test examinations occur once per unit. Tests are formatted in the style of the AP Environmental Science exam in that they are a mix of multiple choice questions and open-ended questions.

LABS: For every laboratory or fieldwork experience there will be several components that contribute to a grade. Students will be provided with a laboratory introduction sheet and required to read, write and discuss aspects of the experiment prior to lab day. During the experience, students will be observed in the areas of proper and safe techniques and active participation. Upon the completion of all laboratory/fieldworks activities, students will be assigned various follow-up activities. Post experience assignments include problem solving related to collected data and observations, inference making on applications of data to real world environmental science problems, and at times to prepare a brief oral presentation to summarize the experimental purposes, procedures and results to the class.

QUIZZES: Quizzes used to keep students on track within a unit. They are also designed with a mix of multiple choice questions and open-ended questions, but are shorter in length and of less importance towards a student’s grade.

DEBATES/DISCUSSIONS: A major part of environmental science is being able to clearly delineate information. It is also important to be able convince a wide variety of people that a certain action is necessary for the good of the environment. We will practice the skills needed to do this through debates. You will be required to research the different sides of environmental issues and then present your opinion. The grading of these debates will inherently be slightly subjective. Depending on the importance of the debate, the grade will be entered either in the quiz or homework section.

EXPERIMENTAL DESIGN PROJECT: Students will be responsible to carry out at least one comprehensive experiment during the year. Students must develop a hypothesis, deign an experiment, carryout the procedure, collect data, analyze data and report results. The reporting of results will include a paper, modeled after scientific journals, and a presentation to the class via PowerPoint.