**AP Environmental Science 2017-2018**

**Mr. Sandusky**

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**Course Description**

AP Environmental Science concentrates on the background information necessary to understand the interactions of organisms with their environment. Included in first semester are close looks at the ecological principles that govern that interaction: ecosystems and how they work, nutrient cycles, climate and biomes, population and community dynamics, including human population, biodiversity and food resources. Discussions on the environmental issues surrounding these topics, and the politics and economics of use, preservation and management of our biological and earth resources will be emphasized.

Second semester emphasizes energy and other resources, both renewable and nonrenewable, including our planet’s water, air and soil resources, and the effects of human activities on them, issues surrounding land use, hazardous waste disposal, and water, soil and air pollution.

Both semesters rely heavily on lab and field experiences to illustrate the concepts and provide real-life experience in various aspects of environmental research. Developing an understanding of the societal roles of science and technology, including current issues in environmental science and the relevance of environmental science to the real world is a primary goal of the course.

This two-semester course fulfills Core 40 and AHD requirements as an integrated science course. Students enrolled in the course prepare for the College Board’s Environmental Science Advanced Placement Examination.

**Course Prerequisites**

Biology and Chemistry or ICP

**Resources**

* Textbook – *Environmental Science for AP* (Friedland and Relyea) (http://bcs.whfreeman.com/friedlandapes/)
* Other Resources
	+ *The Cartoon Guide to the Environment* (Larry Gonick and Alice Outwater)
	+ *The Habitable Planet* (Annenberg Media; http://www.learner.org/courses/envsci/)
	+ *Hippocampus* (http://www.hippocampus.org/AP%20Environmental%20Science)
	+ *The Encyclopedia of Earth* (http://www.eoearth.org/article/AP\_Environmental\_Science\_Online\_Course)
* Review Book Options
	+ *Cracking the AP Environmental Science Exam* (Princeton Review)
	+ *Barron’s AP Environmental Science* (Gary S. Thorpe)
	+ *Kaplan Environmental Science* (Craig C. Freudenrich, Jane D. Gardner and Dora Barlaz)
* Current Event Resources
	+ *Science Daily* (www.sciencedaily.com)
	+ *Enviroliteracy* (http://www.enviroliteracy.org/)
	+ *E-The Environmental Magazine* (http://www.emagazine.com/)
	+ *Environment: Science and Policy for Sustainable Development* (http://www.environmentmagazine.org)
	+ *NPR* (http://www.npr.org/sections/environment/) (There is also an NPR App for iPod and iPad.)
	+ *Living on Earth* (www.loe.org)
	+ *New York Times Science* (http://www.nytimes.com/pages/science/earth/index.html)
	+ *NY Times; Green: A Blog About Energy and the Environment* (http://green.blogs.nytimes.com/)
	+ *CNN* (http://edition.cnn.com/SPECIALS/environment/)
	+ *National Geographic* (http://environment.nationalgeographic.com/)
	+ *MSNBC* (http://www.msnbc.msn.com/id/3032493/)
* Other resources will be used throughout the year. Most will be available on the class website.

**Materials**

textbook, workbook, binder, notebook, flash drive, writing utensils, internet access

**Expectations**

* BE PREPARED! Complete all assignments and assigned reading on time. Bring materials to class.
* Come to school. Be on time. School attendance policy applies to all students.
* Participate! Ask questions, be a part of discussions, provide input.
* Be respectful to instructor, classmates, supplies, the earth, etc.
* Be safe. Follow all lab safety procedures and rules for field work. Work carefully in the lab and in the field.
* All school rules (dress code, cell phones, etc.) apply in the classroom, in the field, and on field trips.
* Take the AP Environmental exam, given May 5, 2014.

**Course Structure**

reading, writing, laboratory work, field work, field trips, projects, presentations, research, discussions, videos

**Grades**

Tests/Quizzes – 65%

Labs/Projects – 25%

Homework Assignments – 10%

**Tests/Quizzes**

End of chapter quizzes will consist of AP-style multiple choice questions. End of unit tests will consist of AP-style multiple choice questions and free response questions (FRQs) that have been released from previous APES exams. The time allotted for each quiz and test will be in accordance to the time allotted on the AP exam (100 multiple choice questions in 90 minutes and four FRQs in 90 minutes). The AP Environmental Science exam is on Monday, May 6, 2013 at 8:00 am. The test is free for APES students and all students enrolled in the course are expected to take the test. Indiana state colleges and universities (and lots of other schools) will give college credit for scores of 3, 4, or 5.

**Lab**

A rigorous lab component is crucial for the understanding of environmental science. Students will be expected to take part in a variety of field exercises along with lab work in the classroom. Qualitative and quantitative analyses are both very important when studying environmental science and will be utilized when collecting data in the field as well as in the classroom (ie. water analysis and soil analysis). Students are expected to practice all components of the scientific method and principles as a routine aspect of all labs and field exercises in order to develop higher order thinking skills. Mathematical analysis of data is important when comprehending results and drawing conclusions from the data. Students are expected to be proficient in solving algebraic equations.

**Binder**

Occasionally a college or university will ask to see your classwork before giving credit for the course. Keep all your work-in-progress, completed work, and your notebook in your binder.

**Academic Dishonesty** (from the student handbook)

Cheating and plagiarism compromise the integrity and character of students and does not align with the mission and philosophy of CHS. Academic dishonesty occurs when a student engages in any behavior or uses any unauthorized device (including but not limited to cell phones, calculators, and other electronic devices) which gives the student an unfair advantage or represents another person’s work as his/her own. Examples of these behaviors include, but are not limited to plagiarism, talking during assessments, using cheat sheets (paper or electronic), looking at or copying another student’s work, and/or relaying information to students in other classes about specific information covered in that class. The penalty for cheating will follow the *Sequence of Disciplinary Procedure* as outlined in the student handbook.

To avoid any question of plagiarism always use only your own words! All sources for all assignments must be cited. MLA or APA are both acceptable. Read the last page for more information on plagiarism.

**\*(Dates for exams are subject to change)**

**Course Timeline – Semester I**

|  |  |
| --- | --- |
| **CHAPTER** | **TOPIC** |
| 1 | Studying the State of Our Earth |
| 2 | Environmental Systems |
| 4 | Global Climates and Biomes |
| 9 | Water Resources  |
| 8 | Earth Systems |
| **1, 2, 4, 8, 9** | **Earth Systems and Resources** |
| 3 | Ecosystem Ecology |
| 5 | Evolution of Biodiversity |
| **3, 5** | **The Living World** |
| 6 | Population and Community Ecology |
| 7 | The Human Population |
| **6, 7** | **Population** |
| Review 8 | Earth Systems |
| 10 | Land, Public and Private |
| 11 | Feeding the World |
| 20 | Sustainability, Economics, and Equity |
| **8, 10, 11, 20** | **Land and Water Use** |
| 1-11 and 20 | Review and Final Exam |

**Course Timeline – Semester II**

|  |  |  |
| --- | --- | --- |
| **CHAPTER** | **TOPIC** |  **DATES** |
| 12 | Nonrenewable Energy Sources | Jan 6- Jan 13 |
| 13 | Achieving Energy Sustainability | Jan 14- Jan 21 |
| 12, 13 | Energy Projects | Jan 23 |
| **12, 13** | **Energy Resources and Consumption** | **Unit Test 27** |
| 14 | Water Pollution | Jan 29- Feb 6 |
| 15 | Air Pollution and Stratospheric Ozone Depletion | Feb 7- Feb 14 |
| **14, 15** | **Pollution (Water and Air)** | **Unit Test Feb 18** |
| 19 | Global Change | Feb 19- Feb 27 |
| 18 | Conservation of Biodiversity | Feb 28- Mar 6 |
| **18, 19** | **Global Change** | **Unit Test Mar 7** |
| 16 | Waste Generation and Waste Disposal | Mar 10- Mar 18 |
| 17 | Human Health and Environmental Risks | Mar 29- Mar 21 |
| **16, 17** | **Pollution (Solid Waste/Human Health)** | **Test Apr 8** |
| Review 14, 15, 16, 17 | Pollution | Apr 10- Apr 18 |
| **14, 15, 16, 17** | **Pollution** | **Unit Test Apr 22** |
| All | AP Exam Review | Apr 23- May 3 |
| **All** | **AP EXAM** | **Monday, May 6, 8:00 am** |
| 1-20 | Post-Exam Activities, Review for Final | May 7-May 30 |

**PLAGIARISM – Additional Information**

Plagiarism is use of the distinctive ideas or words belonging to another person without adequate acknowledgement of that person's contribution. In the context of academic work the standards for acknowledging sources are very high. An author must give due credit whenever quoting another person's actual words, whenever using another person's idea, opinion or theory, and whenever borrowing facts, statistics or illustrative material, unless the information is common knowledge.

**1. Direct Quotation**: Every direct quotation must be identified by quotation marks or by appropriate indentation, and must be promptly acknowledged. The citation must be complete and in a style appropriate to the academic discipline.

EXAMPLE: The following is an example of an unacknowledged direct quotation:

Original Source: "To push the comparison with popular tale and popular romance a bit further, we may note that the measure of artistic triviality of works such as Sir Degare or even Havelok the Dane is their casualness, their indifference to all but the simplest elements of literary substance. The point is that high genre does not certify art and low genre does not preclude it." (From Robert M. Duran, Chaucer and the Shape of Creation, Howard University Press, 1967, p. 187.)

Student Paper: "To push the comparison with popular tale and popular romance a bit further, you can note that the measure of the artistic triviality in some works of Chaucer's time period is their casualness, their indifference to all but the simplest elements of literary substance. The point is that high genre does not certify art and low genre does not preclude it."

**2. Paraphrase:** Prompt acknowledgement is required when material from another source is paraphrased or summarized in whole or in part in one's own words. To acknowledge a paraphrase properly, one might state: "to paraphrase Locke's comment . . ." or "according to Rousseau . . ." and conclude with a citation identifying the exact reference.

A citation acknowledging only a directly quoted statement does not suffice to notify the reader of any preceding or succeeding paraphrased material.

EXAMPLE: The following is an example of an unacknowledged paraphrase:

Original Source: "The era in question included three formally declared wars. The decision to enter the War of 1812 was made by Congress after extended debate. Madison made no recommendation in favor of hostilities, though he did marshal a telling case against England in his message to Congress of June 1, 1812. The primary impetus to battle, however, seems to have come from a group of War Hawks in the legislature." (From W. Taylor Reveley III, "Presidential War-Making: Constitutional Prerogative or Usurpation?", University of Virginia Law Review, November 1969, footnotes omitted.)

Student Paper: "There were three formally declared wars during this era. The decision to enter the war in 1812 was made by Congress after extended debate. Madison actually made no recommendation in favor of hostilities in his message to Congress of June 1, 1812, though he presented a persuasive case against Britain. The primary impetus to battle, however, appears to have come from a group of War Hawks in the legislature."

**3. Borrowed Facts or Information**: Information obtained in one's reading or research which is not common knowledge must be acknowledged. Examples of common knowledge might include the names of leaders of prominent nations, basic scientific laws, etc. If there is doubt whether information is common knowledge the citation should be given.

One citation is usually sufficient to acknowledge indebtedness when a number of connected sentences in the paper or report draw their special information from one source. When direct quotations are used, however, quotation marks must be inserted and prompt acknowledgement made. Similarly, when a passage is paraphrased, prompt acknowledgement is required.

*From “The Code of Student Academic Integrity”, UNC Charlotte, Office of Legal Affairs, Revised August, 28, 2008*