



Phone: 713-688-1361

Website: [www.houstonisd.org/waltrip](http://www.houstonisd.org/waltrip)

## Environmental Systems SYLLABUS

Instructor: Ms. Mary Lyons

Room 3101

Conference hour: 5<sup>th</sup>, 8<sup>th</sup> period

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**Office Hours:** Monday (3:25pm-4:10pm) & Tues-Fri (1:50pm-2:35 pm)

**Remind: Env. Systems 20-21 code: [3hk63ba](https://www.remind.com/join/3hk63ba) or link: <https://www.remind.com/join/3hk63ba>**

Environmental Systems is a course designed to allow students to learn about living systems. We will study both biotic and abiotic factors that impact the world around us. In this course, students will conduct field and laboratory investigations and use critical thinking, in addition to problem-solving skills. The students will keep an interactive notebook.

### THE BOOK

Environmental Science – Houghton Mufflin Harcourt

The electronic version of the text book will be used and is available on the HISD Hub.

### GRADING

The grading scale will be the same as the scale used by the District.

90-100 A    80-89 B    75-79 C    70-74 D    below 70 F

### GRADING POLICY

- 1) Grades are based on daily work, quizzes, tests and performance-based assessment

Tests, Projects	35.0 %
Labs, Quizzes	30.0 %
Classwork, Homework	25.0 %
Daily participation	10.0 %
- 2) Class work includes assignments, reflections, and any tasks performed in the classroom.
- 3) Daily work submitted within the deadline will receive a maximum of 100%, late work will decrease the grade by 10 points per day late, max. 4 days. 5 or more days is a zero.
- 4) Common assessment is a test given to all Environmental Systems students of the school. The test is given at least 2 times every cycle (6 weeks).
- 5) Make-up tests and work are given during tutorials time. Student will have a reasonable opportunity to make up or redo a class assignment or exam for which he or she received a failing grade.

## LABORATORY SAFETY

Each student is required to pass a laboratory safety test with at least 70% accuracy. If the student does not pass the safety test, the student will not be allowed to participate in laboratory activities until he do so. In addition to the lab safety test, each student and parent will be required to sign a Lab safety contract, stating the student has passed the test and will practice safe habits in the laboratory environment. Due to pandemics we will start with virtual labs or demonstrations.

## HOMEWORK

When homework is assigned, the student is expected to have the work completed upon entering the class the next meeting day.

## CLASS RULES

**Be on time and participate in the class**

**Be prepared (Laptop, pencil, pen, notebook, e-Textbook daily, etc.).**

All students will be silent and respectful while other students read aloud

**Respect the Adult in charge, yourself and your Peers.**

## MATERIALS

**Composition Notebook – required (available at the Dollar Store or Walmart)**

**Colored Pencils - required**

Pen

Pencil

Writing paper

Metric ruler

Calculator

All work is required to have a proper heading

## **Plagiarism, Cheating, and Academic Integrity**

Work in groups is encouraged. Avoid plagiarism and cheating. This is a great year with a lot of challenges and we will conclude it with success.

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**Parent Signature**

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**Student name**

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**Date**

## **Environmental Systems Outline 2020 - 21**

Unit 1 Introduction to Environmental Science The focus of this unit is to look at the different aspects and subsections of environmental science, and how the environmental movement has affected society and the world. Students will be introduced to environmental careers, and contributions of scientists.

Unit 2 Environmental Policy and Law The focus of this unit is the policies and laws that have been put into place to protect wildlife and the human population. Students will also become familiar with local, state, national, and international policy.

Unit 3 Biogeochemical Cycles The focus of this unit is on the biogeochemical cycles, abiotic and biotic factors, and how substances such as dissolved oxygen, chlorides, and nitrates impact an ecosystem Unit 4 - Combining Elements: Types of Bonds Elements bond to form compounds based on electron configurations. Students will investigate different types of bonds including ionic, covalent, and metallic.

Unit 4 Energy Flow The focus of this unit is on the process of the flow of energy in ecosystems. Students will be introduced to the heat flow process, as well as the three laws of thermodynamics

Unit 5 Ecosystem Interaction The focus of this unit is on the different components of the geosphere, hydrosphere, atmosphere, and biosphere. Students will also be introduced to how the components interact and the effects of natural events

Unit 6 The Living World This unit focuses on the relationships of biotic and abiotic factors within habitats, ecosystems, and biomes. Students are also introduced to invasive species, extinction, and biodiversity. Students will also become familiar with using a dichotomous key.

Unit 7 Renewable and Nonrenewable Resources This focus of this unit is on the different sources of renewable and nonrenewable resources. Students are introduced to the sources of energy; oil, natural gas, coal, nuclear, solar, geothermal, hydroelectric, and wind. Students are also introduced to the concept of sustainability and ecological footprint.

Unit 8 Natural Processes and Events The focus of this unit is to look at the natural events and processes that shape the planet and change our environment. Students will be introduced to plate tectonics, natural disasters, ecological succession, weather and climate, as well as global warming.

Unit 9 Land and Water Use The focus of this unit is on land and water use and management, its effects on the environment, and conservation. Students will be introduced to the measures taken for the conservation of water and its quality.

Unit 10 Pollution and Waste The focus of this unit is on the different sources of pollution and waste the human population contributes to the environment. Students will be introduced to the types of pollution in the air, soil, and water; as well as the impacts of global warming and “green” living.

Unit 11 Human Population The focus of this unit is on demography and human population and carrying capacity dynamics. Students will calculate birth and death rates, and exponential growth of populations. Students will be able to analyze and predict the impact of populations on diseases, urbanization, and migration.

Unit 12 Effects of Human Activities The focus of this unit is on the effects the human population has on the environment, and how society is making efforts to preserve and conserve the natural environment. Students will also be introduced to the rules and regulations of human activities.