WINTHROP HIGH SCHOOL

ES Syllabus

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Course Overview

The topics covered in the Environmental Science class will relate directly to you and to the quality of your life and future. We will learn about past events, case studies of environmental disasters, new innovations in technology and solutions to some of the most difficult problems. Each week will consist of current events, debates, and science journal writing. Homework will consist of chapter readings with online quizzes or finishing classwork. We will strengthen our knowledge of scientific process with inquiry-based labs and occasional formal lab reports to practice science writing. Perhaps more so than any other science course, environmental science is interdisciplinary; it includes topics and concepts from biology, chemistry, physics, and earth sciences, as well as social sciences (economics, politics, and sociology), and humanities (literature, art, and history). The goal is to provide you with the scientific principles, concepts and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems - both natural and human-made, to evaluate risk factors of these problems, and to examine solutions for resolving or preventing them. This is a laboratory course in which you are expected to follow scientific methodologies, collect data, and make and later evaluate informed hypotheses. While the class will follow many of the AP Environmental Science topics and labs/activities, it will be modified at appropriate levels for each student.

The objectives of this course are that each student shall:

- Demonstrate skills using various types of instrumentation and scientific methodologies
- Learn how to read and critique scientific research articles in the field of Environmental Science
- Practice using data collected to solve scientific problems
- Apply knowledge and critical thinking to current social concerns

NOTE: We will periodically debate issues in class. While it is not necessary that everyone agree – and in fact, class discussions are almost always better when there is disagreement – it is critical that everyone is able to respect each other's positions (as long as they are appropriate). Learning to have such respectful discussions is a very important part of becoming a mature adult and scientist.

Materials (optional)

This course will utilize the following texts:

- Withgott, Jay, and Laposata, Matthew. *ENVIRONMENT: the science behind the stories.* 6th ed. Pearson. New York, NY. 2018.*
    - ISBN-10: 0-13-458056-7
    - ISBN-13: 978-0-13-458056-2

- Morgan, Myra. *Pearson Education Test Prep Series for AP Environmental Science.* Pearson. New York, NY. 2018.*
    - ISBN-10: 0-13-465826-4

- ISBN-13: 978-0-13-465826-1

* The text will be provided via selected scanned materials on schoology.

Curriculum Content Map

Month	Ch.'s	Unit	Topics	Selected Labs
Sept	1,2 3, 4	1 2	● Environmental Problems and Causes ● History of Resource Use and Conservation ● Critical Thinking/Scientific Method and Models ● Matter and Flow of Energy	Parts per Million Net Primary Productivity
Oct	6.1-6.2 17, 18	3	● Air ● Air Pollution, Ozone loss ● Climate Change	Albedo Shoenbein Ozone Acid Rain
Nov	5,8 6.3-6.8	4	● Evolution and Biodiversity ● Community Ecology	Biodiversity Leaf Litter Inter, Intraspec. Competion, Brine Shrimp Abiotic Factors (*Unit 7*)
Nov	22, 24	5	● Sustaining Wild Species ● Terrestrial & Aquatic Diversity	Tragedy of Commons Fishing
Dec, Jan	9,10	6	● Population Dynamics	Power of Pyramids, Duckweed, Global Pop Trends
Jan, Feb	11,20	7	● Toxicology ● Human Health ● Pesticides ● Pest Control	Toxic 'Tea', Brine Shimp Abiotic Factors, Pesticides, Exp design
Feb	10,13 15.1-15.4	8	● Geology ● Soil	Soils Lab, Cookie Mining
			Good Luck on MidYear Exam!	
Feb,	23,25	9	● Food Resources	

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March			● Urban Land Use	
March	7,14, 19	10	● Aquatic Ecology ● Water Resources ● Water Pollution	Chemical water testing, Effect of Salinization Spec Heat
April	15.5-15.9, 16, 21	11	● Energy!, Efficiency & Renewables ● Solid Waste ● Review (time permitting)	Land Fill Lab
May, June		12	Independent Research & Community Projects: *Plastic Pollution, saltmarsh study, school waste, energy, bioengineering, stormwater runoff, etc*	
			FINAL EXAM! HAVE A GREAT SUMMER!	

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Environmental Science

2018-2019

*Please return this paper with signatures completed!!!**

Syllabus Acknowledgement

I acknowledge that I have read and understand the class syllabus for ES. I understand that if I have any questions or concerns regarding the course grade, content, or policies that I should contact Ms. Baker immediately.

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Student Printed Name Student Signed Name

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Parent Printed Name Parent/Guardian Signed Name

_____

Parent/Guardian Email Address

Best time/way to Contact Parent/Guardian (optional):

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