

# Plymouth Public Schools' Science and Technology/Engineering Program

## College Prep 1 Environmental Science Course Syllabus

STE2053 Environmental Science College Prep 1

Semester course intended for students in grades 11 through 12 worth 2.5 credits

### Course Description

This laboratory course will address global issues, which affect the sustainability of the planet. Students will explore how to meet the needs of the present without jeopardizing the needs of future generations. Major issues to be addressed will be: population and migration, climate change, energy, consumption and the quality of life, threats to ecosystems, and sustainability throughout the world by critically thinking about and discussing potential solutions. Required math skills include the ability to use the metric system to convert English system units, the use of scientific notation including operations that can be done on a scientific calculator, and the ability to resolve population-related equations using algebra skills. The prerequisite includes departmental recommendation.

### Instructional Objectives

Students will independently and collaboratively:

1. Engage in scientific inquiry and engineering design through the use of science and engineering practices.
2. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to answer a question or solve a problem.
3. Draw evidence from literary or informational texts to support analysis, reflection, and research.
4. Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose and audience.
5. Demonstrate proficiency in phenomena related to the interactions, energy, and dynamics of ecosystems; Earth's systems; and Earth and human activity.

### Themes and Topics

1. Interactions, Energy, and Dynamics of Ecosystems – ecosystems with greater biodiversity have greater resistance to change and resilience, such as climate changes, rising sea levels, and moderate hunting; and direct and indirect effects of human activities on biodiversity and ecosystem health
2. Earth's Systems – flow of energy into and out of Earth's systems over different time scales results in changes in climate; and increased levels of carbon dioxide concentrations due to human activity
3. Earth and Human Activity – availability of natural resources influences human activity; best practices for agricultural soil use, mining, and pumping; management of natural resources; and analysis of global climate models to determine future impacts

## Text and Instructional Materials

Heithaus, Michael R, and Karen Arms. *Environmental Science*. Orlando, FL: Houghton Mifflin Harcourt, 2013.

## Cheating/Plagiarism

The excerpt from the Plymouth Public Schools' Student Handbook on plagiarism and copyright infringement states, "Existing copyright law will govern the use of material accessed through network. The user will not plagiarize works found on the Internet. Plagiarism is taking the ideas or writings of others and presenting them as if they were yours. All copyrighted material used must have the express written permission of the person or organization that owns the copyright. Any student who has cheated on any academic exercise will receive no credit for that exercise. Plagiarism is a form of cheating. A parent/guardian will be notified by the involved teacher in all instances of cheating. The investigation of the claim of cheating and plagiarism will involve the student, teacher, and administration."

## Grading Policy and Assessment

Levels of proficiency on various tasks and assignments determine student grades. During each grading term, students' grades will be based upon the following:

- 30% Class Work and Homework
- 70% Assessments

The final course average (semester) will be calculated as follows:

- 45% Term Grade (first of the semester)
- 45% Term Grade (second of the semester)
- 10% Final Exam