

Environmental Science



2020 - 2022 ~ Ms. Borgstrom

E-mail: eborgstrom@newwestcharter.org

Website: <http://msbscienceclass.weebly.com>

Course Materials:

- Daily access to computer with internet
- Pens, pencils, and scissors
- Calculator
- Lined paper/notebook

Course Description

Environmental Science is a project- and laboratory-based course that develops student knowledge of scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world and prepare students for college level science courses. I will act as your guide to exploring environmental problems, both natural and human-made, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving and/or preventing these problems.

Online Attendance Expectations:

Students should arrive on time to the mandatory class sessions on the scheduled day. Make sure to be in a setting that allows you to focus your attention on Environmental Science. Students are expected to have their camera on during the majority of class sessions but should mute themselves unless active in a discussion. Make sure to review the NWC student online learning expectations that are included below.

Course Activities

Performance Tasks

Students are asked to demonstrate their knowledge of basic science concepts as well as specific environmental principles. Performance tasks including design challenges, modeling of core concepts, and inquiry activities.

Science Engineering Practices

There are a variety of labs that will be performed throughout the course. Students will be provided with scientific guidelines for formal lab reports. Online simulations and observation labs are incorporated into the course.

Core Ideas Practice

All class and homework designed to further your knowledge and practice learned concepts is placed in your Environmental Science Portfolio. During online learning students will maintain a virtual portfolio via Google classroom.

Assessments:

The online assessment tool Quia will be used for periodic review and quizzes. Major assessments are in the form of projects that include research, organization, and presentation skills and ask students to think critically about topics studied in Environmental Science.

Late Work and Academic Integrity:

Some major assignments will be accepted as late work, this does not include bellringers or online group work. Late work is accepted at up to half credit within one week from the due date. After this time the assignment will be a zero with no opportunity for makeup.

Plagiarism of any type is not acceptable. This includes, but is not limited to:

- Copy and pasting information directly from a website. You should be reading, processing, and transcribing information using your own brain and words.
- Using work from other students or from former classes. Collaboration is done during group work and it will be made clear when this is appropriate.

Distance Learning Grading:

Category	Percent of grade
Core Ideas Practice	25%
Science and Engineering Practices	25%
Performance Tasks	25%
Assessments	25%

COURSE CONTENT:

Unit	Key Concepts	Major Unit Activities
Unit 1: Energy in Ecosystems	Systems in Environmental Science Scientific methods Carbon Cycle Ecological Communities Energy and Biomass	Scientific Lab Design Energy Transformation in Plants Modeling the Carbon Cycle Energy Flow and Food Webs
Unit 2: Earth Systems	Structure of the Earth Properties of water Formation of Soil Agriculture	Evidence for Tectonic Plates Physical and chemical properties of soil Farm Design
Unit 3: Ecosystem Interdependence	Population growth Measuring population Keystone species Biomes	Population Growth Simulation Biome project Invasive/Endangered species brochures
Fall Semester Final Units 1-3		
Unit 4: Humans and Ecosystems	Human populations Social and economic factors for human population growth Endangered and invasive species Conservation regulations	Calculation of human populations Invasive species project Plastics project
Unit 5: Earth Resources	Water use and pollution Mining Fossil Fuels Atmosphere structure and pollution Causes of Climate Change	Sewage treatment Energy use math Nuclear simulation Air pollution lab Greenhouse gases lab
Unit 6: Sustainability	Renewable Energy Addressing climate change Solid Waste - plastics and landfills Biofuels Innovative Solutions	Wind turbine lab Biofuel Design and testing Solar Oven project
Spring Semester Final Units 4-6		