

Environmental Science

Course Syllabus

2017-18

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This course is a full year inquiry based course which explores the overarching concept of environmental sustainability. Students explore the challenges of reducing human impact on the land, water and atmosphere at local, regional and global levels. Topics include but are not limited to: Stewardship and sustainability, fresh water resources, atmospheric pollutants, ecosystem function, world climate, and environmental ethics. Outdoor field work, laboratory work, and projects are the basis of this course.

COURSE GOALS

We will:

1. Develop questions and define problems to conduct open-ended investigations to provide explanations and generate possible solutions.
2. Generate and defend arguments to confront real-life science claims by collecting, interpreting, and analyzing data to make credible and informed decisions.
3. Develop critical thinking patterns that promote problem-solving skills and promote best-practices in science and engineering:
 - a. Develop and use models to make sense of concepts
 - b. Use mathematics and computational thinking
 - c. Obtain, evaluate, and communicate information
4. View the wonders of nature through the lens of a curious and scientifically literate mind.

Upon the completion of this course, students will be able to:

- Identify common flora and fauna of NYC and be able to describe their niches and interrelationships
- Use scientific research, field experiences and lab data to explain how natural systems function
- Draw connections between personal ecological footprint and sustainability outcomes

ESSENTIAL QUESTIONS

What is the best way to achieve environmental sustainability?

What are the most impactful positive/ negative influences that humans have on natural systems?

UNITS

1. Environmental Science and Ecology
2. Soil and Land Use
3. Water Resources and Pollution
4. Air and Climate Change
5. Energy Resources and Consumption
6. Food and Agriculture
7. Sustainable Solutions

ASSESSMENTS

25% Homework

Per MHS policy, late HW has zero point value but it is encouraged that a student makes it up to progress in class. If the student is absent on the due date for an assignment, the student is responsible for obtaining the assignment. The assignment is due the day s/he returns to school.

25% Classwork & Participation

As an Upper House student, you are expected to:

- ✓ Take good notes, be attentive, join discussions and ask questions!
- ✓ Be responsible for all new notes, assignments and deadlines. If you are absent, YOU are responsible for finding out what you missed and submitting assignments on time.
- ✓ Arrive on time and follow MHS rules re: no personal electronics, no food, gum, candy, and drinks. Any misconduct on the items referenced above will result in an automatic deduction of class participation credit (5 point penalty for each reminder). *Ex. If you are reminded twice during the same period, that is 10 pts off.*

30% Labs & Projects

Per MHS policy, projects receive a 10% penalty for each day it is submitted late.

20% Tests

If you are absent on the day of an exam, YOU are responsible for scheduling for a make-up.

CHEATING

There is a zero tolerance policy toward cheating. I want to hear your thoughts, not wikipedia's! Cheating includes copying any work from another student and passing it as your own. See student handbook for the full policy.

MATERIALS

- ✓ YOU :)
- ✓ 3-ring binder (1 Divider for Environmental Science Work) – *may be shared with another course*
- ✓ Black/ Blue pen
- ✓ Pencil
- ✓ Highlighters

OPTIONAL, but helpful to have...

- ✓ Colored pencils
- ✓ Rain Jacket/ poncho
- ✓ Camera (not on cell phone)
- ✓ Internet and printer access at home
- ✓ Gmail account – Google Docs will be used as a collaboration tool and to submit assignments.