AP Environmental Science

(APES)

**Instructor** – Mr. James Maloney **Email** – Jmaloney@neshaminy.k12.pa.us

**Textbook** – Living in the Environment: Principles, Connections, and Solutions (Miller 18th)

**Schedule** – 9 periods per 6 day rotation. Every other day is lab day.

**Class Website** – Neshaminy Teachers (Maloney) & Google Classroom

**Maloney Schedule** – 1st – Prep – IPC 3rd – APES – D107 5th – Lunch - IPC 7th -- Bio– D101

 2nd – APES – D107 4th – Bio I – D101 6th – Bio -D101 8th – Bio – IPC

Congratulations on accepting the challenge of AP Environmental Science, over the course of this year we will cover many major topics of study associated with the living environment and the way in which we, as humans, interact and impact the natural world. This class will be a challenge to those that do not get involved in the science and do try to intertwine all the themes throughout the year.

For this course we will be using the textbook “Living in the Environment” 18th edition by Miller. The textbooks are brand new for this year and will be arriving at the beginning of the school year. In addition to the text for the class we will also be utilizing the 125 acre Idlewood Environmental Station behind the high school. Field research will be conducted year round, so please be prepared to go out. Many of our labs are dependent on being able to conduct the research outside and with that capability we will also be at the mercy of the weather. The best approach to the class is to always be prepared because the schedule can and will change to accommodate favorable weather conditions. This class is going to incorporate a combination of hands on practical labs which will help you develop a better understanding of the natural world around you as well as textbook based ideologies and information which will help you to succeed on the AP exam administered in the spring.

 This class is intended to be administered as an introductory college level course and in doing so, the student inherits the responsibility for success in the class. I maintain an active class website through the Neshaminy School District page and if you need to contact me, I highly suggest you send me an email, I will respond as soon as possible.

**Recommended Materials** – I teach primarily through PowerPoint and hands on labs, although I supplement a lot of my instruction with various other means. For this class you will need:

* 3 ringed binder for printed notes, handouts, labs, etc.
* Marble composition book for labs & FRQ Practice (it is crucial to keep a lab notebook if a college or university ever wants to see what topics you covered in order to award you academic credit)
* Pens and Pencils (pencils for data collection and pens for notes/submitted work)
* Textbook cover (that’s a $200 book, please don’t ruin it)
* Optional : 3x5 index cards for vocab if you like that

**Grading** – This class will use a weighted grading system. There are a couple major types of assignments which we will experience over the course of the year and their weighted averages reflect their importance to the course.

 Tests/Quizzes 40%

 Labs 40%

 Homework/Classwork 20%

**Current Issues** – Each marking period you will be have to write up two current issues associated with an environmental science topic we have been studying. You are to look into current published research in a scholarly journal or other approved sources, not just a small article on Yahoo. An example of a current issue can be found on my Neshaminy webpage. There will be alternatives options to writing up the current issues which may include presenting at an out of class function.

**Summer Assignment** – Information can be found on the Neshaminy High School Science Department Page. <http://www.neshaminy.org/Page/27595>

 Readings:

      - Friedman, Thomas L. *Hot, flat, and crowded: Why we need a green revolution--and how it can renew America*. Macmillan, 2008.
       - Wilson, Edward O. *The diversity of life*. WW Norton & Company, 1999.

**Outlines:**

 Outlining the textbook can be a very beneficial process for the individual, but it can also be very daunting. In an effort to alleviate this burden on any one person, I have “pre-outlined” the chapters on a shared Google Doc which will allow the class members to log-in and contribute information to the class outline. This will ease the burden on any one individual, while allowing everyone to contribute something to the group. I am not grading the outline, but the content from the book and that information covered on the outline is what your assessments will be based on and they account for a large share of the marking period grade. This is designed to be a collaborative effort and if I observe only one or two students contributing to the effort, I will pull down the forms and you will be tasked with doing the work on your own.

**Ways to Succeed:**

 Environmental science is not a singular specific discipline. It is rather a combination of all your science knowledge to date, in addition to social studies information, math, and English. You can be a very smart student and know the vocabulary very well and struggle in this course because it is an application based science. You are applying the concepts in the book to the world around you. The best part about this course is that you can see everything, you can investigate everything, and best of all, you have me as a teacher through the course. Please get involved, don’t sit back and let the science come to you, if you need an answer to a question, please ask. This is a collaborative class and I want to see all of you interacting in a positive manner to succeed.

**Topics of Study:**

Unit 1 - Humans and Sustainability ~8 days

-Environmental Problems, Their Causes, and Sustainability (Chapter 1)

- The Human Population and its Impact (Chapter 6)

Unit 2 - Natural Systems and Ecosystems Introduction ~14 days

-Science, Matter, Energy, and Systems (Chapter 2)

-Ecosystems: What Are They and How Do They Work? (Chapter 3)

Unit 3 - Biodiversity and Population ~21 days

-Biodiversity and Evolution (Chapter 4)

-Biodiversity, Species Interactions, and Population Control (Chapter 5)

Unit 4 - Biomes and Biodiversity ~15 days

-Climate and Biodiversity (Chapter 7)

-Aquatic Biodiversity (Chapter 8)

Unit 5 - Sustaining Biodiversity ~ 18 days

-Sustaining Biodiversity: Saving Species and Ecosystem Services (Chapter 9)

-Sustaining Terrestrial Biodiversity: Saving Ecosystems and Ecosystem Services (Chapter 10)

-Sustaining Aquatic Biodiversity and Ecosystem Services (Chapter 11)

Unit 6 - Sustaining Natural Resources ~12 days

-Food Production and the Environment (Chapter 12)

-Water Resources (Chapter 13)

Unit 7 - Resources- Non-Renewable and Renewable ~18 days

-Nonrenewable Mineral Resources (Chapter 14)

-Nonrenewable Energy (Chapter 15)

-Energy Efficiency and Renewable Energy (Chapter 16)

Unit 8 - Atmosphere and Climate ~10 days

-Environmental Hazards and Human Health (Chapter 17)

-Air Pollution (Chapter 18)

-Climate Disruption (Chapter 19)

Unit 9 - Pollution ~22 days

- Water Pollution (Chapter 20)

- Solid and Hazardous Waste (Chapter 21)

-Urbanization and Sustainability (Chapter 22)

Unit 10 - Sustaining Human Societies ~6 days

-Economics, Environment and Sustainability (Chapter 23)

-Politics, Environment and Sustainability (Chapter 24)

-Environmental Worldviews, Ethics and Sustainability (Chapter 25)