COURSE SYLLABUS for EARTH SCIENCE: SEF22 – Sections 01/02/03

Mrs. Dubizh - Summer 2020

Course Description:

The study of Earth Science this summer will consist of 3 basic units: Meteorology – The study of the weather, climate and a special emphasis on Climate Change, Geology - the History of the Earth, theory of Plate Tectonics and the formation of Earth's features, and Astronomy - the study of the planets and other celestial bodies.

We will begin by exploring the complex issue of Climate Change and the present day causes and effects of Global Warming. Next, we will look at how certain features of the Earth such air pressure and the atmosphere, among others, affects our lives. Finally, students will be introduced to the theory of the Big Bang and analyze its future implications for space travel and possible colonization.

As a final project, students will choose a topic of interest and create a research question that they will answer in a short paper they will present to the class.

Weekly Breakdown:
Week 1: Introduction to Earth Science (2)
Week 2: Weather and Climate
Week 3: Global Warming
Week 4: The Theory of Plate Tectonics
Week 5: Planet Earth: The Big Bang?
Week 6: The Universe Beyond

NGSS Learning Standards:

HS-ESS1-2. Construct an explanation of the Big Bang theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.

HS-ESS1-6. Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.

HS- ESS2-4. Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.

HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

HS- ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.

Course Expectations:

Grading Policy –

30% Exercises – Exercises will be posted weekly . Students are expected to answer questions IN THEIR OWN WORDS and be able to explain what they wrote and why.

30% Quizzes – Instead of a weekly exercise there will be 2 multiple choice and/or short answer quizzes that will be a review of independent work done during the week.

40% Summer Semester Project - Research Paper – 1page min. (double spaced)

- You will choose your own topic that you are interested in and formulate a question that you would like answered about the topic using at least three sources. A reference bibliography will be necessary and students should be expected to share out their research with the class as a whole

Text:
Glencoe/McGraw Hill - Earth Science, 2008
Feather, Snyder, Zike, et al.

Workbook:
Globe Fearon / Science Workshop Series:
Seymour Rosen - Geology, 2000
- The Universe, 2000