Earth Science COURSE SYLLABUS

2016-2017 INSTRUCTOR: Mr. Hofacker

Room: 208

Prep Period: 1

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WEB PAGE:

COURSE PAGE: Virtual Classroom Earth Science Page

A. DESCRIPTION

EARTH SCIENCE

This course is an examination of the Earth as a system within itself and as a part of the solar system, the Milky Way Galaxy and the Universe in which the Earth exists. Within the Earth both the abiotic and biotic realms and the interactions between them will be considered. The history of the Earth over 4.6 billion years of development will be studied to determine the changes that have resulted in the planet humans inhabit in the present. In all these areas this will be a science course using the principles of scientific ways of knowing the Earth and its environs.

B. ORGANIZATION

1.Prentis Hall *Earth Science, 2nd Ed.* is the text that will organize the course with modification for time and emphasis.

C. COURSE OBJECTIVES

1. Student understanding of the planet on which they live. The Earth's vital role in their lives, its contribution of a complex and in some ways fragile places that needs, first their understanding and second their care resulting from that understanding.
2. Student awareness of the interconnectedness of the various topics considered during the course as systems that interact with each other to create the Earth as a system.
3. Student appreciation of the contributions of science to the human knowledge base about the Earth and its place in the cosmos. Student ability to apply scientific methods and skills to discover new perspectives on the Earth.

D. COURSE TOPICS

The course will cover the following topics:

1. Earth System Science
2. Applied Scientific Principles
3. Minerals
4. Rocks
5. Earth's Resources
6. Weathering, Soil, Mass Movements
7. Water
8. Wind
9. Earthquakes
10. Plate Tectonics
11. Volcanoes
12. Geologic Deep Time
13. Earth's History
14. Oceans
15. The Atmosphere
16. Weather
17. Climate
18. Astronomy
19. The Solar System
20. The Sun
21. The Cosmos

E. TEXT AND REQUIRED SUPPLIES

1. Prentis Hall *Earth Science, 2nd Ed.*
2. iPad charged for use.
3. Accessible Progress Book account, join the appropriate class.
4. Notebook - either traditional 3 ring binder with dividers or electronic on the iPad

F. GRADING PLAN

Coursework will be weighted as follows:

Tests from each chapter/topic or smaller section as appropriate	80%
Small immediate quizzes 5-10 points	
Writing assignments on the current topic and lab reports	10%
Projects or Keynote presentations in class	
Homework evaluated through notebooks	10%

G. CLASSROOM RULES OF CONDUCT

1. Respect for the other students, the school, the instructor, the education process and the subject.

H. EMERGENCY PROCEDURES

1. Follow school procedures. No disruptive behavior tolerated during drills.

I. YOUR IDEAS, EVALUATIONS, ETC.

1st 9 weeks	
Week 1	
Instruction topic:	Earth System Science; Earth's Surface; Spheres - hydro, atmo, geo and bio

	Assessment:	1. Frequent small quizzes. 2. Writing assignment and Keynote 3. Test 4. Ongoing star orientation project. 5. Lab Reports
	Assignments:	1.Reading the text indicated by written work 2. Choice of writing assignment 3. Keynote presentation from writing assignment. 4. Star orientation map marked with horizon and time.
Week 2-4		
	Instruction topic:	Minerals, matter and properties
	Assessment:	Same as 1
	Assignments:	1.Reading the text indicated by written work 2. Choice of writing assignment 3. Keynote presentation from writing assignment. 4. Mineral identification web pages completed and snapshot recorded on iPad from facweb 5. Mineral ID Lab
Week 5-6		
	Instruction topic:	Rock Cycle, types and identification
	Assessment:	Same as 1

	Assignments:	1.Reading the text indicated by written work 2. Choice of writing assignment 3. Keynote presentation from writing assignment. 4. Rock identification web pages completed and snapshot recorded on iPad from facweb. 5. Rock ID Lab 6. Sediments Lab – Start at beginning of period.
Week 7		
	Instruction topic:	Earth's Resources; Energy and Mineral
	Assessment:	Same as above
	Assignments:	1.Reading the text indicated by written work 2. Choice of writing assignment 3. Keynote presentation from writing assignment. 4. Alternative energy project revisited.
Week 8-9		
	Instruction topic:	Weathering, Soil and Mass Movement
	Assessment:	Same
	Assignments:	1.Reading the text indicated by written work 2. Choice of writing assignment 3. Keynote presentation from writing assignment.
2nd 9 Week 1		
	Instruction topic:	Water Cycle

	Assessment:	Same
	Assignments:	1.Reading the text indicated by written work 2. Choice of writing assignment 3. Keynote presentation from writing assignment. 4.Erosion Lab
Week 2		
	Instruction topic:	Glaciers, Deserts and Wind
	Assessment:	Same
	Assignments:	Same
Week 3-4		
	Instruction topic:	Earthquakes
	Assessment:	Same
	Assignments:	Same Triangulation Lab Earthquake Zones Lab
Week 5-7		
	Instruction topic:	Plate Tectonics

Assessments:	Same
Assignments:	Same Magnetic field reversal Lab Types of Plate interactions Lab

Week 8-9

Instruction topic:	Volcanoes
Assessments	Same
Assignments	Same with Angle of Subsummation Lab

3rd 9 weeks

Week 1-2

Instruction topic:	Geologic Deep Time
Assessments	Same
Assignments	Same with Geologic Timeline Assignment

Week 3-4

Instruction topic:	Earth's History
Assessments	Same
Assignments	Same with Geologic Timeline Assignment

Week 4-5

Instruction topic:	Ocean Water and Life
Assessments	Same

	Assignments	Same with Ocean Water Chemistry Lab
	Week 6	
	Instruction topic:	Atmosphere
	Assessments	Same
	Assignments	Same with Heating Soil and Water Lab
	Week 7	
	Instruction topic:	Precipitation
	Assessments	Same
	Assignments	Same with Cloud Making Lab
	Week 8	
	Instruction topic:	Air Pressure and Wind
	Assessments	Same
	Assignments	Same with Wind Lab
	Week 9	
	Instruction topic:	Weather Patterns
	Assessments	Same
	Assignments	Same with iPad Intellicast Lab
4th 9 Weeks	Week 1	
	Instruction topic:	Climate
	Assessments	Same
	Assignments	Same with Climate Change Research Project
	Week 2-3	
	Instruction topic:	Light and the Sun

Assessments	Same
Assignments	Same with Solar Observing Lab

Week 4-5

Instruction topic:	Solar System
Assessments	Same
Assignments	Same with Moon Observation Lab

Week 6-7

Instruction topic:	Cosmology and the Universe
Assessments	Same
Assignments	Same with Cosmology writing assignment

Week 8-9

Instruction topic:	History of Astronomy
Assessments	Same
Assignments	Same