

Course Syllabus

Course Description

This one year course explores the foundations of Earth Science in the following related topics / fields: Earth's place in the universe, dynamic Earth processes, Energy in the Earth system, biochemical cycles, structure and composition of the atmosphere, and California geology. Students will have the opportunity for self assessment as well as for teacher guidance and assessment throughout the course including the preparation and finalization of two semester Problem Solving Projects, which focus on research, organization, and drafting strategies. The course covers scientific terminology, historical and cultural advances in science, vocabulary building, test taking strategies, and several simulated labs, hands-on labs, the essay, workplace documents, and science projects using the scientific method.

Course Objectives

Students will develop an understanding of:

- Earth's place in the universe
- Galaxies and stars
- Solar systems
- Planets and satellites
- Planet Earth
- Tectonic processes
- Oceans
- Atmosphere
- Energy in the Earth system
- Earth's energy budget: inflow and outflow
- Circulation in the oceans and atmosphere
- Climate variations in time and space
- Biochemical cycles
- Rock cycle
- Water, Carbon, and Nitrogen Cycles
- California Geology
- Tectonic evolution
- Major economic Earth resources
- Surface processes
- Natural hazards
- Geographic Mapping
- Investigation and experimentation
- Question formation
- Planning a scientific investigation
- Observation and data collection

- Data analysis / graphing
 - Drawing conclusions and communicating explanations
 - Nature of science
 - Scientific inquiry
 - Scientific ethics
 - Historical perspectives
 - Science and society
 - Science literacy
 - Diversity
 - Science, technology, and society
 - safety
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Textbook(s) This course is not textbook dependent.

Grading Policy

Grading Scale	
Letter Grade	Percentage Earned
A	90% - 100%
B	80% - 89%
C	70% - 79%
D	60% - 69%
F	59% and lower

- This is an inquiry-based course. Students will generate knowledge through online readings, synchronous chats, asynchronous discussions with students and their instructor, interactions with online tutorials, and online and hands-on simulations.
- A semester project developed by each student will be used to demonstrate knowledge and understanding of the material in the course.
- The instructor will act as a guide, a facilitator, an events planner, and a resource advisor. He/she will always be available through e-mail.
- The student must actively construct and acquire knowledge by being intrinsically motivated to succeed. To succeed, students must participate and complete all readings and activities. This course requires the student's active participation.
- Both formal and informal assessment methods will be used in the course. Informal assessment will include an evaluation of the quality and timeliness of participation in class activities. Formal assessment may include multiple-choice quizzes, tests, discussion board participation, and written assignments. A final exam will be given at the end of the course.

NUVHS Expected Schoolwide Learning Results (ESLRs):

It is anticipated that NUVHS students will be:

Engaged Learners

1. Demonstrate self-directed learning skills such as time management, and personal responsibility through the completion of course requirements
2. Develop an understanding of their own preferred learning styles to enhance their overall academic potential
3. Incorporate effective and relevant internet and multimedia resources in their learning process to broaden their knowledge base

Critical Thinkers

1. Effectively analyze and articulate sound opinions on a variety of complex concepts
2. Illustrate a variety of problem-solving strategies that strengthen college preparation and workforce readiness
3. Formulate a framework for applying a variety of technology and internet-based research to enhance information literacy and collaborative thinking

Effective Communicators

1. Demonstrate awareness and sensitivity to tone and voice in multiple forms of communication
2. Express concepts and ideas in a variety of forms.
3. Enhance communication skills through the use of media rich or other technology resources

Global Citizens

1. Appreciate the value of diversity
2. Understand the range of local and international issues facing today's global community
3. Demonstrate awareness of the importance of cultural sensitivity and social responsibility in the 21st century