Course Title: Introduction To Geology
Catalog #: ES15
Lec/Lab: Tuesday/Thursday: 9:30-10:45    Thursday: 11-12:50
Instructor: Ken Ettlinger
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Lab sheets to be used or completed during the laboratory will be handed out each week and the objectives and techniques of the lab will be explained at the beginning of the lab session.

OBJECTIVES OF THE COURSE:
1. to understand the internal processes such as volcanism, mountain building and earthquake activity which have helped to shape this planet and to relate these processes within the context of plate tectonics.
2. to be able to list the important external geologic processes such as the action of running water, glaciers and ocean waves and demonstrate their importance in creating the landscape around us.
3. to use Long Island as a detailed geological case study for pleistocene glaciation, groundwater issues and coastal erosion.
4. the student will become familiar with the rock cycle and be able to identify the basic types of sedimentary, igneous and metamorphic rocks.
5. the student will be able to use the map and compass.
6. the student will acquire the skills necessary to identify and interpret geoplogical phenomena on topographic maps and aerial photographs.
7. the student will be able to identify many of the mineral components of rocks on the basis of their physical properties.
8. to be able to understand many of the geo-environmental problems that face the global community (such as resource depletion and degredation) and to propose possible solutions.
9. to appreciate the beauty and diversity of geologic phenomena on this planet.

PROCEDURES:
1. This semester, a major component of the course will be viewing the videos from the award winning PBS series, “Earth Revealed”. These videos will introduce concepts, allow students to visualize geologic phenomena and show how complex geological puzzles have been solved by using the scientific method.
2. Classroom lectures and discussion will supplement and clarify concepts presented in the text and video segments and give the student an opportunity to ask questions in order to gain additional insight to geological processes.
3. Digital images, slides, blackboard sketches and overhead transparencies will be used when appropriate.
4. Labs will provide "hands on" opportunities to use some of the methods and materials that geologists use in the field and in the lab.
5. Assignments using computer assisted learning including the internet as a source of data will be included.

**ATTENDANCE:**
Please arrive on time. Excessive lateness can result in a loss of points, especially if you miss handing in your review sheet before the video of the day begins. You are expected to remain in the class during the showing of the video and subsequent lecture. There will be a break between lecture and lab sessions.

It is important for students to attend every lecture and lab session. There will not usually be any opportunity for the student to make up lab work. If any classes or labs are missed for any reason, it is the responsibility of the student to get in contact with a classmate or the instructor prior to the next class to get notes and assignments.

Unless notified by the student, the instructor may withdraw a student after he or she has missed 3 consecutive class sessions inclusive of both lab and lecture classes.

**GRADING:**

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<td>Midterm Exam</td>
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Make-up quizzes and lab practicals will not be given. The Midterm and Final Exam is cumulative and are not options. The review sheet quizzes and the exams may contain material covered in the laboratory portion of the course since lectures in the lab will clarify and expand on classroom lectures.

The video review sheets will be passed out early in the class and will consist of questions that review material from the video, lecture and text. You will be quizzed on that material weekly- so expect 14 quizzes. Your 10 highest grades will count. If you are late for a quiz or absent you will be assigned a "0" for that quiz grade.

**ADDITIONAL RESOURCE:**
In case you miss any part of the video from class, all 26 episodes of the PBS series, “The Earth Revealed” are available as streaming video at the following url but requires an up to date windows media player, up to date browser and a fast connection to the internet:

http://www.learner.org/resources/series78.html

**ADDITIONAL RESOURCE:**
By purchasing your textbook, an online site is available to you that will help in your quest to learn Geology. The url follows:

www.mhhe.com/mcgeary6e/
TENTATIVE SCHEDULE OF TOPICS:

We may approach topics out of this sequence:

Week 1  Intro. to Physical Geology, Important Concepts, Chapter 1
        Lab: Mineral Characteristics, Video: Down to Earth

Week 1  The Earth’s Interior, Chapter 2
        Video: Restless Planet

Week 2  The Earth’s Interior, Chapter 2
        Lab: Topographic Map Exercise, Video: Earth’s Interior

Week 2  The Sea Floor, Chapter 3
        Video: Sea Floor

Week 3  Plate Tectonics
        Lab: Topographic Maps, Contour Lines and Stereo Images, Video: Birth of a Theory

Week 3  Plate Tectonics, Chapter 4
        Video: Plate Dynamics

Week 4  Mountain Belts and Continental Crust, Chapter 5
        Lab: Map of the Sea Floor, Video: Mountain Building

Week 4  Geologic Structures, Chapter 6, Video: Earth’s Structure

Week 5  Minerals, Chapter 9
        Lab: The Rock Forming Minerals, Video: Minerals

Week 5  Earthquakes, Chapter 7, Video: Earthquakes

Week 6  Volcanism and Extrusive Rocks, Chapter 10
        Lab: Extrusive Igneous Rock Identification, Video: Volcanism

Week 6  Geologic Time, Chapter 8, Video: Geologic Time
        Lab: Practical Exam I

Week 7  Lecture Midterm, Intrusive Igneous Activity and the Origin of Igneous Rock, Chapter 11
        Video: Intrusive Igneous Rock

Week 7  Weathering and Soil Development, Chapter 12, Video: Weathering and Soils
        Lab: Identification of Intrusive Igneous Rocks

Week 8  Mass Wasting, Chapter 13, Video: Mass Wasting

Week 8  Sediments and Sedimentary Rocks, Chapter 14, Video: Sedimentary Rocks
        Lab: Identification of Sedimentary Rocks

Week 9  Metamorphism and Metamorphic Rocks, Chapter 15, Video: Metamorphic Rocks
        Lab: Metamorphism and Metamorphic Rock Identification
Week 9  Streams and Floods, Chapter 16, Video: Running Water 1
Week 10  Ground Water, Chapter 17, Video: Running Water 2
          Lab: Hydrologic Features on Topographic Maps and Aerial Photos
Week 10  Groundwater Continued (Long Island as a case study), Video:Groundwater
Week 11  Deserts and Wind Action, Chapter 18
          Lab: Advanced Mineral Identification, Video: Wind, Dust and Deserts
Week 11  Identification of U.S. Geologic Provinces, Geologic Maps
Week 12  Glaciers and Glaciation, Chapter 19, Video: Glaciers
          Lab: Maps and Aerial Photo Interpretation of Glacial Features
Week 12  Glaciation Continued (Long Island as a case study)
Week 13  Waves, Beaches and Coasts, Chapter 20, Video: Waves, Beaches and Coasts
          Lab: Maps and Aerial Photo Interpretation of Shoreline Features
Week 13  Coastlines Continued (Long Island as a case study)
Week 14  Video: Evolution through Time Chapter 21, Preview of Earth and Life
          Lab: Fossils (option)
Week 14  Video: Living With Earth II, Chapter 21, Oil and Gas Exploration
Week 15  Review of Rocks and Minerals and Final Exam
Week 15  Practical Exam II