BROOKHAVEN COLLEGE  Mathematics and Science Division Summer 2018

EARTH SCIENCE II Geology 1402-26501

Lecture/Lab Instructor:  Alexander Zekulin, Ph.D.
Email:  azekulin@dcccd.edu
Office Hours:  K-108, Before or after class or by appointment
Phone:  972-860-4713

RESOURCES REQUIRED:


COURSE TIMES:  Lecture K-108  Monday - Thursday 5:40 – 7:40
               Laboratory K-108 Monday - Thursday 7:50 – 9:50

CATALOG DESCRIPTION: This is a Texas Common Course Number.

Prerequisite: Developmental Reading 0093 or English as a Second Language (ESOL) 0044 or have met the Texas Success Initiative (TSI) standard in Reading. This course is for the non-science major. It is an extension of the study of geology, astronomy, meteorology and oceanography, focusing on natural resources, hazards and climate variability. (3 Lec., 3 Lab.)

Coordinating Board Academic Approval Number 4006015103

ATTENDANCE POLICY:
Inform your instructor if you will be missing either lecture or lab. It is important to attend all classes.

STUDENT LEARNING OBJECTIVES:
Upon successful completion of the lecture portion of the course, students will:
1.  Identify the influence of geologic and hydrologic processes on Earth’s surface.
2.  Describe the causes and effects of tectonic, meteorological, oceanographic, and astronomical hazards.
3.  Relate climate change to changes in tectonic configurations, astronomical relationships and atmospheric composition.
4.  Discuss potential effects of climate variability on Earth systems, including biological systems.
5.  Recognize how scientific models represent an abstraction of complex systems, such as ocean circulation and climate variability.
6.  Describe natural resources used by humans and their occurrence and extraction.
7.  Discuss the effects of renewable and nonrenewable resource development and sustainability.

Upon successful completion of the lab portion of the course, students will:
1. Locate on maps and/or photographs localities susceptible to tectonic, meteorological, and oceanographic hazards.
2. Discuss methods of hazard prevention and mitigation such as early warning techniques, construction methods, and civil planning.
3. Describe contributing factors to past and current climate change.
4. Analyze effects of climate variability on geological and biological systems.
5. Analyze diverse sources of data that document climate variability such as ice cores, dendrochronology, fossils, and pollen.
6. Relate the distribution of fossil fuel, metal and nonmetal resources to geologic processes.
7. Describe the methods of extraction of natural resources and their effect on the environment.
8. Describe renewable resources and methods of sustainability.

CORE OBJECTIVES

GEOL 1402 is part of the *Life and Physical Sciences* Foundational Component Area 030.

i. Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method.
ii. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.
iii. The following four Core Objectives must be addressed in each course approved to fulfill this category requirement:

(A) **Critical Thinking Skills:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information;
(B) **Communication Skills:** to include effective development, interpretation and expression of ideas through written, oral and visual communication;
(C) **Empirical and Quantitative Skills:** to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions;
(D) **Teamwork:** to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal;

INSTITUTIONAL POLICIES

The current Brookhaven institutional policies can be located at the following link:
[http://www.brookhavencollege.edu/employees/faculty/Documents/BCSyllabus_Addendum.pdf](http://www.brookhavencollege.edu/employees/faculty/Documents/BCSyllabus_Addendum.pdf)

GRADING LOGISTICS:

1) **Lecture:** There will be four (4) time constrained tests covering each unit of textbook material will be given this semester (each Monday). Some material from the laboratory assignments may also be part of the lecture test set of questions. Each test may encompass a variety of question types. **NO MAKEUP EXAMINATIONS ARE GIVEN.**

2) **Lecture Exam Final:** A time constrained partially comprehensive FINAL examination covering material from ALL chapters will be given at the conclusion of the semester.

3) **Laboratory:** The geology laboratory counts 25% of your total grade. **IF YOU FAIL THE**
LAB, YOU FAIL THE COURSE. The laboratory grade will be determined by a combination of lab exercises and a presentation regarding the exploration of a natural disaster. Details will be forthcoming as to details of the presentation. Your lab calendar will be distributed in lab.

4) Additional Assignments: Assignments from the textbook, lab manual and other sources will be assigned on a regular basis.

LATE WORK IS NOT ACCEPTED UNLESS THERE ARE EXTENUATING CIRCUMSTANCES THAT CAN BE DOCUMENTED.

Lab assignments are due 1 week from the day of the lab. Any missing assignments will be given a zero.

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<tr>
<th>Scoring ITEM:</th>
<th>% OF GRADE</th>
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<tbody>
<tr>
<td>Lecture tests (5@ 10)</td>
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<tr>
<td>Presentations (2@10)</td>
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<td>Current Event Assignments</td>
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<tr>
<td>Laboratory Exercises</td>
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<td>Laboratory Report</td>
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<td><strong>TOTAL GRADE</strong></td>
<td><strong>100%</strong></td>
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