Instructor Information
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Office Location: C-228
Office Hours: 8:30 to 9:30AM (M-R)
Division Office and Phone: P330 and 972-273-3500

Course Information
Course Title: Earth Science for Non-Science Majors I
Course Number: GEOL 1401
Section Number: 70200
Semester/Year: Spring 2020
Credit Hours: 4
Class Meeting Time/Location: 9:30 AM to 10:50 AM LEC Monday and Wednesday, 11:00 AM to 12:20 PM Moonday and Wednesday LA
Certification Date: March 30, 2020
Last Day to Withdraw: April 16, 2020 Check My Class Roster on eConnect for date.

Course Prerequisites
None

Course Description
This course is for the non-science major. It is an introductory survey of physical geology, historical geology, oceanography, meteorology, and astronomy. It relates the interaction of the earth sciences to the physical world. (3 Lec., 3 Lab)
Student Learning Outcomes

SPECIFIC LEARNING OUTCOMES: The first objective is to increase the student’s knowledge of physical science. An attempt will be made to answer the questions of what, where, when, and why.
A second objective is to create a greater appreciation of science and a greater interest in science as a result of having taken this course.
A third objective of this course is to provide material that will have useful and practical applications to everyday life and be meaningful to the student.

MEASURABLE LEARNING OUTCOMES (SLOs):
1. Given a topographic map of the city of Irving, students in Geology 1401 courses will determine the highest and lowest elevation in the city. After completing the assigned readings, lectures and discussions and related laboratory activities students will communicate their findings in a lab report at 60% proficiency.
2. All Geology 1401 students will identify using a mineral key and correctly name at a 60% level of proficiency 27 minerals.
3. All students at the Geology 1401 department level will correctly name at a 60% level of proficiency 20 unknown rocks using rock keys.

LECTURE:
Explain the current theories concerning the origin of the Universe and the Solar System.
Explain the place of the Earth in the Solar System and its relationships with other objects in the Solar System.
Relate the origin and evolution of the Earth’s internal structures to its resulting geologic systems including earth materials and plate tectonic activities.
Explain the operation of Earth’s geologic systems and interactions with the atmosphere, the geosphere, and the hydrosphere including meteorology and oceanography.
Explain the history of the Earth including the evolution of earth systems and life forms.

LAB:
Classify rocks and minerals based on chemical composition, physical properties, and origin.
Apply knowledge of topographic maps and diagrams to identify landforms and explain the processes that created them.
Differentiate the types of plate boundaries and explain the processes that occur at each and identify associated structural features on maps, block diagrams, and cross sections.
Apply relative and numerical age-dating techniques to construct geological histories.
Measure atmospheric processes that affect weather and climate.
Describe the composition and motion of ocean water and analyze the factors controlling both.
Compare properties and motions of objects in the solar system.
Demonstrate the collection, analysis, and reporting of data.
Texas Core Objectives

The College defines essential knowledge and skills that students need to develop during their college experience. These general education competencies parallel the Texas Core Objectives for Student Learning. In this course, the activities you engage in will give you the opportunity to practice two or more of the following core competencies:

1. **Critical Thinking Skills** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

2. **Communication Skills** - to include effective development, interpretation, and expression of ideas through written, oral, and visual communication

3. **Empirical and Quantitative Skills** - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

4. **Teamwork** - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

5. **Personal Responsibility** - to include the ability to connect choices, actions, and consequences to ethical decision-making

6. **Social Responsibility** - to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities

Required Course Materials

Students need the following materials: access to the textbook: **EARTH: Portrait of a Planet 6th Ed**

- **Author**: Stephen Marshak
- **ISBN**: 13-978-0393937503
- **Copyright Year**: 2019
- **Publisher**: WW Norton & Company

In addition students need to bring to each lab a #2 pencil and eraser, a 6 inch ruler, and a calculator.

Note: A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.
Graded Work

There will be 4 100 point lecture tests given during this 8 week class. The first lecture test will occur at the conclusion of Unit 2. The second lecture test will occur at the end of Unit 5, the 3rd lecture test after Unit 6 and the final lecture test after Unit 7 on Energy. These will make up 70% of the course grade. There will also be 3 100 point lab tests which will make up 30% of the course grade. This is outlined below:

<table>
<thead>
<tr>
<th>WEEK</th>
<th>UNIT #</th>
<th>UNIT TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Rocks and Minerals</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Weathering and Soil</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>TEST #1</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Folding and Faultiing</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Earthquakes</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Plate Tectonics</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>TEST #2</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Meteorology</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>TEST #3</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Energy</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>TEST #4</td>
</tr>
</tbody>
</table>

Summary of Graded Work

Final Grade

[Example below. Replace with your own course information.]

<table>
<thead>
<tr>
<th>Points</th>
<th>Percentages</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>80-89</td>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>70-79</td>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>60-69</td>
<td>60-69%</td>
<td>D</td>
</tr>
<tr>
<td>0-59</td>
<td>0-59%</td>
<td>F</td>
</tr>
</tbody>
</table>

Description of Graded Work

[Each lecture test will consist of multiple choice, true false, matching, and usually two discussion questions. The lectures will review the material found in these tests before the tests are given. Attendance for these reviews is highly important. The lecture tests are administered in the NLC testing center. The lab tests will be taken in the lab during lab times.]
Attendance and Your Final Grade
Attendance in this course is required but not calculated as a part of your final grade. Should your participation in the course become an issue, this policy may be altered at the instructors discretion.

Late Work Policy
Please adhere to due dates as given in the syllabus.

Other Course Policies
No eating in class. Please observe the student code of conduct at all times.

Institutional Policies
Institutional Policies relating to this course can be accessed using the link below. These policies include information about tutoring, Disabilities Services, class drop and repeat options, Title IX, and more.

North Lake Institutional Policies (http://www.northlakecollege.edu/syllabipolicies)

Course Schedule
[List all required readings and any assignments, tests, projects, etc. Provide a general description of the subject matter of each in-person class meeting or online lesson/module (example: “World War I and the Roaring Twenties, 1914-1929”).]

[There are a number of approaches you can take to share this information with students. Three examples are shown below. Select the approach you prefer and fill out the table with your course schedule. Then delete the other two example tables.]

Template 2: Listing of Topics by Week

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Readings &amp; Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rocks and Minerals</td>
<td>Pages 120-182, 210-241, 242-269, 270-278.</td>
</tr>
<tr>
<td>2</td>
<td>Weathering and Soil</td>
<td>Pages 182-201, 446-448, 461-462, 593-595.</td>
</tr>
<tr>
<td>3</td>
<td>Folding and Faulting</td>
<td>Pages 322-369.</td>
</tr>
<tr>
<td>Week</td>
<td>Topic</td>
<td>Readings &amp; Assignments</td>
</tr>
<tr>
<td>------</td>
<td>----------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>4</td>
<td>Earthquakes</td>
<td>Pages 322-369.</td>
</tr>
<tr>
<td>5</td>
<td>Plate Tectonics</td>
<td>Pages 66-89, 90-117.</td>
</tr>
<tr>
<td>6</td>
<td>Meteorology</td>
<td>Pages 756-801.</td>
</tr>
<tr>
<td>7</td>
<td>Energy</td>
<td>Pages 522-563.</td>
</tr>
<tr>
<td>8</td>
<td>Review and Final Exam</td>
<td></td>
</tr>
</tbody>
</table>

**Course Extras**

**Tutoring:** The STEM Center supports free tutoring for this course both face-to-face and online. The STEM Center is located in L137.

**Hawaiian Field Studies Program:** [www.northlakcollege.edu/hawaii](http://www.northlakcollege.edu/hawaii)

**Final Note**

The professor reserves the right to make changes to the syllabus, including project due dates and test dates (excluding the officially scheduled final examination), when unforeseen circumstances occur. These changes will be announced as early as possible so that students can adjust their schedules.