COURSE SYLLABUS

YEAR COURSE OFFERED: 2015

SEMESTER COURSE OFFERED: Spring

DEPARTMENT: Environmental Science

COURSE NUMBER: GEOL 1304

NAME OF COURSE: Historical Geology

NAME OF INSTRUCTOR: Staff

The information contained in this class syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Learning Objectives
To teach students the knowledge and understanding of
• The currently accepted theories of the formation and evolution of life.
• The development of modern historical geology, its scope, methodology and challenges.
• The Geologic Time Scale as well as the times of selected geotectonic episodes and
  Paleontological events.
• The relationship of selected orogenic episodes to plate tectonics and continental drift
  as well as to the accumulation of geological resources, and the evolution and distribution of life
  forms.

Core Objectives (CO)
Physical Geology addresses the following core objectives to ensure students develop the
essential knowledge and skills they need to be successful in college, in a career, in their
communities, and in their lives.
• Critical Thinking Skills(CT) - to include creative thinking, innovation, inquiry, and
  analysis, evaluation and synthesis of information
• Communication Skills(COM) - to include effective development, interpretation and
  expression of ideas through written, oral and visual communication
• Empirical and Quantitative Skills (EQS)- to include the manipulation and analysis of
  numerical data or observable facts resulting in informed conclusions
• Team Work (TW) - to include the ability to consider different points of view and to work
  effectively with others to support a shared purpose or goal.
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Major Assignments/Exams

In class experience: Students will be provided maps and air photos to analyze geological history. CO: CT; CS; EQS and TW

Exams: There will be three in-class exams during the semester. Exams will consist of multiple choice, short answer, and essay questions. CO: CT, EQS

<table>
<thead>
<tr>
<th>Learning outcomes</th>
<th>CO</th>
<th>Assessment Methods</th>
<th>Criteria/Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe/identify important earth materials</td>
<td>CT, COM and EQS</td>
<td>Students will be tested rocks and minerals identification</td>
<td>70% above</td>
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<tr>
<td>Describe important earth processes</td>
<td>CT, COM and EQS</td>
<td>Students will be tested on the major principles and concepts. Examples of questions are: the driving force of plate tectonics; the formation of ocean floor, geological features along different geological plate boundries</td>
<td>70% above</td>
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<tr>
<td>Explain the concept of geological time and the observation that support this concept.</td>
<td>CT, COM , TW and EQS</td>
<td>Students will be tested on the different geological dating technique and worked on team project on the relative age dating in class.</td>
<td>70% above</td>
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<tr>
<td>Describe the earth history during precbrian eon and the paleozoic, Mesozoic and Cenozoic eras.</td>
<td>CT, COM and EQS</td>
<td>Students will be tested the geological features and rock records during those geological times.</td>
<td>70% above</td>
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Required Reading

Recommended Reading
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List of discussion/lecture topics
1. Earth Materials
2. Plate Tectonics
3. Geologic History
3b. Geologic Maps
4. Relative Age
5. Absolute Age
6. Sedimentary Rocks and Environments
7. Fossilization
8. Origin of Life and Evolution
9. The Precambrian: Hadean, Archean and Proterozoic
10. The Paleozoic I
11. The Paleozoic II
12. The Mesozoic
13. The Cenozoic
14. The Evolution of Plants-