T-1 HISTORICAL GEOLOGY LAB, SPRING 2018

Professor: Dr. J.I. "Joe" Satterfield
Office: VIN 122
E-mail: joseph.satterfield@angelo.edu
Phone: 486-6766 (office)

Office hours: Monday, Wednesday, Friday: 8:00 – 9:00 am, 11:00 am – 12:00 noon
Tuesday, Thursday: 9:00 – 11:00 am
(or contact me to set up a meeting at almost any time)

Texts:
• Earth System History, Fourth Edition, by Steven M. Stanley
• ASU Historical Geology Lab Manual, by Heather L. Lehto (purchase from ASU bookstore)

Grading:
• See your lecture syllabus for how lab grades figure in your overall geology grade
• 1 optional field trip project. Field trip project grade replaces your lowest lab project or homework assignment grade. See field trip descriptions on page 2!

Attendance Policy

You are expected to attend every lab meeting! Attendance will be recorded each day. If you must miss lab, contact Dr. Joe for help in scheduling another lab meeting on Monday, Wednesday, or Thursday to complete the lab assignment

Course Web pages

Blackboard Website The Historical Geology Lab site contains answers to lab assignments and your official grades.
Field Trips

On field trips you will get a chance to apply concepts discussed in class to describe and interpret outcrops of rocks, fossils, and sediments. We will go on 2 required field trips during lab time (see course schedule for dates). You are responsible for getting to the field trip locations. You will be provided with detailed information before each trip. Contact your lab instructor if you need a ride!

On optional weekend trips we will travel in university vans and most expenses will be covered.

1) Saturday, February 17: Girl Scout STEM Conference for Middle School and High School young women, various rooms and labs on ASU campus. Some volunteer opportunities on Friday, February 16. Leader: Heather Lehto

2) Saturday March 24, Waco Mammoth National Monument, Waco Mammoth Website Leaders: Joe Satterfield,

3) Saturday, April 14: Art and Science Day at the San Angelo Museum of Fine Art. Leader: Heather Lehto.

4) Saturday, April 28: Rocker B Ranch field trip. Learn W. Edwards Plateau geology and collect fossils at the historic Rocker B Ranch outside Mertzon and Barnhart. Leaders: Dennis Webb, Heather Lehto, James Ward, Joe Satterfield,

5) Weeknights to be announced: Elementary School Science Nights. Share fossils, rocks, compasses, photos, and maps with interested elementary school students and their parents. Pizza is typically provided!

Notes

No late assignments! Lab and homework assignments cannot be turned in after graded assignments are returned and answers are posted!

Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is contained in print and web versions of the Student Handbook.

Persons with disabilities which may warrant academic accommodations must contact the Student Life Office, Room 112 University Center, in order to request such accommodations prior to any accommodations being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made.

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.
<table>
<thead>
<tr>
<th>Week</th>
<th>Lab</th>
<th>Lab Manual Chapters (read before lab)</th>
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<tbody>
<tr>
<td>I</td>
<td>LABS DO NOT MEET (MLK HOLIDAY ON MONDAY)</td>
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<tr>
<td>II: 1/23</td>
<td>1: Rock-forming minerals</td>
<td>Lab Manual Ch 1</td>
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<tr>
<td>III: 1/30</td>
<td>2: Sedimentary rocks: Describing and interpreting sedimentary environments</td>
<td>Lab Manual Ch 2</td>
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<td>IV: 2/6</td>
<td>3: Stratigraphic column of rocks in the Concho River Valley</td>
<td>Lab Manual Ch 3</td>
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<td>V: 2/13</td>
<td>4: Igneous and metamorphic rocks</td>
<td>Lab Manual Ch 4</td>
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<td>VI: 2/20</td>
<td>5: FIELD TRIP 1 - Permian trackways, San Angelo State Park LAB 5 DUE AT END OF TRIP</td>
<td>Lab Manual Ch 5</td>
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<tr>
<td>VII: 2/27</td>
<td>Review all rocks in lab Practice Quiz on describing rocks</td>
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<tr>
<td>VIII: 3/6</td>
<td>LAB QUIZ 1: DESCRIBING ROCKS (Labs 1, 2, 4, and 5)</td>
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<td>3/12 – 3/16</td>
<td>SPRING BREAK!</td>
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<td>IX: 3/20</td>
<td>6: Paleogeographic maps</td>
<td>Lab Manual Ch 6</td>
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<td>X: 3/27</td>
<td>7: Fossils, Keys to Past Life</td>
<td>Lab Manual Ch 7</td>
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<td>XI: 4/3</td>
<td>8: More Common Texas Fossils</td>
<td>Lab Manual Ch 8</td>
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<td>XII: 4/10</td>
<td>9: FIELD TRIP 2: Fossil Localities near Christoval LAB 9 DUE AT END OF TRIP</td>
<td>Lab Manual Ch 9</td>
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<td>XIV: 4/24</td>
<td>Review all fossils in lab Practice Quiz on fossils</td>
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<tr>
<td>XV: 5/1</td>
<td>LAB QUIZ 2: FOSSILS (Labs 6, 7, 8, 9, and 10)</td>
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<tr>
<td>XVI</td>
<td>Lab does not meet!</td>
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Student learning objectives

1) To practice problem-solving techniques used to interpret the history of Earth. Many of these are applicable to other fields and to everyday life. Problem-solving techniques that you will practice:
   a. Using multiple working hypotheses
   b. Being skeptical: look for ways to test hypotheses
   c. Making sketches: they help in visualizing the world in three dimensions
   d. Quantifying events and processes by using mathematics
   e. Applying the Principle of Uniformitarianism
   f. Working together to get as much practice or experience as you can
   g. Carefully defending your thinking when answering questions.

2) To find out about major events in Earth history over the last 5 billion years, including the appearance of diverse living things, changes in climate, and the rise of mountains

3) To recognize, and make interpretations from, common rock types, fossils and landforms present in West Texas and western North America

Learning objectives 1 – 3 will be evaluated by grades on exams, lab projects, lab quizzes, and homework

Core-course learning objectives

1) Critical Thinking Core Objective, SLO1: Students will be able to state a question, gather information, collect and analyze data, identify assumptions, develop hypotheses, and evaluate results to arrive at an answer to a question.

2) Communication Core Objective, SLO2: Students will be able to represent, organize, format, and display data and information visually.

SLO1 will be evaluated by Lab Quiz 1 (Describing Rocks) scores. SLO2 will be evaluated by scores on Lab 3 (Stratigraphic column of rocks in the Concho River Valley).