Instructor:  Dr. Heather L. Lehto  
Email:  Heather.Lehto@angelo.edu  
Office hours:  VIN 127, T 9:30-11am and 2-4pm, W 11am-12pm, R 9:30-11am or by appointment

REQUIRED TEXTBOOKS:  
- Historical Geology Lab Manual by Heather L. Lehto

STUDENT LEARNING OUTCOMES

1) Identify and explain how rocks and minerals are formed.  
2) Identify fossil and interpret their lifestyles.  
3) Draw stratigraphic columns using rock data.  
4) Draw paleogeographic maps using fossil and rocks data.  
5) Interpret geologic history and sedimentary environment from rock and fossil data.

Learning outcomes will be evaluated on exams, lab projects, and an IDEA course evaluation

ATTENDANCE POLICY

You are expected to attend every lab meeting. We will be working on labs at every meeting. If you must miss a lab, contact me if you need help getting your lab done. You will find it extremely difficult to pass this lab if you do not attend regularly and participate!

COURSE WEBPAGE

Blackboard contains answers to lab assignments, pre-lab reading quizzes, and your official grades.

CELL PHONES AND OTHER ELECTRONIC DEVICES:

Cell phones must be turned off while in lab. In addition, it is unacceptable to engage in text messaging during the lab meeting time. If you are using any electronic devices other than a calculator (not your phone in calculator mode), a voice recorder, or a laptop computer to take notes, you may be asked by the instructor to leave the classroom for the remainder of the class period. The use of any electronic device not authorized by the instructor during a test may result in the forfeiture of your grade for that test. All electronic devices should be turned off and stored out of sight during tests.

GRADING:

- Lab practicals (5% each),  
- 10 graded lab exercises (5% each)  
- 8 pre-lab reading quizzes (5% each)  
- Make-up a single lab or 2 pre-lab reading quiz grades by participating on an optional field trip and turning in a brief project report.
LAB PRACTICALS
There will be 2 lab practicals given on the lab content for the first half and second half of the lab.

LAB EXERCISES
Lab exercises will be completed each week covered topics from rocks and minerals to fossils. Short introduction will be given before each lab, however much of the information for the lab will be found in the reading in the lab manual. Labs can be completed in groups but each person should turn in their own, individual work (don’t just copy some else’s answers, you don’t learn this way). Labs are due one week from the day we start them in class. For labs that require the use of samples, the samples will be kept on the tables in the hallway outside the lab room, in case you don’t finish the lab during the allotted lab period.

PRE-LAB READING QUIZZES
Most of the labs contain reading that is necessary for completing the lab. This material needs to be read BEFORE coming to lab. Quizzes will be due the night before lab meeting on the pre-lab reading

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 a university van and most expenses will be covered.


2) Saturday, April 11: Art and Science Day at the San Angelo Museum of Fine Art. Leader: Heather Lehto.


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

GEO CLUB
GEO, the student organization of all interested in geology, meets almost every Wednesday @ 6:00PM. GEO is a student chapter of the American Association of petroleum Geologists (www.aapg.org). Sigma Gamma Epsilon, the national honor society of the earth sciences is related to GEO.

YOU CAN MAJOR OR MINOR IN GEOLOGY @ ASU!

See BS in Geoscience requirements at https://www.angelo.edu/physics/geoscience_degree.php. An Earth Science Minor requires 18 hours of geology courses. Physical Geology is a requirement for a major or a minor. Good and rewarding careers exist for geologists, geophysicists, hydrogeologists, secondary science teachers, and petroleum engineers. Talk to Dr. Joe, Dr. Ward, Dr. Last, or Dr. Lehto and also read http://www.bls.gov/ooh/life-physical-and-social-science/print/geoscientists.htm.
FINAL NOTE:
It is my goal to make this class both interesting and informative for you. With a reasonable amount of effort, it should be possible for everyone to meet the course objectives and earn a passing grade. With additional effort, aptitude, and investment of time, students may earn even higher course grades. If at any time you run into difficulties with the material, or need assistance or clarification, please do not hesitate to ask for help. I am here for you, and I will be glad to entertain any reasonable requests.

General Policies Related to This Course
All students are required to follow the policies and procedures presented in these documents:

- [Angelo State University Student Handbook](#)
- [Angelo State University Catalog](#)

Academic Integrity
Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university’s [Statement of Academic Integrity](#).

Accommodations for Students with Disabilities
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the [Student Disability Services website](#). The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford  
Director of Student Disability Services  
Office of Student Affairs  
325-942-2047  
dallas.swafford@angelo.edu

Incomplete Grade Policy
It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 [Grading Procedures](#) for more information.

Plagiarism
Plagiarism is a serious topic covered in ASU’s [Academic Integrity policy](#) in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.
In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the ASU Writing Center.

Student Absence for Observance of Religious Holy Days
A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

Title IX at Angelo State University
The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU’s Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.

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i [https://www.angelo.edu/student-handbook/](https://www.angelo.edu/student-handbook/)
ii [https://www.angelo.edu/catalogs/](https://www.angelo.edu/catalogs/)
iii [https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php](https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php)
iv [https://www.angelo.edu/services/disability-services/](https://www.angelo.edu/services/disability-services/)
v [https://www.angelo.edu/content/files/14197-op-1011-grading-procedures](https://www.angelo.edu/content/files/14197-op-1011-grading-procedures)
vii [https://www.angelo.edu/dept/writing_center/academic_honesty.php](https://www.angelo.edu/dept/writing_center/academic_honesty.php)
viii [https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of](https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of)
ix [http://www.angelo.edu/title-ix](http://www.angelo.edu/title-ix)
<table>
<thead>
<tr>
<th>Week of</th>
<th>Reading for quiz</th>
<th>Pre-lab reading quiz due date</th>
<th>Lab Exercise</th>
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<tbody>
<tr>
<td>January 13-17</td>
<td></td>
<td></td>
<td>Syllabus, Lab Safety</td>
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<tr>
<td>January 20-24</td>
<td></td>
<td></td>
<td><strong>No Labs!!</strong></td>
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<td>(No Classes January 20)</td>
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<tr>
<td>January 27-31</td>
<td>pg. 1-17</td>
<td>January 29 @11:59PM</td>
<td>1: Rock-forming minerals</td>
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<tr>
<td>February 3-7</td>
<td>pg. 18-28</td>
<td>February 5 @11:59PM</td>
<td>2: Sedimentary rocks</td>
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<tr>
<td>February 10-14</td>
<td>pg. 29-40</td>
<td>February 19 @11:59PM</td>
<td>3: Stratigraphic column</td>
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<tr>
<td>February 17-21</td>
<td>pg. 42-53</td>
<td>February 26 @11:59PM</td>
<td>4: Igneous and metamorphic rocks</td>
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<tr>
<td>February 24-28</td>
<td>pg. 54-60</td>
<td>February 26 @11:59PM</td>
<td>5: FIELD TRIP 1 - Permian trackways in San Angelo State Park</td>
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<td>March 2-6</td>
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<td>LAB PRACTICAL 1: Rocks and Minerals</td>
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<td>March 9-13</td>
<td>Spring Break!</td>
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<td><strong>No Labs!!</strong></td>
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<tr>
<td>March 16-20</td>
<td>pg. 61-67</td>
<td>March 18 @11:59PM</td>
<td>6: Paleogeographic maps</td>
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<tr>
<td>March 23-27</td>
<td>pg. 68-78 and 96-97</td>
<td>March 25 @11:59PM</td>
<td>7: Common Texas fossils</td>
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<td>March 30 – April 3</td>
<td>pg. 79-95 and 101</td>
<td>April 1 @11:59PM</td>
<td>8: More Common Texas Fossils</td>
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<td>April 6-10</td>
<td>pg. 105-107</td>
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<td>9: FIELD TRIP 2: Christoval</td>
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<td>April 13-17</td>
<td>pg. 110-111</td>
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<td>10: Paleoenvironments</td>
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<td>April 20-24</td>
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<td>Review for Lab Practical 2</td>
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<td>April 27 - May 1</td>
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<td>LAB PRACTICAL 2: FOSSILS (Labs 6, 7, 8, and 9)</td>
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<td>May 4-8</td>
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