Common Cretaceous bivalves found throughout Edwards Plateau. We will collect some on an optional April field trip! Figure from Matthews III (1960) Texas Fossils: An Amateur Collectors Handbook

Professor: Dr. J.I. “Joe” Satterfield  
Office: VIN 122  
Office phone: 325-486-6766  
Physics and Geosciences Department Office: 325-942-2242  
E-mail: joseph.satterfield@angelo.edu

Course Description  
Laboratory activities designed to accompany Geology 1304. The laboratory includes experiments involving the interpretation of four billion years of Earth history recorded in rocks, including evolutionary changes and the use of fossils in time and space.

Course Delivery Style: Normal On-campus class and lab  
Physical Geology Laboratory will be run as a normal lab taught face-to-face in Vincent 139. To maintain social distancing, each person will sit at their own lab table. You will sit at the same table each class.

Please refer to this Health and Safety web page for updated information about campus guidelines as they relate to the COVID-19 pandemic.

Required Textbook
- ASU Historical Geology Lab Manual, by Heather L. Lehto (purchase from ASU Bookstore)

Grading
- 8 Lab Assignments, 7.75% each (62% total)  
- 8 Pre-lab Assignments completed on Blackboard, 1% each (8% total)  
- 2 Lab Quizzes, 15% each (30% total)  
- Optional lab project (replaces lowest lab assignment grade)

On-campus Face-to-face Office hours (meet in my office, VIN 122, we will step outside)
- Monday, Wednesday: 8:00 – 9:00 am, 2:00 – 3:00 pm  
- Tuesday: 9:00 – 11:00 am  
- Thursday: 10:00 – 11:00, 2:00 – 4:00 pm (OR contact me to set up a good time to meet)

Virtual Office Hours via Blackboard Collaborate (use guest link on Blackboard in Office Hours tab)
- Monday, Wednesday: 1:00 – 2:00 pm (OR contact me to set up a good time to meet virtually)
## Schedule: Wednesday 3:00 Lab (REVISED 2/17/2021)

<table>
<thead>
<tr>
<th>Date</th>
<th>Lab Exercises</th>
<th>Lab Manual pages to read before lab</th>
<th>Deadline to complete Pre-Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>I: 1/27</td>
<td>Introduction&lt;br&gt;Lab Safety Quiz details: Complete on Blackboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II: 2/3</td>
<td>1: Rock Forming Minerals</td>
<td>Chapter 1</td>
<td>2/2, 11:59 pm</td>
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<tr>
<td>III: 2/10</td>
<td>NO LAB SECTIONS MEET: BAD WATER!</td>
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<tr>
<td>IV: 2/17</td>
<td>NO LAB SECTIONS MEET: SNOW DAYS!</td>
<td></td>
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<tr>
<td>V: 2/24</td>
<td>2: Sedimentary Rocks: Describing and interpreting sedimentary environments</td>
<td>Chapter 2</td>
<td>2/23, 11:59 pm</td>
</tr>
<tr>
<td>VI: 3/3</td>
<td>3: Stratigraphy and Stratigraphic Columns</td>
<td>Chapter 3</td>
<td>3/2, 11:59 pm</td>
</tr>
<tr>
<td>VII: 3/10</td>
<td>4: Igneous and Metamorphic Rocks</td>
<td>Chapter 4</td>
<td>3/9, 11:59 pm</td>
</tr>
<tr>
<td>VIII: 3/17</td>
<td>5: FIELD TRIP 1 - Permian trackways, San Angelo State Park (Lab Manual Ch 5)&lt;br&gt;LAB 5 DUE AT END OF TRIP</td>
<td>Chapter 5: Includes directions to meeting place at State Park</td>
<td>3/16, 11:59 pm</td>
</tr>
<tr>
<td>IX: 3/24</td>
<td>Review games for Lab Quiz 1</td>
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</tr>
<tr>
<td>X: 3/31</td>
<td>LAB QUIZ 1: DESCRIBING ROCKS (Labs 1 – 5)</td>
<td>Study graded labs and Chapters 1-5</td>
<td></td>
</tr>
<tr>
<td>XI: 4/7</td>
<td>6: Paleogeographic maps</td>
<td>Chapter 6</td>
<td>4/6, 11:59 pm</td>
</tr>
<tr>
<td>XII: 4/14</td>
<td>7: Fossils, Keys to Past Life</td>
<td>Chapter 7</td>
<td>4/13, 11:59 pm</td>
</tr>
<tr>
<td>XIII: 4/21</td>
<td>8: More Common Texas Fossils</td>
<td>Chapters 8, 7</td>
<td>4/20, 11:59 pm</td>
</tr>
<tr>
<td>XIV: 4/28</td>
<td>Review all fossils in Lab&lt;br&gt;Review games over Fossils</td>
<td>-</td>
<td></td>
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<tr>
<td>XV: 5/5</td>
<td>LAB QUIZ 2: FOSSILS (Labs 6 - 8)</td>
<td>Study graded labs and Chapters 7-10</td>
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<tr>
<td>XVI: 5/12</td>
<td>Final Exams: Lab does not meet</td>
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</table>

### Course Webpages

The [Angelo State Blackboard site](#) contains PowerPoint slides, web links to scenic areas mentioned in class, practice problems, answers to lab assignments, and your official grades.

### Lab Expectations

1) You are expected to attend every lab meeting. Your attendance will be recorded. If you must miss a lab, you may attend another lab section the same week: Monday 1:00, Wednesday 1:00, or Thursday 1:00. Contact the lab instructor before coming to their lab.
2) Take the next big step: let’s talk outside the lab about almost anything. My office, VIN 122, is a good place to find me or to see where I am. Topics I like to discuss: geology, hiking and backpacking trails, productive ways of learning geology, racquetball, Lord of the Rings, future careers, lame jokes, and more.

3) You will not distract yourself or others in the lab with electronic devices. You will put your phone away and you will not text in lab. You will step outside the lab if you have an emergency phone call.

Field Trips!
On field trips you will get a chance to apply concepts discussed in the lab to describe and interpret outcrops of rocks and sediments. On required and optional lab trips you must travel by yourself in your own vehicle. You can only use one optional field trip project to replace a single homework or lab assignment grade. Tentative schedule of optional field trips:
1. Christoval and Menard Area fossil-collecting field trip: Saturday in April TBA: Collect fossils in road-cuts near San Angelo and learn Cretaceous paleogeography and stratigraphy
3. Virtual Field Trip to Llano uplift: TBA, On Blackboard

Student learning outcomes
You will learn about rocks and minerals that make up Earth and the sometimes subtle and often destructive processes that shape it. You will learn and test fundamental concepts about meteorite impacts, volcanoes, earthquakes, river flooding, oil and gas resources, groundwater, and plate tectonics. Many examples will be from West Texas and western North America. Problem-solving techniques that you will learn and practice:

- Use multiple working hypotheses
- Be skeptical: look for ways to test hypotheses
- Make sketches: they help in visualizing the world in three dimensions
- Quantify events and processes when possible
- Apply the Principle of Uniformitarianism
- Study and work together
- Get as much practice or experience as you can
- Carefully defend your thinking when answering questions.
- Learning outcomes will be evaluated by lab assignments and lab quizzes

Geoscience Careers
See Geoscience BS requirements in the Angelo State Catalog. A Geoscience Minor requires 18 hours of geology courses. Physical Geology is a requirement for a major or a minor. Rewarding careers exist for geologists, geophysicists, hydrogeologists, and secondary science teachers. Talk to your professors!

The US Department of Labor Occupational Handbook contains information on geology careers, salaries, education needed, and future job outlook in geology.

GEO, the student organization for all interested in geology, meets Wednesdays at 6:00 pm. The first meeting will be February 23. GEO is a Student Chapter of the American Association of Petroleum Geologists.
Core Curriculum Objectives and related ASU Student Learning Outcomes

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assessment Method</th>
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</thead>
<tbody>
<tr>
<td>1. Gather, analyze, evaluate, and synthesize information relevant to a question or issue.</td>
<td>Lab Quiz</td>
</tr>
<tr>
<td>2. Develop, interpret, and express ideas through effective visual communication.</td>
<td>Lab Assignment</td>
</tr>
<tr>
<td>3. Manipulate and analyze numerical data and arrive at an informed conclusion</td>
<td>Homework/In-class Assignment</td>
</tr>
<tr>
<td>4. Manipulate and analyze observable facts and arrive at an informed conclusion</td>
<td>Average Lab Grade</td>
</tr>
<tr>
<td>5. Work effectively with others to support and accomplish a shared goal.</td>
<td>IDEA Forms</td>
</tr>
</tbody>
</table>

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 to disciplinary action and possible expulsion from ASU. The College of Science and Engineering adheres to ASU’s Statement of Academic Integrity. Policy for this course: first offense- zero for exam or assignment, second offense- F in course.

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 via Turnitin. Resources to help you understand this policy are at the ASU Writing Center.

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, Houston Harte University Center, Room 112
325-942-2047
dallas.swafford@angelo.edu
Title IX
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 Miller, J.D.
Special Assistant to the President and Title IX Coordinator
Mayer Administration Building, Room 210
325-486-6357
325-942-2022, michelle.boone@angelo.edu

You may also file a report online 24/7.

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, visit Title IX website.

Required Use of Masks/Facial Coverings by Students
As a member of the Texas Tech University System, Angelo State University has adopted the mandatory Facial Covering Policy to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

Modifications to the Syllabus
This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.

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.

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.
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](https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php)
- [Angelo State University Catalog](https://www.angelo.edu/catalogs/)

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2. [https://angelo.blackboard.com/](https://angelo.blackboard.com/)
3. [https://www.angelo.edu/catalogs/](https://www.angelo.edu/catalogs/)
5. [https://www.aapg.org/students](https://www.aapg.org/students)
7. [https://www.angelo.edu/dept/writing_center/academic_honesty.php](https://www.angelo.edu/dept/writing_center/academic_honesty.php)
8. [https://www.angelo.edu/services/disability-services/](https://www.angelo.edu/services/disability-services/)
9. [http://www.angelo.edu/incident-form](http://www.angelo.edu/incident-form)
10. [www.angelo.edu/title-ix](http://www.tesSTITUS-policy-face-coverings.pdf)
11. [https://www.angelo.edu/content/files/14197-op-1011-grading-procedures](https://www.angelo.edu/content/files/14197-op-1011-grading-procedures)
12. [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)
14. [https://www.angelo.edu/catalogs/](https://www.angelo.edu/catalogs/)