W-3:00 GEOL 1103: PHYSICAL GEOLOGY LAB, FALL 2020

Geology of Casa Grande Peak in Big Bend National Park. We will hike nearby on a future November field trip! Figure from Spearing (1991)

Course Description
Laboratory activities designed to accompany Geology 1303. The laboratory includes experiments over topics such as Earth materials, structure, landforms, mineral resources, and plate tectonics.

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

Office hours
• Monday: 8:00 – 4:00 am, 2:00 – 4:00 pm
• Tuesday: 2:00 – 4:00 pm
• Wednesday: 8:00 – 9:00 am, 1:00 – 3:00 pm
• Thursday, Friday: 8:00 – 9:00 am
• Or contact me to set up a convenient time to meet

Required Textbooks
GEOL 1103, Physical Geology Laboratory Manual, by Heather L. Lehto

Grading
• 8 Lab Assignments (56%; 7% each)
• 8 Pre-Lab Quizzes (8%, 1% each)
• 2 Lab Quizzes (36%, 18% each)
• Optional field trip project (replaces lowest lab assignment grade)

Attendance Policy
You are expected to attend every class meeting. Your attendance will be recorded. We will discuss many topics that are not in the textbook. If you must miss a class, contact me if you need help in obtaining assignments or notes. Although showing up for class is not directly part of your grade (see Grading section above), you will find it extremely difficult to pass this class if you do not attend regularly and participate! Take the next big step: let’s talk in my office, VIN 122, about almost anything. Topics I like to discuss: geology, hiking and backpacking, study skills, racquetball, Lord of the Rings, future careers, lame jokes, and more.
### Schedule: Wednesday 3:00 Lab

<table>
<thead>
<tr>
<th>Date</th>
<th>Lab Exercises</th>
<th>Lab Manual pages to read before lab</th>
<th>Last time to take Pre-Lab Quiz</th>
</tr>
</thead>
<tbody>
<tr>
<td>I: 8/19</td>
<td>1: Topographic maps and aerial photos</td>
<td>p. 1 – 7</td>
<td>No quiz</td>
</tr>
<tr>
<td>II: 8/26</td>
<td>2: Rock-forming minerals</td>
<td>p. 18 – 29</td>
<td>8/25, 11:59 pm</td>
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<td>III: 9/2</td>
<td>3: Igneous Rocks</td>
<td>p. 34 – 37</td>
<td>9/15, 11:59 pm</td>
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<td>IV: 9/9</td>
<td>No lab meetings. Labor Day Holiday Monday</td>
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<tr>
<td>VI: 9/23</td>
<td>5: Metamorphic Rocks</td>
<td>p. 54 – 57</td>
<td>10/6, 11:59 pm</td>
</tr>
<tr>
<td>VII: 9/30</td>
<td>Details for Lab Quiz 1 announced Review and practice for lab quiz</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>VIII: 10/7</td>
<td>LAB QUIZ 1: MINERALS AND ROCKS (Labs 2-5)</td>
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<tr>
<td>IX: 10/14</td>
<td>Optional San Angelo State Park Field Trips! Meet at State Park South Entrance</td>
<td>Directions: p. 62 – 63</td>
<td>10/20, 11:59 pm</td>
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<td></td>
<td>Directions in Lab Manual Dates 10/14, 3:00 PM, Also 10/15, 3:00 PM Must submit application!</td>
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<tr>
<td>X: 10/21</td>
<td>6: Block diagrams of folded and faulted rocks</td>
<td>p. 68 – 74</td>
<td>10/27, 11:59 pm</td>
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<tr>
<td>XI: 10/28</td>
<td>7: Constructing a geologic cross section, Part I</td>
<td>p. 90 – 92</td>
<td>11/3, 11:59 pm</td>
</tr>
<tr>
<td>XII: 11/4</td>
<td>7: Constructing a geologic cross section Part II</td>
<td>p. 90 – 92</td>
<td>11/10, 11:59 pm</td>
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<tr>
<td>XIII: 11/11</td>
<td>Review and Practice for Lab Quiz 2</td>
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<td>-</td>
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<tr>
<td>XIV: 11/19</td>
<td>LAB QUIZ 2: TOPOGRAPHIC AND GEOLOGIC MAPS (Labs 1, 6-8)</td>
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</table>

### Course Webpages

The [Angelo State Blackboard site](#) contains Pre-Lab Quizes, Assignment links for turning in lab assignments, 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 and sediments. On the optional trips you must travel in your own car alone, or with roommates. You must bring facemask and observe social distancing. No special equipment is required but space is limited! You may go on only one optional trip. You can only use your field trip project grade to replace a single lab assignment grade. The schedule:

1. **San Angelo State Park, Tuesday, October 20.** We will meet at 3:00 pm at the South Entrance of San Angelo State Park (directions in lab manual). On this trip we will explore Permian and Pleistocene rocks seen by few other people but close to San Angelo! Leaders: Joe Satterfield and others to be named later.

2. **San Angelo State Park, Wednesday, October 21.** We will meet at 3:00 pm at the South Entrance of San Angelo State Park (directions in lab manual). On this trip we will explore Permian and Pleistocene rocks seen by few other people but close to San Angelo! Leaders: Joe Satterfield and others to be named later.

3. **Favorite San Angelo Area Outcrops, Saturday, November 14.** We will meet early in the morning and return in the mid-afternoon. We will visit little-known outcrops just north of San Angelo, including Rattlesnake Hill, Edith Spring, Spence Reservoir, and the Divide Roadcut. Leaders: Joe Satterfield and others to be named later.

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 exams and homework assignments

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!


GEO, the student organization for all interested in geology, meets Wednesdays at 6:00 pm. The first meeting will be September 4. 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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<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 of disciplinary action and possible expulsion from ASU. The College of Science and Engineering adheres to the [Statement of Academic Integrity](#).

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 better are available at the [ASU Writing Center](#).

Copyright Policy

Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

Accomodations 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 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](mailto:dallas.swafford@angelo.edu)
Houston Harte University Center, Room 112
**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](http://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](http://www.angelo.edu/title-ix).

**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.

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

1 https://blackboard.angelo.edu
2 https://www.angelo.edu/catalogs/
4 https://www.aapg.org/students
5 https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
6 https://www.angelo.edu/dept/writing_center/academic_honesty.php
7 https://www.angelo.edu/services/disability-services/
8 https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of
9 https://www.angelo.edu/services/title-ix/
10 http://www.texastech.edu/downloads/ttus-policy-face-coverings.pdf
11 https://www.angelo.edu/content/files/14197-op-1011-grading-procedures
12 https://www.angelo.edu/student-handbook/
13 https://www.angelo.edu/catalogs/