GEOL 1103 Physical Geology Lab (1 credit)
Fall 2019

Lab Section: 01Z M 1:00-2:50pm
ROOM: VIN 139

Instructor: Dr. Heather L. Lehto
Email: Heather.Lehto@angelo.edu
Office hours: VIN 127, TWR 2-4pm or by appointment

REQUIRED MATERIALS:

- LAB MANUAL: GEOL 1103, Physical Geology Laboratory Manual, Heather L. Lehto
- ASU email account that you check regularly
- Blackboard course site: http://blackboard.angelo.edu

STUDENT LEARNING OBJECTIVES: Learning outcomes will be evaluated on exams, lab projects, and an IDEA course evaluation

1) Describe and draw the layers of the Earth, including the chemically and physically different layers.
2) Describe the theory of plate tectonics including identifying plate boundaries, describing plate motions at boundaries, and identifying landforms/features associated with each boundary.
3) Identify rocks and minerals and describe their formation processes.
4) Identify and describe various volcanic hazards.
5) Identify and describe various earthquake hazards.
6) Describe how mountains are formed including how stress causes deformation and what kinds of deformation result.
7) Place geologic events in order using the geologic principles and correlate layers on a regional scale.
8) Evaluate good and bad aspects of energy resources.
9) Describe where our water comes from in Texas and how humans can affect those sources.
10) Explain variations in the ocean and coastlines.
11) Describe how climate changes and what affect humans have on climate change.

CORE CURRICULUM STUDENT LEARNING OUTCOMES: The following list of core curriculum student learning outcomes will be met and measured during this course.

<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>
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<td>2. Develop, interpret, and express ideas through effective visual communication.</td>
<td>Lab Assignment</td>
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<tr>
<td>3. Manipulate and analyze numerical data and arrive at an informed conclusion</td>
<td>Homework/In-class Assignment</td>
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<tr>
<td>4. Manipulate and analyze observable facts and arrive at an informed conclusion</td>
<td>Average Lab Grade</td>
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<tr>
<td>5. Work effectively with others to support and accomplish a shared goal.</td>
<td>IDEA Forms</td>
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</tbody>
</table>
ATTENDANCE POLICY: You are expected to attend all scheduled lab meetings. Please inform me well ahead of time if you will need to be absent for any reason including religious holidays. NOTE: You are NOT automatically dropped if you stop attending class. November 1 is the last day to drop a course.

CELL PHONES AND OTHER ELECTRONIC DEVICES: You may use a laptop or tablet to take notes during class. Please do not disturb others with their use. 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:
- 2 lab practicals (5% each)
- 8 graded lab exercises (10% each)
- 6 pre-lab quizzes (2% each, drop the lowest grade)
- Make-up a single lab grade by participating on an optional field trip and turning in a brief project report.

Make-up lab practicals will be given ONLY under extenuating circumstances. Prior email notification is needed for a make-up lab practical. To make-up a lab you will need to either attend a different session during the week you missed or speak to your professor for alternate arrangements. You may NOT make-up the field trip. There will be NO makeup pre-lab quizzes given, that is what the 1 dropped is for.

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 weekend trips we will travel in university vehicles. No special equipment is required but space is limited! You may go on more than one optional trip, but you can only use one field trip project to replace a single lab assignment grade.

Tentative schedule:

1) **Required** field trip to San Angelo State Park during lab time. Monday-Thursday afternoon October 28-31. We will meet at San Angelo State Park to review and practice rock and mineral identification skills on Permian and younger rocks. Leaders: Joe Satterfield, Elizabeth Koeman-Shields, Steven Shields, Jessica Garza, and Heather Lehto.

2) **Optional** field trip to Kickapoo Caverns. Date: October 26. This field trip will head to the Kickapoo Caverns to explore a wild cave. There are no trails in the cave, so you must be sure-footed. We will be led by a cave guide and shown the wonders of a dead cave of historical significance. Leader: Heather Lehto.

3) **Optional** field trip to Big Bend National Park. Friday-Sunday, November 15-17. Physical Geology field trip to western Big Bend National Park: hike and sketch Cretaceous stratigraphy in Santa Elena Canyon, collect shark teeth and dinosaur bone fragments in Terlingua area, describe Tertiary volcanic rocks in Tuff Canyon and Chisos Mountains. Leader: Joe Satterfield.
SMARTWORK PRE-LAB QUIZZES

To complete the Pre-Lab Reading Quizzes you will need to register with Smartwork using the registration code you got when you purchased the book. If you didn’t get a code when you purchased the book you can purchase one during the registration process. Use the following instructions to create an account with Smartwork:

To enroll in SmartWork you will need a valid ASU email address and a Registration Code from W. W. Norton. Registration codes are bundled with new books at your instructor’s request. If you do not have a registration code, you may purchase one when signing up.

Register For Smartwork

1. Click on the link for any of the Pre-Lab Reading Quizzes from the link in the menu in Blackboard.
2. Select “No, I need to register, purchase, or sign up for trial access.” Click the green button to continue.
3. Fill out all fields and enter either the registration code that came with your book or select the “I want to purchase access” option. NOTE: Use your ASU email as the email address for your Smartwork account. Don’t forget to record your account information for future reference!

Access your Pre-Lab Quizzes through the links in the appropriate area on Blackboard.

For each homework assignment you will complete a list of questions. You can submit answers to the questions up to 3 times, however, each additional submission after the first will cost you a 5% deduction on your grade. So don’t just go guess until you get it right, it will cost you.

CLASS PREPARATION ASU EMAIL: Since class announcements will be routinely distributed via email and Blackboard, you will need to regularly check your ASU email account and our course Blackboard site (daily). All course correspondence will be through your ASU email account and Blackboard. Please see the email policy in Bb for more details. ASU provides Internet and email services to you at any of the computer labs on campus. Call 942-2911 to set this up if necessary.

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.

PLAGARISM

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.

STUDENTS WITH DISABILITIES:
1. “Angelo State University 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 Act of 2008 (ADAAA), and subsequent legislation.”

2. The Office of Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student’s responsibility to initiate such a request by contacting the Office of Student Affairs, University Center, Room 112 at (325) 942-2047 or (325) 942-2211(TDD/FAX) or by e-mail at studentservices@angelo.edu to begin the process. The Office of Student Affairs will establish the particular documentation requirements necessary for the various types of disabilities.

Reasonable accommodations will be made for students determined to be disabled or who have documented disabilities.

TITLE IX

Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.

You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Boone, J.D.

You may submit reports in the following manner:
- Online: www.angelo.edu/incident-form
- Face to Face: Mayer Administration Building, Room 210
- Phone: 325-942-2022
- E-Mail: michelle.boone@angelo.edu

Note, as a faculty member at Angelo State, I am a mandatory reporter and must report incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an
issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).

For more information about resources related to sexual misconduct, Title IX, or Angelo State’s policy please visit: www.angelo.edu/title-ix.

INCOMPLETE GRADE POLICY: (OP 10.11 Grading Procedures)
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.

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.” Please see ASU Operating Policy 10.19.

SYLLABUS CHANGES: The faculty member reserves the option to make changes as necessary to this syllabus and the course content. If changes become necessary during this course, the faculty will notify students of such changes by email, course announcements and/or via a discussion board announcement. It is the student’s responsibility to look for such communications about the course on a daily basis.

COURSE EVALUATION: Students are provided the opportunity and are strongly encouraged to participate in a course evaluation at the end of the semester.

GEOLOGIC EXHIBITION ORGANIZATION (GEO):

GEO, the student organization of all interested in geology (not just majors/minors), 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 the BS in Geoscience requirements at https://www.angelo.edu/physics/geoscience_degree.php. A Geology Minor requires 18 hours of geology courses. Good and rewarding careers exist for geologists, geophysicists, hydrogeologists, secondary science teachers, and petroleum engineers. Talk to your professor and read http://www.angelo.edu/dept/physics/Geosciences/geoscience_careers.php.

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.
## SCHEDULE:

All information is subject to change.

<table>
<thead>
<tr>
<th>Week of</th>
<th>Pre-lab Quiz Due</th>
<th>Pre-lab Reading</th>
<th>Lab Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 25-31</td>
<td>None</td>
<td>pg. 1-7</td>
<td>1: Topographic maps and aerial photos</td>
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<tr>
<td>September 1-7</td>
<td></td>
<td></td>
<td>No labs this week!!!</td>
</tr>
<tr>
<td>September 8-14</td>
<td>Sept. 8 @11:59pm</td>
<td>pg. 18-30</td>
<td>2: Rock-forming minerals</td>
</tr>
<tr>
<td>September 15-21</td>
<td>Sept. 15 @11:59pm</td>
<td>pg. 35-37</td>
<td>3: Igneous Rocks</td>
</tr>
<tr>
<td>September 22-28</td>
<td></td>
<td></td>
<td>No labs this week!!!</td>
</tr>
<tr>
<td>September 29-October 5</td>
<td>Sept. 29 @11:59pm</td>
<td>pg. 42-48</td>
<td>4: Sedimentary Rocks</td>
</tr>
<tr>
<td>October 6-12</td>
<td>Oct. 6 @11:59pm</td>
<td>pg. 54-57</td>
<td>5: Metamorphic Rocks</td>
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<tr>
<td>October 13-19</td>
<td></td>
<td></td>
<td>Lab Quiz 1: Minerals and Rocks (Labs 2-5)</td>
</tr>
<tr>
<td>October 20-26</td>
<td></td>
<td>pg. 62-63</td>
<td>6: San Angelo State Park Field Trip - Required</td>
</tr>
<tr>
<td>October 27-November 2</td>
<td>Oct. 27 @11:59pm</td>
<td>pg. 68-73</td>
<td>7: Block diagrams of folded and faulted rocks</td>
</tr>
<tr>
<td>November 3-9</td>
<td>Nov. 3 @11:59pm</td>
<td>pg. 90-92</td>
<td>8: Constructing a geologic cross section</td>
</tr>
<tr>
<td>November 10-16</td>
<td></td>
<td></td>
<td>8: Constructing a geologic cross section (continued)</td>
</tr>
<tr>
<td>November 17-23</td>
<td></td>
<td></td>
<td>Review for Lab Quiz 2</td>
</tr>
<tr>
<td>November 24-30</td>
<td></td>
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<td>No labs this week!!!</td>
</tr>
<tr>
<td>December 1-7</td>
<td></td>
<td></td>
<td>Lab Quiz 2: Topographic and geologic maps (Labs 1 and 6-8)</td>
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<tr>
<td>December 8-14</td>
<td></td>
<td></td>
<td>No labs!!!</td>
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3 [http://www.angelo.edu/dept/writing_center/academic_honesty.php](http://www.angelo.edu/dept/writing_center/academic_honesty.php)