GEOL 4304 Introduction to Volcanology (3 credits)
Fall 2019
Section 010 TR 9:30-10:45pm
ROOM: VIN 146

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

REQUIRED TEXTBOOKS:
- Volcanoes, Global Perspectives, Lockwood and Hazlett

COURSE OBJECTIVES:
At the end of this course you should be able to:
- Describe where volcanoes form in relation to plate boundaries and what those volcanoes might look and how they might behave.
- Describe the formation of magma, including the composition, viscosity, and style of eruption.
- Describe magma rheology and how it relates to viscosity, including how magma can change rheology. Describe what triggers a volcanic eruption.
- Identify the different volcano types and describe how each formed.
- Describe and identify lava flow features and structures and explain how they were formed.
- Describe the process that leads to explosive eruptions and the products of those eruptions.
- Describe and identify the different styles of eruption. Describe how the VEI index works. Discuss the good and bad aspects of eruption classification schemes.
- Evaluate an area for volcanic hazards.
- Interpret volcanic monitoring data and use it to forecast an impending eruption.

Assessment of the above listed objectives will be accomplished through assignments, midterm, final exam, and final project.

EXPECTATIONS:

Workload:
This is senior level course which means you will be given more complicated material and activities and you will be expected to prepare for EACH class!! It is generally agreed upon that students spend one to two hours studying and preparing for each one hour spent in class. As this is a 3 hour course, that means you should be spending 3-6 hours per week studying for this course.

We will NOT be covering every bit of material from each Chapter in class, however it MAY show up on your Exam. This means you are responsible for reading each chapter and studying the material on your own in order to earn an average or better grade. Do NOT underestimate the workload for this course. Stay on top of your reading, ask questions, and participate in class and it will give you the best chance of passing this course.
Attendance: Attendance is highly recommended as we will be covering a large amount of material in lecture as well as frequent in-class activities, which will be part of your grade. The field trip is optional, but highly recommended.

Excused Absences: Students are excused from class for university events (e.g. athletics, debate trips, and certain music trips) and circumstances beyond the student’s control such as extended illness, medical emergency, and family emergency. Students will be allowed to make up any in-class assignments or Exams with the proper documentation for the absence (e.g., doctor’s note for illness or injury, and/or email explaining the reason for the absence sent ASAP).

My expectations for you:
- Be prepared for lecture (do the reading prior to class, print off any relevant materials)
- Actively participate in lecture
- Take responsibility for your own learning (seek help if you are having a hard time)
- Be familiar with the course policies in the syllabus
- Do NOT use cellphones in class (they must be turned OFF, NOT silent when you are in class)
- Be respectful of all persons in this classroom (arriving late, leaving early, or talking during class is distracting and discourteous)

What you can expect from me:
- Be enthusiastic and knowledgeable about the course material
- Present course material in an organized way
- Start and end lectures on time
- Set high standards for the class and help you meet those standards
- Treat you with fairness and respect

COURSE WEBPAGE
Blackboard contains class outlines, web links to scenic areas mentioned in class, practice problems, answers to lab assignments, and your official grades.

CELL PHONES AND OTHER ELECTRONIC DEVICES:
Cell phones must be turned off while in class. In addition, it is unacceptable to engage in text messaging during the class 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:
- 3 Exams (5% each, total of 15%)
- Final exam (20%)
- Assignments (40%)
- Volcano Project (25%)

I will NOT accept late exercises.
FIELD TRIP

There will be an optional 3-4 day field trip to the New Mexico after GSA (late September) to view volcanic products from the Rio Grande Rift. The field trip will replace one of your test grades. There will be more information on this soon.

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](http://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](http://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.

**FINAL NOTE:**

This course will require a lot of work, however if you work diligently on studying and preparing for class there is no reason why you would not do well. My goal is to teach you SOME of the real-world information and skills you will need to use as a geophysicist in the field. There is a lot more information out there and I encourage you to seek it out if you are interested in this field.
<table>
<thead>
<tr>
<th>Week of</th>
<th>Tuesday</th>
<th>Thursday</th>
<th>Reading</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 26</td>
<td>Syllabus</td>
<td>Plate Tectonics</td>
<td>Chapters 1 &amp; 2</td>
<td>Volcanoes and Plate Tectonics – In-class</td>
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<tr>
<td>September 2</td>
<td>Magma Formation</td>
<td>Magma Formation (con’t)</td>
<td>Chapter 3</td>
<td>Volcanic Rock ID Due 9-5</td>
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<tr>
<td>September 9</td>
<td>Physical Properties of Magma</td>
<td>Physical Properties of Magma (con’t)</td>
<td>Chapter 4</td>
<td>Eruption Style and Viscosity – in class (9-12)</td>
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<td>September 16</td>
<td>Effusive Eruptions</td>
<td>Effusive Eruptions (con’t)</td>
<td>Chapter 6</td>
<td>Effusive Eruptions Paper Discussion – in class (9-19)</td>
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<td>September 23</td>
<td>No Class</td>
<td>No class</td>
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<td>September 30</td>
<td>Explosive Eruptions</td>
<td>Exam 1: Chapters 1-4 &amp; 6</td>
<td>Chapter 7 &amp; 8</td>
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<td>October 7</td>
<td>Explosive Eruptions (con’t)</td>
<td>Volcano Types</td>
<td>Chapter 9 &amp; 10</td>
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<td>October 14</td>
<td>Volcano Types (con’t)</td>
<td>Classification Schemes</td>
<td>Chapter 5</td>
<td>Isopach Maps Due 10-15</td>
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<td>October 21</td>
<td>Classification Schemes (con’t)</td>
<td>Volcanic Hazards and Risk</td>
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<td>Volcano Tour Due 10-22</td>
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<tr>
<td>October 28</td>
<td>Volcanic Hazards and Risk</td>
<td>Volcanic Hazards and Risk (con’t)</td>
<td>Chapter 11 &amp; 14</td>
<td>Classifying Eruptions Paper Discussion – in class (10-31)</td>
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<td>November 4</td>
<td>Exam 2: Chapters 5, &amp; 7-10</td>
<td>Volcano Presentations</td>
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<td>November 11</td>
<td>Volcano Monitoring</td>
<td>Volcano Monitoring (con’t)</td>
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<td>Volcanic Hazard Map Due 11-12</td>
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<td>November 18</td>
<td>Volcano Monitoring (con’t)</td>
<td>Exam 3: Chapters 11, 14, &amp; Volcano Monitoring</td>
<td>Volcano Monitoring Due 11-21</td>
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<td>November 25</td>
<td>TBD</td>
<td>No Classes! Thanksgiving</td>
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<td>December 2</td>
<td>Eruption! Activity</td>
<td>Eruption! Activity</td>
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<td>Eruption Activity – In Class</td>
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<tr>
<td>December 9</td>
<td>Final Exam:</td>
<td>Thursday December 12 @8-10am</td>
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i http://blackboard.angelo.edu  
ii http://www.angelo.edu/student-handbook/community-policies/academic-integrity.php  
iii http://www.angelo.edu/student-handbook/community-policies/academic-integrity.php  
iv http://www.angelo.edu/dept/writing_center/academic_honesty.php