

# University of Texas at El Paso (UTEP)



Department of Geological Sciences

Spring 2019, TTh 1:30 to 2:50 pm (CRN 13658), UGLC 126

4:30 - 5:50 pm (CRN 15119), Quinn 212

## **GEOL 1313: Introduction to Physical Geology**

**Instructors:** Dr. Elizabeth Y. Anthony, Dr. Mark Engle

**Office:** Geology Building 321

**Office hours:** Tuesdays 11 am to 1 pm.

### **Course Description**

Physical geology is the study of earth materials, structures, and events. We begin by focusing on plate tectonics, minerals as a building unit for rocks, and igneous rocks. We then turn to sedimentary and metamorphic rocks, deformation, the techniques used for age determinations, and earthquakes and crustal deformation. The final part of the semester takes the basic knowledge we have built and explores weather and climate, surface water and groundwater, and Earth resources.

### **Learning Outcome**

At the end of the course students will:

- Understand the interrelationships between Earth processes and materials
- Recognize various tectonic settings on Earth
- Predict the nature of seismic and volcanic activity at the various tectonic settings
- Understand plate tectonics and the concept of a dynamic planet
- Understand what drives geologic processes
- Identify rocks and minerals by their physical properties and relate them to their environment of formation
- Understand the rock cycle, the water cycle, and the life cycle (evolution)
- Appreciate the variety of temporal and spatial scales of cycles
- Apply physics, chemistry, biology and mathematics to solve geologic problems
- Draw connections between geology and human events

**Text:**

REYNOLDS, Steve, Julia Johnson, Paul Morin, Charles Carter.  
Exploring Geology. McGraw-Hill.

REYNOLDS, EXPLORING GEOLOGY CONNECT access card.  
Assignments from Connect LearnSmart will be given throughout the semester. You must purchase the access code to CONNECT in addition to the text book.

**Attendance:**

Attendance, which is key to success in this class, is mandatory. Students who begin the course and then stop participating will not be dropped by the instructor. It is the responsibility of each individual student to drop the course if needed. Your attendance will be monitored by in-class quizzes, *given in the first 15 minutes of the class*, at various times during the semester.

**Course etiquette: All electronic devices must be turned off during class. I will be lecturing from powerpoints, and need your attention! Quizzes and exams will be open-book from your lecture notes. Therefore, it is very important that you take notes during class. Please bring notebooks and pen or pencil to class. Thank you!**

**Grading:**

1. Learn Smart assignments, available through Connect. These assignments will be due before class begins. They are intended to get you started with learning the material in the chapters prior to lecture so that we can spend lecture time on advanced topics.
2. Impromptu quizzes will be given throughout the semester (to encourage regular attendance!).
3. Three exams will be given in-class during the semester. Each exam will cover the material from that segment of the lecture. The dates for the exams are listed below.

**There will be no make-up exams or extensions on LearnSmart deadlines.**

**Your final grade is based on the Learn Smart assignments, in-class quizzes, and exams. Average from LearnSmart: 33%, average from in-class quizzes: 33%, average of highest two grades from in-class exams: 33%.**

90-100=A

80-89.9=B

70-79.9=C

60-69.9=D

less than 60 =F

## **Students with Disabilities**

If you have a disability or if you are experiencing learning difficulties, please contact the Center for Accommodations and Support Services (CASS). You may contact them Monday through Friday 8:00a.m.-5:00p.m. Phone:(915) 747-5148. Union Building East Room 106 [cass@utep.edu](mailto:cass@utep.edu). They provide any necessary accommodations. You should also meet with me in order to facilitate your needs. You are expected to provide documentation of your disability in order to make special arrangements in this class.

## **Academic Misconduct**

Academic dishonesty will be not tolerated in this class (please refer to the student conduct code handbook for details regarding university policy and definitions).

Dishonesty includes, but is not limited to, plagiarism on term papers, unauthorized notes brought into an exam; copying answers from another student or letting another student copy your answers. The penalty for the first offense will be a grade of zero points on the exam or assignment. Penalty for the second offense will be an F for the course.

When someone in an audience is talking, or even whispering, it can be very distracting to those nearby. Since this type of behavior is quite rude and impedes the progress of other students, it will not be tolerated and anyone doing so will be asked to leave the classroom.

## **Helpful Hints:**

- Come to class!
- Review material regularly - multiple short study sessions over a period of weeks are more effective than a single "cram" the night before an exam.
- Form a study group. Each member should study material on their own before meeting with the group for discussion and comparison.
- Write out definitions and answers to essay questions. Use a the board in an empty classroom or your class notebook. Don't just passively read your notes!
- Ask questions in class.
- Combine class notes, textbook, and web materials when studying. Each provides a different perspective.
- Pay attention to the news and current events to see how they relate to geology.
- Read your text in SMALL doses; don't plan on one massive reading session the night before the exam.
- Be sure to look at the pictures and diagrams in the text.

**Campus Carry:** Persons holding a Concealed Handgun License can lawfully carry their handgun into a UTEP classroom as long as the gun remains concealed. Open carry remains prohibited on campus. In other words, none of us should see (or be able to tell that there is) a gun at UTEP. Call the University Police at 747-5611 or dial 911 if you see any individual on campus with a handgun or other type of weapon. For more

information on campus carry, see [<http://sa.utep.edu/campuscarry/>]; for more information on overall campus safety, see [<http://admin.utep.edu/emergency>].

## COURSE OUTLINE

Week	Topic	Chapter number
Week 1	Introduction and Plate tectonics	<b>3</b>
Week 2	Plate Tectonics (1st impromptu quiz on <b>Thursday, SEPTEMBER 5</b> )	<b>3</b>
Week 3	Matter and minerals	<b>4</b>
Week 4	Magmas and igneous activity	<b>5</b>
Week 5	Sedimentary rocks/Deformation and metamorphism	<b>7, 8</b>
Week 6	<i>Review on Tuesday and EXAM 1 on Thursday, OCTOBER 3</i>	
Week 7	Geologic time	<b>9</b>
Week 8	Continental margins and mountain basins	<b>10, 11</b>
Week 9	Earthquakes and Hazards, Earth interior	<b>12</b>
Week 10	Climate and weather	<b>13</b>
Week 11	<i>Review on Tuesday and EXAM 2 on Thursday, NOVEMBER 7</i>	
Week 12	Streams and flooding	<b>16</b>
Week 13	Water resources	<b>17</b>
Week 14	Energy and Mineral Resources	<b>18</b>
Week 15	<i>Review on Tuesday and EXAM 3 on Thursday, DECEMBER 5</i>	

UPDATED 8/27/19