

**GEOL 1303 – Physical Geology  
 SPRING 2020  
 MWF 10:00-10:50 am WSB 101**

**Department of Biology, Geology and Physical Sciences,  
 College of Arts and Sciences, Sul Ross State University**

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Office hours:

MWF 11:00 – 11:45 am  
 MTWF 2:00 – 3:00 pm  
 hours may change during the semester  
 or by appointment

### **Course Description**

This course covers the nature and properties of the materials (minerals and rocks) which make up the earth, the distribution of these materials throughout the earth (continental/oceanic crust and earth's interior), the processes (volcanic, sedimentary, metamorphic) by which these materials are formed, altered (erosion and weathering), transported (river, beach and ocean systems) and deformed (earthquakes, geologic structures and mountain building), and the nature and development of the landscapes (glaciers, groundwater, wind and deserts). Plate tectonics is incorporated throughout as the unifying principle of geology. The length of geologic time is also stressed throughout. The lecture component provides content and theory of physical geology. The scientific method is used to study the earth and the natural world and is applied throughout the course.

### **Required Texts and Materials**

*Physical Geology: Earth Revealed*, 9<sup>th</sup> edition; 2011  
 Carlson, D.H., Plummer, C.C. and Hammersley, L.  
 McGraw-Hill Co. publisher  
*Laboratory Manual for Physical Geology Laboratory Geology 1103*  
 Measures and Mattison  
 Sul Ross State University printed  
 notebook/paper pens/pencils small stapler small ruler

### **Required Electronic Usage**

You are expected to check you Sul Ross email DAILY.  
 Blackboard will be used and you are expected to be able to access the site and to print any material from the site.

### **Electronics Policy**

Use of laptops/pads for notetaking must be cleared through the instructor. See instructor during office hours for consultation.

## Attendance and Classroom Behavior

You are expected to be on time to lecture every scheduled class day. Tardiness and leaving during class is not tolerated, except for emergency responders.

Tardiness and leaving early could be considered to be an absence.

When you have 9 hours of absences, your semester grade will be an "F" and you may be dropped or instructed to drop.

Absences for University sanctioned events need documentation and advance notification.

Absences for medical reasons needs documentation.

You are expected to take notes. If you are not taking notes you will be told to leave class. If you are sleeping you will be told to leave class. If you are being disruptive, as determined by the instructor or those students around you, you will be told to leave class. Points will be deducted from the next test.

**Electronic devices are to be turned off.** Covert use of electronics is not tolerated and the electronics will be confiscated and/or you will be told to leave class. Points will be deducted from the next test.

Cheating and plagiarism will not be tolerated and any such assignment will be scored with a zero.

For every hour spent in lecture you should spend at least 2 hours outside class reading/studying the subject.

**Refer to the Student Handbook and the Sul Ross Catalog.**

## Special Needs/Disabilities

*Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the Student's responsibility to initiate a request. Please contact Ms. Rebecca Greathouse Wren, M.Ed., LPC-S, Director/Counselor, Accessibility Services Coordinator, Ferguson Hall (Room 112) at 432.837.8203; mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas 79832. Students receive letter with accommodations and then need to contact the instructor as soon as possible to initiate the recommended accommodations.*

## Grading/Course Requirements

Requirements:

Exams (3) .....	75%
Other .....	25%
quizzes	
homework	
classroom department	

Standard grading scheme:

A .....	≥90%
B .....	80-89%
C .....	70-79%
D .....	60-69%
	(D does not count for majors)
F .....	≤59%

Exams – covers the previous 4 to 4.5 weeks of material; 100 points each; material is the basic vocabulary, symbology, notation and concepts/theory of Physical Earth Science; some material carries through so exams are comprehensive to a small extent; types of questions: true-false, matching, multiple choice, short answer, sketching diagrams, labeling

diagrams, discussion/essay and samples. If you miss a test for a scheduled Sul Ross activity then arrangements need to be made with me to take the test before the event. If you miss a test because of an emergency (documentation required) then arrangements need to be made with me to take the test. All other make-ups will be during Dead Days and the test will consist exclusively of essay questions.

Field trip (optional) – attend a day-long trip to Big Bend National Park offered during the semester or possibly half-day trips to areas just outside Alpine; applies identification/interpretation of minerals and rocks, basic Earth Science principles of plate tectonics, relative dating principles and surficial processes

Homework/Projects – could include questions related to the chapter readings; internet exercises over modern, observable processes; collection of earth materials; written analysis of Earth Science events in the news or other media

Quizzes – short questions over the chapter readings; questions over the previous class day's lecture; homeworks and notes may be used on quizzes

### **Course/Learning Objectives and Program Learning Outcomes (SLO)**

At the end of the semester, the successful student will be able to:

- \* know the terminology associated with earth materials, such as minerals and rocks; *Geology SLO 2*
- \* interpret mechanism of formation of a rock, as well as summarize it's history; *Geology SLO 1*
- \* demonstrate knowledge of, and familiarity with, basic geologic tools such as topographic maps and cross-sections, and geologic maps and cross-sections; *Geology SLO 5*
- \* order geologic events and explain earth history from examination of geologic maps, geologic cross-sections; *Geology SLO 1*
- \* explain how tectonics operates and has changed the earth through time; *Geology SLO 3 to demonstrate ability to identify and synthesize tectonics*

### **BS Geology Student Learning Outcomes (SLO's)**

1. The student will be able to apply a diverse body of Geologic information in the area of Earth history.
2. The student will be able to apply a diverse body of Geologic information in the area of mineralogy and petrology.
3. The student will be able to apply a diverse body of Geologic information in the area of structural geology and tectonics.
4. The student will be able to apply a diverse body of Geologic information in the area of stratigraphy.
5. The student will be able to apply a diverse body of Geologic information in the area of field techniques.

### **Geology BS Marketable Skills**

1. Student will be able to conduct field work.
2. Student will be able to use field equipment.
3. Student will be able to use lab equipment.
4. Student will be able to use library resources.
5. Student will be able to communicate in written and oral format.

Schedule is subject to change as lecture, class participation,  
and class comprehension is a very organic, fluid entity  
and evolves during the semester

MONDAY		WEDNESDAY		FRIDAY	
<b>Jan 13</b>	Science & Geology; Relevance (C 1 & 2)	<b>Jan 15</b>	Earth's Interior (C 2)	<b>Jan 17</b>	Earth's Interior & Sea Floor (C 2 & 3)
<b>Jan 20</b>	HOLIDAY – NO CLASS	<b>Jan 22</b>	Sea Floor (C 3)	<b>Jan 24</b>	Plate Tectonics (C 4)
<b>Jan 27</b>	Plate Tectonics (C 4)	<b>Jan 29</b>	Plate Tectonics & Mountain Belts (C 4 & 5)	<b>Jan 31</b>	Mountain Belts (C 5)
<b>Feb 3</b>	Mountain Belts (C 5)	<b>Feb 5</b>	Mountain Belts & Geol Structures (C 5 & 6)	<b>Feb 7</b>	Geol Structures (C 6)
<b>Feb 10</b>	Geol Structures & Earthquakes (C 6 & 7)	<b>Feb 12</b>	Earthquakes (C 7)	<b>Feb 14</b>	Earthquakes (C 7)
<b>Feb 17</b>	<b>EXAM 1</b>	<b>Feb 19</b>	Atoms and Minerals (C 9)	<b>Feb 21</b>	Atoms and Minerals (C 9)
<b>Feb 24</b>	Extrusive Rocks (C 10)	<b>Feb 26</b>	Extrusive Rocks (C 10)	<b>Feb 28</b>	Extrusive & Intrusive Rocks (C 10 & 11)
<b>Mar 1</b>	Intrusive Rocks (C 11)	<b>Mar 4</b>	Intrusive Rocks (C 11)	<b>Mar 6</b>	Intrusive Rocks (C 11)
<b>Mar 9</b>	<b>SPRING BREAK</b>	<b>Mar 11</b>	<b>SPRING BREAK</b>	<b>Mar 13</b>	<b>SPRING BREAK</b>
<b>Mar 16</b>	Weathering (C 12)	<b>Mar 18</b>	Sedimentary Rocks (C 14)	<b>Mar 20</b>	Sedimentary Rocks (C 14)
<b>Mar 23</b>	Sedimentary Rocks (C 14)	<b>Mar 25</b>	Metamorphic Rocks (C 15)	<b>Mar 27</b>	Metamorphic Rocks (C 15)
<b>Mar 30</b>	<b>EXAM 2</b>	<b>Apr 1</b>	Geologic Time (C 8)	<b>Apr 3</b>	Geologic Time & Streams and Floods (C 8 & 16)
<b>Apr 6</b>	Streams & Floods (C 16)	<b>Apr 8</b>	Ground Water (C 17)	<b>Apr 10</b>	HOLIDAY – NO CLASS
<b>Apr 13</b>	Ground Water (C 17)	<b>Apr 15</b>	Deserts (C 18)	<b>Apr 17</b>	Deserts (C 18)
<b>Apr 20</b>	Glaciers (C 19)	<b>Apr 22</b>	Glaciers (C 19)	<b>Apr 24</b>	Coasts (C 20)
<b>Apr 27</b>	Coasts (C 20)	<b>Apr 29</b>	Climate	<b>May 1</b>	<b>EXAM 3</b>