Lecture Syllabus


Class Meetings: Mon, Wed, Fri, 09:00 to 09:50 a.m., ST 106
Office Hours: M 10:00 to 11:00 a.m., Tue/Thu 02:00 to 04:00 p.m., or by appointment. I encourage you to email me with any questions or concerns (use email address listed above).

Course Description
Physical Geology is the branch of geology concerned with the origin, classification, and composition of Earth materials, natural geologic processes affecting and shaping our Earth (plate tectonics, earthquakes, volcanoes, global warming etc.), as well as the forces that cause those changes. This course includes laboratory studies of minerals, rocks, as well as physiographic and geologic maps.

GEOL 1403 is a required course for students majoring in Geology or Environmental Science. This course may be taken by any student with the necessary interest in the natural sciences.

Student Learning Outcomes
Upon successful completion of this course, you should be familiar with / demonstrate knowledge of:
- the composition and structure of the solid Earth,
- the theory of Plate Tectonics,
- the various rock types that make up Earth’s crust,
- the internal and external processes that shape our planet,
- the interaction between some of the main components of the Earth System.
- the interdependence of science and technology and their influence on, and contribution to, modern culture.

Evaluation and Grade Assignment
Your final grade will be based on a % curve from the following point distribution:

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>A) Exams (4@50 points each)</td>
<td>200 points</td>
</tr>
<tr>
<td>B) Lecture Quizzes: 5@10 points each</td>
<td>50 points</td>
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<tr>
<td>C) Class participation</td>
<td>20 points</td>
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<tr>
<td>C) Comprehensive Final Exam</td>
<td>100 points</td>
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<tr>
<td>D) Labs: 12 assignments @ 10 points each, 2 exams</td>
<td>250 points</td>
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<tr>
<td><strong>Total:</strong></td>
<td><strong>620 points</strong></td>
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A perfect score in this course would be to earn all 620 points available. There will be no curve at the end of the semester! Final grading will be as follows (100-90% = A, 90-80% = B etc.):

- **A = 620-558 points**
- **B = 557-496 points**
- **C = 495-434 points**
- **D = 434-372 points**
- **F <372 points**

Extra Credit
You have three opportunities to earn extra credit points.
1. Turning in your completed score card (handed out at the beginning of the semester during your first lab) on the day of the final (5 points).
2. Points scored on lecture quizzes beyond the 5 quizzes counting towards your grade.
3. Presenting a current geologic event to the class (“Geology in the News”) – up to 10 points
Exams and Lecture Quizzes
The grade you will receive for this class is based on your performance on exams, quizzes, lab exercises and class participation. Missing any of these opportunities to collect points towards your point total will most likely affect your grade. So: attend class!! If you miss an exam (which includes anyone walking in more than 10 minutes late on the day of an exam!) you will be given the opportunity to make up this exam on the day of the final (after you have taken the final). It is your responsibility to contact me within one week of missing an exam to let me know that you wish to make up the exam. You lose the privilege of making up an exam if you fail to notify me during this time period.

Lecture Quizzes happen randomly and help me monitor your progress and regular attendance of the class. Quizzes will consist of a short series of multiple-choice questions to be answered in approximately 5-10 minutes usually at the beginning of the class period. Students who walk in late will not be given an opportunity to answer missed questions. If you are absent for medical reasons or a University related event, you will be given an opportunity to make up missed quizzes at the end of the semester during the final. Again, it is your responsibility to contact me regarding the make-up of missed quizzes within a week (and provide documentation). After that you loose your privilege to make up the missed work. Lecture quizzes may include material covered in previous lectures or from the reading assignments.

Your class participation grade will be based on assignments you are asked to prepare for class. More details will be given in class.

Class and Lab Policies
While attendance of the lectures will not be recorded by the instructor on a regular basis, regular attendance is essential to the successful completion of this course. Regular attendance of the lab sessions is required and there will be no make-up labs except for excused absences. You can recover a missed lab, if you know you are going to miss your section during one particular week, by arranging to attend one of the other available sections. You need to make these arrangements with the lab instructor in advance (i.e., don't just show up and expect to be accommodated). Each student may attend a different lab section no more than once during the semester (except for excused absences; proof required).

Treat your co-students (and instructors) with respect. The college catalog contains the university statement on academic integrity. Cheating will not be tolerated and will result in a failing grade in the course and possible further disciplinary action by the university. The use of cell phones, pagers, CD players, headphones and similar electronic devices is not allowed in class. I also highly recommend not using laptops in class. If you are caught using a laptop in class for any other purpose than note-taking, you will loose the privilege of bringing it to class for the remainder of the semester.

Notice to Students with Disabilities
Texas A&M University-Corpus Christi complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. If you suspect that you may have a disability (physical impairment, learning disability, psychiatric disability, etc.), please contact the Services for Students with Disabilities Office, located in Driftwood 101, at 825-5816. If you need disability accommodations in this class, please see me as soon as possible.

Academic Advising
The College of Science and Technology requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College's Academic Advising Center is located in Faculty Center 178, and can be reached at 825-6094.

Grade Appeal Process
As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the
process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

**Reading Assignments**
All reading assignments are to be read prior to the class in which the material will be discussed. The following lecture schedule will be followed as closely as possible although some revisions may become necessary during the semester.

**Important Dates**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>August 24</td>
<td>First class day</td>
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<tr>
<td>September 05</td>
<td>Labor Day</td>
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<tr>
<td>September 19</td>
<td>Exam 1</td>
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<tr>
<td>October 10</td>
<td>Exam 2</td>
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<tr>
<td>November 2</td>
<td>Exam 3</td>
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<td>November 24-25</td>
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<tr>
<td>November 28</td>
<td>Last day of class</td>
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<tr>
<td>December 05</td>
<td>Final exam (08-10:30 am)</td>
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**Lecture Schedule**

**August**
- Wed 08/24  Syllabus; Introduction
- Fri 08/26  Chapter 1: An Introduction to Geology
- Mon 08/29  Chapter 2: Solar System
- Wed 08/31  Chapter 2 cont., Chapter 3: Plate Tectonics

**September**
- Fri 09/02  Chapter 3 cont.
- Mon 09/05  LABOR DAY, no classes
- Wed 09/07  Chapter 3 cont.
- Fri 09/09  Chapter 3 cont.
- Mon 09/12  Chapter 12: Earthquakes
- Wed 09/14  Chapter 12 cont.
- Fri 09/16  Catch up day – Assignments, Geology in the News
- Mon 09/19  EXAM 1
- Wed 09/21  Chapter 4: Minerals
- Fri 09/24  Chapter 4 cont.
- Mon 09/26  The Rock Cycle
- Wed 09/28  Chapter 5: Igneous Rocks
- Fri 09/30  Chapter 5 cont.

**October**
- Mon 10/03  Chapter 6: Volcanoes
- Wed 10/05  Chapter 6 cont.
- Fri 10/07  Catch up day – Assignments, Geology in the News
- Mon 10/10  EXAM 2
- Wed 10/12  Chapter 7: Weathering
- Fri 10/14  Chapter 8: Sedimentary Rocks
- Mon 10/17  Chapter 8 cont.
- Wed 10/19  Chapter 8 cont.
- Fri 10/21  Chapter 9: Metamorphic Rocks
- Mon 10/24  Chapter 9 cont.
- Wed 10/26  Chapter 11: Mountain Building
- Fri 10/28  Chapter 11 cont.
- Mon 10/31  Halloween extra credit presentations

**November**
- Wed 11/02  EXAM 3
- Fri 11/04  Chapter 10: Geologic Resources
Mon 11/07  Chapter 10 cont.
Wed 11/09  Chapter 10 cont.
Fri 11/11  The Geologic Time Scale; Chapter 15: The Geology of the United States
Mon 11/14  Chapter 15 cont.
Wed 11/16  Chapter 15 cont.
Fri 11/18  Chapter 16: Global Warming
Mon 11/21  Chapter 16 cont.
Wed 11/23  Chapter 16 cont.
Fri 11/25  Thanksgiving Holiday (no classes)
Mon 11/28  EXAM 4
Wed 11/30  Chapter 22: Coastal Geology (22-6,7,8)

December
Fri 12/02  Chapter 23 Marine Geology
Mon 12/05  Chapter 23 cont., (last day of class)
Mon 12/12  Comprehensive final exam (08:00 to 10:30 am)

Laboratory Syllabus

Lab Time and Place:  101: Mon 10:00-11:50 p.m., CS 226  Jacalyn Gorczynski
                  102: Mon 12:00-01:50 p.m., CS 226  Jacalyn Gorczynski
                  103: Mon 02:00-03:50 p.m., CS 226  Jacalyn Gorczynski

Lab Material
Material (handouts) required to prepare yourself and to work with during the lab meetings will be posted on blackboard. It is your responsibility to print out and bring this material with you to lab. Handouts will not be provided! Also, please purchase a basic Rock and Mineral Identification book of your choosing.

Lab Attire
There is no food or drink permitted in CS 226. You are required to wear closed-toed shoes to the lab. You are not required to wear a lab coat. ALL STUDENTS MUST HAVE SUCCESSFULLY PASSED LAB SAFETY ON-LINE COURSE SMTE-0091 BEFORE SEPTEMBER 12 (LAB 2).

Lab Description
The laboratory exercises are intended to give you a hands-on geology experience, as well as compliment the lecture material. They will focus on three main topics: (1) plate tectonics, (2) rocks and minerals, and (3) working with topographic and geologic maps. After the completion of these exercises, you should be able to successfully describe and identify the most common rocks and minerals found on our planet. You will also learn to recognize some of the most common rocks found in Texas. You will be given an introduction to the interpretation of topographic and geologic maps, as well as geologic cross sections.

Lab Objectives
Upon successful completion of the laboratory exercises you should be able to
- Describe the fundamental principles of plate tectonics
- Identify various minerals as well as basic igneous, sedimentary, and metamorphic rocks
- Read and interpret topographic and geologic maps

Evaluation and Grade Assignment
Your points from the lab section will be added to the points acquired in the lecture section. To successfully complete this geology course you MUST attend labs.

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
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<tbody>
<tr>
<td>Lab Performance (quiz or assignment; 10 pts each)</td>
<td>120</td>
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<tr>
<td>Exam 1</td>
<td>80</td>
</tr>
<tr>
<td>Exam 2 (Take-home; 5 points deduction/day for late work)</td>
<td>50 points</td>
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<tr>
<td><strong>Total:</strong></td>
<td><strong>250 points</strong></td>
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</tbody>
</table>
Grade Assignment:
See Course description

Lab Policies:
See above and course description

Important Dates
Aug 29
Labs begin
Dec 05
Exam 2 due
October 24
Exam 1
Dec 05
Last lab meeting

Lab Schedule
August
Mon 08/29 Lab 1 Syllabus, Lab safety, Introduction

September
Mon 09/05 LABOR DAY, no labs
Mon 09/12 Lab 2 Plate Tectonics
Mon 09/19 Lab 3 Minerals
Mon 09/26 Lab 4 Igneous Rocks

October
Mon 10/03 Lab 5 Sediments, Sedimentary Structures, and Sedimentary Rocks
Mon 10/10 Lab 6 Metamorphic Rocks
Mon 10/17 Lab 7 Rocks of Texas, Introduction to Geologic Maps
Mon 10/24 EXAM 1
Mon 10/31 Lab 8 Topographic Maps

November
Mon 11/07 Lab 9 Geologic Structures and Maps 1
Mon 11/14 Lab 10 Geologic Structures and Maps 2
Mon 11/21 Lab 11 Geologic Structures and Maps 3, EXAM 2 (TAKE HOME)
Mon 11/28 NO LAB, work on take-home exam

December
Mon 12/05 Lab 12 Geology of N-America using Google Earth, EXAM 2 DUE

Drafting Supplies
The lab exercises (and partially the lectures) will require the use of some basic drafting supplies. The following is a list of what is needed. Please bring these items with you to each session.

Mechanical pencil, lead size of 0.5 mm or finer
Eraser
Colored pencils (at least six colors)
12” ruler with mm markings
Protractor (we can provide some)
Calculator

Listserves
Listserves you may find interesting are:
geolistu-list@sci.tamu.edu Geology listserv
escistu-list@sci.tamu.edu Environmental Sciences listserv