Essentials of Geology GEOL-1303.001
Department of Physical and Environmental Sciences
Spring 2017

A. COURSE INFORMATION
   Course number/section: GEOL 1303.001
   Class meeting time: T.R. 2-3:30 pm
   Class location: CS-115
   Course website: Blackboard  http://Bb9.tamucc.edu

B. INSTRUCTOR INFORMATION
   Instructor: Jennifer Smith-Engle
   Office location: NRC 3502
   Office hours: M. 10 am-2:30 pm, W. 10-11:30 am
   Telephone: 825-2436
   e-mail: Jennifer.Smith-Engle@tamucc.edu
   Appointments: Additional hours available by appointment.

C. COURSE DESCRIPTION
   Catalog Course Description
   Introductory earth science course for students majoring in a non-science subject area. Basic
geologic material and concepts, such as minerals, rocks, the rock cycle, and plate tectonics
theory. Origin, composition, and evolution of our planet, as well as geologic phenomena that
affect everyday life, including global change, earthquakes, volcanism, groundwater and
mineral resources. May not be counted toward a degree in Geology or Environmental
Sciences. Will not substitute for GEOL 1403. This course counts toward the natural science
component of the University Core Curriculum Programs.

   Extended Course Description
   Goal of this course is to give you a well-rounded introduction to your home planet including
an understanding of natural geologic phenomena and geologic resources. The first half of the
course will cover basic geologic principles, e.g. plate tectonics and the rock cycle. During the
second half of the course we will focus on geologic phenomena and topics that affect our
everyday lives, including earthquakes, volcanism, fossil fuels, mineral resources and global
change.

D. PREREQUISITES AND COREQUISITES
   Prerequisites: None.  Corequisites: None
E. **REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES**

**Required Textbook(s)**
With CONNECT Code (included with this loose-leaf addition of the textbook).

**Supplies**
Pencil, eraser, colored pencils, ruler with mm markings

F. **STUDENT LEARNING OUTCOMES AND ASSESSMENT**

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to demonstrate knowledge and understanding of:
1. composition and structure of the solid Earth,
2. theory of Plate Tectonics,
3. various minerals and rock types that make up Earth’s crust and interior,
4. internal and external processes that shape our planet,
5. interaction between some of the main components of the Earth System,
6. geologic hazards,
7. interdependence of science and technology and their influence on, and contribution to, modern culture.

In addition to the content knowledge above, successful completion of this course also provides you with basic core competencies such as:
1. critical thinking, e.g. when approaching topics using the scientific method
2. problem solving by working collaboratively in teams
3. communication skills, e.g. when presenting some of your work to the class verbally or turning in writing assignments.
4. Empirical and quantitative skills when working with numeral data, reading graphs etc.

Please always remember that you are the one responsible for your success. I will do my best to guide you in your learning process but without YOU assuming an active role, by completing work, studying outside of class time, asking questions, making use of help offered etc. you may not successfully pass this course.
G. INSTRUCTIONAL METHODS AND ACTIVITIES

Geology is a very visual and hands-on discipline. The following instructional methods and activities will be used: Lecture Power Points, Learn Smart Practice Questions, Chapter Quizzes, In-Class Hands-On Exercises (such as rock and mineral specimens, topographic and geologic maps, etc.), and Exams. All are intended to help you deepen your understanding of the course material.

Connect Homework: When you start working on a chapter,

• first read the chapter,
• then look at the power point

After you feel comfortable with the material, start working on Learn Smart practice questions. Finally, you will take a Chapter Quiz. Your work in Learn Smart and the Chapter Quizzes will improve your overall class performance (some of the Learn Smart questions will be repeated in the Exams). Both the Learn Smart Assignments and Chapter Quizzes must be completed by their assigned due dates.

MAJOR COURSE REQUIREMENTS AND GRADING

The student learning outcomes described in Section F will be measured through the assignments listed below. Limited extra credit opportunities will be made available.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>POINTS</th>
<th>% of FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams (3@ 100 points each)</td>
<td>300 points</td>
<td>30%</td>
</tr>
<tr>
<td>Learn Smart Practice Questions and Chapter Quizzes</td>
<td>300 points</td>
<td>30%</td>
</tr>
<tr>
<td>In-Class Exercises</td>
<td>200 points</td>
<td>20%</td>
</tr>
<tr>
<td>Comprehensive Final Exam (200 points)</td>
<td>200 points</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>1000 points</td>
<td>100%</td>
</tr>
</tbody>
</table>

A perfect score in this course would be to earn all 1000 points available. Final grading will be as follows:  
A = 900-1000 points; B = 800-900 points C = 700-800 points D = 600-700 points F <600 points
## H. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE (BY DAY OR WEEK)</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thu 01/19</td>
<td>Classes begin. Introduction/ What is Geology?</td>
<td>Chapter 1.</td>
</tr>
<tr>
<td>Tue 01/24</td>
<td>Plate Tectonics – The Unifying Theory</td>
<td>Chapter 19.</td>
</tr>
<tr>
<td>Thu 01/26</td>
<td>Topic Cont.</td>
<td>Chapter 19</td>
</tr>
<tr>
<td>Tue 01/31</td>
<td>Atoms, Elements, and Minerals</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>Thu 02/02</td>
<td>Topic Cont.</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>Tue 02/07</td>
<td>Magma and Intrusive Igneous Rocks</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>Thu 02/09</td>
<td>Topic Cont.</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>Tues 02/14</td>
<td>Volcanism and Extrusive Igneous Rocks</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>Thu 02/16</td>
<td>Topic Cont.</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>Tue 02/21</td>
<td><strong>Exam 1 (Ch. 1-4, 19).</strong> Weathering and Soil</td>
<td>Chapters 5</td>
</tr>
<tr>
<td>Thu 02/23</td>
<td>Sediments and Sedimentary Rocks</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>Tue 2/28</td>
<td>Topic Cont.</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>Thu 3/02</td>
<td>Metamorphism and Metamorphic Rocks</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>Tue 3/07</td>
<td>Topic Cont.</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>Thu 3/09</td>
<td>Time and Geology</td>
<td>Chapter 8</td>
</tr>
<tr>
<td>3/13-3/17</td>
<td><strong>SPRING BREAK: NO CLASSES</strong></td>
<td></td>
</tr>
<tr>
<td>Tue 3/21</td>
<td>Topic Cont. / Geology of Texas</td>
<td>Chapter 8 / Online Reading</td>
</tr>
<tr>
<td>Thu 3/23</td>
<td>Topic Cont.</td>
<td>Chapter 8</td>
</tr>
<tr>
<td>Tue 3/28</td>
<td><strong>Exam 2 (Ch. 5-8, Geology of Texas).</strong> Geologic Structures.</td>
<td>Chapter 15</td>
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<tr>
<td>Thu 3/30</td>
<td>Topic Cont.</td>
<td>Chapter 15</td>
</tr>
<tr>
<td>Tue 4/04</td>
<td>Earthquakes</td>
<td>Chapter 16</td>
</tr>
<tr>
<td>Thu 4/06</td>
<td>Topic Cont.</td>
<td>Chapter 16</td>
</tr>
<tr>
<td>Tue 4/11</td>
<td>Earth’s Interior and Geophysical Properties</td>
<td>Chapter 17</td>
</tr>
<tr>
<td>Thu 4/13</td>
<td>Topic Cont.</td>
<td>Chapter 17</td>
</tr>
<tr>
<td>Tue 4/18</td>
<td>Groundwater</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>Thu 4/20</td>
<td>Topic Cont.</td>
<td>Chapter 11</td>
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Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor.

I. COURSE POLICIES

Attendance/Tardiness
The grade you will receive for this course is based on your performance on exams, quizzes and exercises. Missing any of these opportunities to collect points towards your point total will affect your grade. So: attend class.

Late Work and Make-up Exams
Work is due by the stated deadlines. The grade for late work will be reduced by up to 20% for each day it is late. Exams may be made up only in cases of an excused absence and students should contact the instructor in advance to make prior arrangement if possible.

Extra Credit
You have various opportunities to earn extra credit points.
1. Geology Extra Credit Exercises. Complete various geology extra credit exercises (variable points)
2. Geology Haiku. Compose up to four Geology haiku poems (up to 20 points).

Cell Phone Use
The instructor does not prohibit but discourages the use of electronic communication devices such as cell phones (texting, etc.) during class because they distract other students from the learning experience. Please place such devices in silent mode during class. If you must answer an emergency call, please walk unobtrusively out of the class, finish the conversation, and return to your seat equally unobtrusively.

Laptop Use
You are welcome to bring a laptop or other device to class with the presumption that you are using it to facilitate your own learning (take notes, research an issue, etc.). The use of laptops for other uses is discouraged as it distracts from the learning experience.
Food in Class
Students’ schedules may be hectic and may not allow time between classes for meals. If consuming food and drink in the lecture classroom, please respect the facilities by cleaning up all spills immediately and removing all trash.

Missed Exam
Students who must miss an exam should contact the instructor in advance to make arrangements to make up the missed exam. If the absence is unplanned, you should contact the instructor as soon as possible about the situation. Students who miss an exam or pop quiz due to excused absence may make it up. Exam and quiz makeups should be completed as soon as possible.

Participation
Students are encouraged to actively participate in lecture discussion. Generally, students who participate more actively are able to learn the material more effectively.

J. COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex,
ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**
The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to do. Just stopping attendance and participation **WILL NOT** automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that **must** be submitted. No student is eligible to receive a W without completing the official drop process by this deadline. Please consult the Academic Calendar ([http://www.tamucc.edu/academics/calendar/](http://www.tamucc.edu/academics/calendar/)) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, 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 Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage at [http://sci.tamucc.edu/students/GradeAppeal.html](http://sci.tamucc.edu/students/GradeAppeal.html). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

[http://disabilityservices.tamucc.edu/](http://disabilityservices.tamucc.edu/)
• **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

K. **OTHER INFORMATION**

• **Academic Advising**
  The College of Science & Engineering 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. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

**GENERAL DISCLAIMER**

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.