Essentials of Geology GEOL 1303.001  
Department of Physical and Environmental Sciences  
Fall 2019

A. COURSE INFORMATION  
Course number/section: GEOL 1303.003  
Class meeting time: T.R. 11:00-12:15 p.m.  
Class location: CS 115  
Course Website: http://Bb9.tamucc.edu

B. INSTRUCTOR INFORMATION  
Instructor: Jennifer Smith-Engle  
Office location: NRC 3502  
Office hours: M. 09:30 am-12:30 pm, W. 09:30-11:30 am.  
Telephone: (361) 825-2436  
e-mail: Jennifer.Smith-Engle@tamucc.edu  
Appointments: Email or telephone to make 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, floods, fossil fuels, mineral resources and global change.

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

Required 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, In-Class Quizzes, In-Class Hands-On Exercises (such as rock and mineral specimens, topographic and geologic maps, etc.), and Exams. You may optionally access the publisher-provided Learn Smart Practice Questions and Chapter Quizzes. All are intended to help you deepen your understanding of the course material.

You are expected to read the textbook chapters on your own. Brief powerpoint presentations in lecture will highlight major points, but not all chapter details. After lecture, review the powerpoints, which will be posted to Blackboard.

Hands-On Exercises will be presented in class. You must submit these through Blackboard by the stated deadline for credit. Late submissions will have points deducted.

In-class Quizzes will test your understanding of the major chapter concepts and help you prepare for each Lecture Exam. Lecture exams will cover content from each chapter and from the Hands-On Exercises.

Extra credit assignments will be issued throughout the semester and are an opportunity to earn additional points towards the course total.

H. 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>
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</thead>
<tbody>
<tr>
<td>Exams (3@ 150 points each)</td>
<td>450 points</td>
<td>45%</td>
</tr>
<tr>
<td>Chapter Quizzes (most 10 points each)</td>
<td>100 points</td>
<td>10%</td>
</tr>
<tr>
<td>In-Class Exercises (most 20-40 points each)</td>
<td>250 points</td>
<td>25%</td>
</tr>
<tr>
<td>Comprehensive Final Exam (200 points)</td>
<td>200 points</td>
<td>20%</td>
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<tr>
<td>Total</td>
<td>1000 points</td>
<td>100%</td>
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</table>

A perfect score in this course would be to earn all 1000 points available. Final grading will be as follows:  

A = 895-1000 points; B = 795-894 points; C = 695-794 points; D = 595-694 points; F < 595 points
# I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>T. 8/27</td>
<td>Classes begin. An Introduction to Geology</td>
<td>Chapter 1</td>
</tr>
<tr>
<td></td>
<td>R. 8/29</td>
<td>Plate Tectonics: A Scientific Revolution Unfolds</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>2</td>
<td>T. 9/03</td>
<td>Topic Cont.</td>
<td>Chapter 2</td>
</tr>
<tr>
<td></td>
<td>R. 9/05</td>
<td>Matter and Minerals</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>3</td>
<td>T. 9/10</td>
<td>Topic Cont.</td>
<td>Chapter 3</td>
</tr>
<tr>
<td></td>
<td>R. 9/12</td>
<td>Igneous Rocks &amp; Intrusive Activity</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>4</td>
<td>T. 9/17</td>
<td>Topic Cont.</td>
<td>Chapter 4</td>
</tr>
<tr>
<td></td>
<td>R. 9/19</td>
<td>Volcanos &amp; Volcanic Hazards</td>
<td>Chapter 5</td>
</tr>
<tr>
<td>5</td>
<td>T. 9/24</td>
<td>Topic Cont.</td>
<td>Chapter 5</td>
</tr>
<tr>
<td></td>
<td>R. 9/26</td>
<td>Exam 1 (Ch. 1-5). Weathering &amp; Soils</td>
<td>Chapter 6</td>
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<td>6</td>
<td>T. 10/01</td>
<td>Sedimentary Rocks</td>
<td>Chapter 7</td>
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<tr>
<td></td>
<td>R. 10/03</td>
<td>Topic Cont.</td>
<td>Chapter 7</td>
</tr>
<tr>
<td>7</td>
<td>T. 10/08</td>
<td>Topic Cont.</td>
<td>Chapter 7</td>
</tr>
<tr>
<td></td>
<td>R. 10/10</td>
<td>Metamorphism &amp; Metamorphic Rocks</td>
<td>Chapter 8</td>
</tr>
<tr>
<td>8</td>
<td>T. 10/15</td>
<td>Topic Cont.</td>
<td>Chapter 8</td>
</tr>
<tr>
<td></td>
<td>R. 10/17</td>
<td>Geologic Time</td>
<td>Chapter 18</td>
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<tr>
<td>9</td>
<td>T. 10/22</td>
<td>Topic Cont.</td>
<td>Chapter 18</td>
</tr>
<tr>
<td></td>
<td>R. 10/24</td>
<td>Exam 2 (Ch. 6-8, 18). Crustal Deformation &amp; Mountain Building</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>10</td>
<td>T. 10/29</td>
<td>Crustal Deformation &amp; Mountain Building</td>
<td>Chapter 11</td>
</tr>
<tr>
<td></td>
<td>R. 10/31</td>
<td>Topic Cont.</td>
<td>Chapter 11</td>
</tr>
<tr>
<td>11</td>
<td>T. 11/05</td>
<td>Earthquakes &amp; Earth’s Interior</td>
<td>Chapter 9</td>
</tr>
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<td></td>
<td>R. 11/07</td>
<td>Topic Cont.</td>
<td>Chapter 9</td>
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<tr>
<td></td>
<td>F. 11/08</td>
<td>Last Day to Drop a Class</td>
<td></td>
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<tr>
<td>12</td>
<td>T. 11/12</td>
<td>Running Water</td>
<td>Chapter 13</td>
</tr>
<tr>
<td></td>
<td>R. 11/14</td>
<td>Groundwater</td>
<td>Chapter 14</td>
</tr>
<tr>
<td>13</td>
<td>T. 11/19</td>
<td>Topic Cont.</td>
<td>Chapter 14</td>
</tr>
<tr>
<td></td>
<td>R. 11/21</td>
<td>Exam 3 (Ch. 9, 11, 13, 14)</td>
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Note: Changes in this course schedule may be necessary, and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. 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. These opportunities will be assigned throughout the semester.

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 arrange 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 and earn a higher grade in this class.

K. 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)**
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. *Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course.* Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. 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.

L. **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.