GEOLOGY 1403.001 – PHYSICAL GEOLOGY
Department of Physical and Environmental Sciences
Fall 2015

A. COURSE INFORMATION
Course number/section: GEOL 1403.001
Class meeting time: T.R. 03:30-04:45 pm
Class location: CS 101

Lab number/sections and meeting times: GEOL 1403.102 (M 12:00-01:50 pm); GEOL 1403.103 (M 02:00-03:50 pm); GEOL 1403.341 (T 10:00-11:55 am; GEOL 1403.340 (T 02:00-3:50 pm); GEOL 1403.104 (R 10:00-11:50 am)
Lab location: CS 226

Course website: Blackboard  http://Bb9.tamucc.edu

B. INSTRUCTOR INFORMATION
Instructor: Dr. Val Murgulet
Office location: TBA
Office hours: TBA
Telephone: TBA
e-mail: TBA
Appointments: Please email instructor directly for an appointment, or if you have any questions or concerns.

Lab Instructors: GEOL 1403.102 (Val Murgulet); GEOL 1403.103 (Elia Gil); GEOL 1403.340 (Elia Gil); GEOL 1403.341 (Elia Gil); GEOL 1403.104 (Val Murgulet);

C. COURSE DESCRIPTION
Catalog Course Description
Introduction to the origin, classification, and composition of Earth materials. Study of internal and surface processes which shape and modify Earth. Laboratory studies of minerals and rocks, as well as topographic maps, geologic maps and geologic cross-sections. This course counts toward the natural science component of the University Core Curriculum. One-semester introductory earth science course for students majoring in a non-science subject area.

Extended 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 climate change 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. The course may be taken by any student with the necessary interest in the natural sciences.

D. PREREQUISITES AND COREQUISITES

None.

E. REQUIRED TEXTBOOK, READINGS AND SUPPLIES

Required Textbook
Physical Geology - The Science of Earth by Charles Fletcher (2011); John Wiley & Sons.
Inc. ISBN: 978-0-471-22037-4
Or: second edition of same book

Supplies: pencil, colored pencils, ruler, protractor,

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Upon successful completion of this course, you should be familiar with / demonstrate knowledge of the:
1. the composition and structure of the solid Earth,
2. the theory of Plate Tectonics,
3. the various rock types that make up Earth’s crust,
4. the internal and external processes that shape our planet,
5. natural hazards,
6. geologic resources (with special emphasis on energy resources),
7. global change including climate change,
8. the interaction between some of the main components of the Earth System,
9. the 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. Power Point slides will be made available to you that include many photos depicting geologic features from around the world. Be sure to add your OWN written comments in addition to the information you are provided. To deepen your understanding of the course material, as well as practice scientific writing, you will prepare three papers applying the course material to a new geologic setting (Geology of the World Portfolio). During the laboratory studies, you will be given the opportunity to deepen your understanding of the course material with hands-on exercises.

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</td>
<td>30%</td>
</tr>
<tr>
<td>Lecture Quizzes (5@ 10 points each)</td>
<td>50</td>
<td>5%</td>
</tr>
<tr>
<td>Labs: 12 assignments @15 points each and 2 exams (220 points each)</td>
<td>400</td>
<td>40%</td>
</tr>
<tr>
<td>Geology of the World Portfolio</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td>Comprehensive Final Exam (150 points)</td>
<td>150</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>1000</td>
<td>100%</td>
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A perfect score in this course would be to earn all 400 points available. There will be no curve at the end of the semester! Final grading will be as follows:  

A = 895-1000 points; B = 795-899 points C = 695-799 points D = 595-699 points F <595 points

H. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE</th>
<th>TEXTBOOK CHAPTER/ LECTURE TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>08/27</td>
<td>Chapter 1: An Introduction to Geology and the “Big Ideas of Earth Sciences”</td>
</tr>
<tr>
<td>2</td>
<td>09/01</td>
<td>Introduction to the Scientific Method and Scientific Writing</td>
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<td></td>
<td>09/03</td>
<td>Chapter 2: Solar System</td>
</tr>
<tr>
<td>3</td>
<td>09/08</td>
<td>Chapter 3: Plate Tectonics</td>
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<td></td>
<td>09/10</td>
<td>Chapter 3 cont’d.</td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
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<tr>
<td>4</td>
<td>09/15</td>
<td>Ch. 12: Earthquakes</td>
</tr>
<tr>
<td></td>
<td>09/17</td>
<td>Chapter 12 cont’d.</td>
</tr>
<tr>
<td>5</td>
<td>09/22</td>
<td>Exam 1</td>
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<td></td>
<td>09/24</td>
<td>Chapter 4: Minerals</td>
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<tr>
<td>6</td>
<td>09/29</td>
<td>Chapter 4 cont’d., The Rock Cycle, Chapter 5: Igneous Rocks</td>
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<td></td>
<td>10/01</td>
<td>Chapter 6: Volcanoes.</td>
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<td>7</td>
<td>10/06</td>
<td>Chapter 6 cont’d.</td>
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<td></td>
<td>10/08</td>
<td>Chapter 8: Sedimentary Rocks</td>
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<td>8</td>
<td>10/13</td>
<td>Chapter 8 cont’d</td>
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<tr>
<td></td>
<td>10/15</td>
<td>Chapter 9: Metamorphic Rocks</td>
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<td>9</td>
<td>10/20</td>
<td>Ch. 9 cont’d.</td>
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<tr>
<td></td>
<td>10/22</td>
<td>Exam 2</td>
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<tr>
<td>10</td>
<td>10/27</td>
<td>Chapter 11: Mountain Building</td>
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<td></td>
<td>10/29</td>
<td>Chapter 11 cont’d.</td>
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<td>11</td>
<td>11/03</td>
<td>Chapter 10: Geologic Resources.</td>
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<td></td>
<td>11/05</td>
<td>Chapter 10 cont’d.</td>
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<tr>
<td>12</td>
<td>11/10</td>
<td>Chapter 16: Global Warming</td>
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<td></td>
<td>11/12</td>
<td>Chapter 16 cont’d.</td>
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<tr>
<td>13</td>
<td>11/17</td>
<td>Exam 3</td>
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<tr>
<td></td>
<td>11/19</td>
<td>Chapter 17 Paleoclimatology (17.5-10).</td>
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<tr>
<td>14</td>
<td>11/24</td>
<td>Chapter 17 cont’d.</td>
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<tr>
<td></td>
<td>11/26</td>
<td>NO CLASS: THANKSGIVING</td>
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<tr>
<td>15</td>
<td>12/01</td>
<td>Last day of classes. Chapter 17 cont’d.</td>
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<td></td>
<td>12/02</td>
<td>NO CLASS: READING DAY</td>
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<tr>
<td>16</td>
<td>Tuesday 12/08</td>
<td>Comprehensive Final Exam (01:45-04:15 pm).</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 listed are directly related to the Student Learning Outcomes described in Section F.

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 three opportunities to earn extra credit points.
1. **Score Card.** Turn in completed Score Card (blank card is posted on Blackboard) on the day of the final. This card will help you to keep track of your grades. (5 points)
2. **Additional Chapter Quizzes.** Points scored on lecture quizzes beyond the five chapter quizzes counting towards your grade.
3. **Geology in the News:** Presenting a current geologic event or analysis to the class (up to 10 points) or **Geology Talk** – Attending a geology related presentation offered on our campus or in the community AND submitting a ½ to one page summary within ONE WEEK of the talk (instructor approval required). (Up to 10 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 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/) 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.