GEOLOGY 1403.001 – PHYSICAL GEOLOGY

Department of Physical and Environmental Sciences
Fall, 2018

A. COURSE INFORMATION

Course number/section: GEOL 1403.001
Class meeting time: TR 09:30-10:45 am
Class location: BH-103

Lab section and meeting times: GEOL 1403.101 W 08:00-09:50 pm; GEOL 1403.102 M 12:00-01:50 pm; GEOL 1403.101 W 12:00-01:50 pm
Lab location: CS 226

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

B. INSTRUCTOR INFORMATION

Instructor: Dr. Valeriu Murgulet
Office location: CS 205
Office hours: T 11:00 am – 01:00 pm; Wednesday 09:00 am – 12:00 pm or by appointment
Telephone: (361) 825-6023
E-mail: valeriu.murgulet@tamucc.edu
Appointments: Please email instructor directly for an appointment, or if you have any questions or concerns.

Lab Instructors: Mr. Joseph Stearns
jstearns1@islander.tamucc.edu

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

SMTE-0094 Geology Lab Safety Seminar

E. REQUIRED TEXTBOOK, READINGS AND SUPPLIES

Required Textbook


Required Lab Textbook


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.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Geology is a very visual and hands-on discipline. In addition to Power Point slides that include many photos depicting geologic concepts and features from around the world, most chapters also contain animations. Be sure to add your own written comments besides the information you are provided. 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.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Three Exams</td>
<td>30%</td>
</tr>
<tr>
<td>Pearson’s MyLab &amp; Mastering</td>
<td>20%</td>
</tr>
<tr>
<td>Lecture Quizzes</td>
<td>5%</td>
</tr>
<tr>
<td>Paper</td>
<td>10%</td>
</tr>
<tr>
<td>Labs: assignments (10%), 2 quizzes (2.5% each), and a final exam (5%)</td>
<td>20%</td>
</tr>
<tr>
<td>Comprehensive Final Exam</td>
<td>15%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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H. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>TEXTBOOK CHAPTER/ LECTURE TOPIC</th>
</tr>
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<tbody>
<tr>
<td>08/27</td>
<td>Chapter 1: An Introduction to Geology; Chapter 2: Plate Tectonics</td>
</tr>
<tr>
<td>09/03</td>
<td>Chapter 3: Matter and Minerals</td>
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<tr>
<td>09/10</td>
<td>Chapter 4: Igneous Rocks; Chapter 5: Volcanoes</td>
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<tr>
<td>09/17</td>
<td><strong>Exam 1</strong>: Chapter 6: Weathering and Soil</td>
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<tr>
<td>09/24</td>
<td>Chapter 7: Sedimentary Rocks; Chapter 8: Metamorphic Rocks</td>
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<tr>
<td>10/01</td>
<td>Chapter 9: Geologic Time</td>
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<tr>
<td>10/08</td>
<td>Chapter 10: Crustal Deformation; Chapter 11: Earthquakes</td>
</tr>
<tr>
<td>10/15</td>
<td><strong>Exam 2</strong>: Chapter 12: Earth’s Interior</td>
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</table>
Chapter 13: Origin and Evolution of the Ocean Floor

Chapter 17: Groundwater

Chapter 21: Global Climate Change;

Chapter 14: Mountain Building; **Exam 3**

Chapter 14: Mountain Building; **THANKSGIVING HOLIDAY**

Chapter 22: Earth’s Evolution Through Geologic Time

Chapter 11: Sea Coasts

Chapter 9: Groundwater

Chapter 17: Plate Tectonics

**Final Exam** (comprehensive): 08:00 am – 10:30 am

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.

**LAB CONTENT/SCHEDULE**

<table>
<thead>
<tr>
<th>Week</th>
<th>LAB MANUAL CHAPTER/ TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/27</td>
<td>Chapters 1;2: Properties of Minerals; Mineral Identification</td>
</tr>
<tr>
<td>09/03</td>
<td>Chapters 1;2: Properties of Minerals; Mineral Identification; <strong>Quiz 1</strong></td>
</tr>
<tr>
<td>09/10</td>
<td>Chapters 3,4: Igneous Rocks; Sedimentary Rocks</td>
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<tr>
<td>09/17</td>
<td>Chapter 4;5: Sedimentary Rocks; Metamorphic Rocks</td>
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<tr>
<td>09/24</td>
<td><strong>Quiz 2</strong></td>
</tr>
<tr>
<td>10/01</td>
<td>Chapter 13: Geologic Age</td>
</tr>
<tr>
<td>10/08</td>
<td>Chapters 14: Structural Geology</td>
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<tr>
<td>10/15</td>
<td>Chapter 15: Geologic Maps</td>
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<tr>
<td>10/22</td>
<td>Chapter 6: Topographic Maps</td>
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<tr>
<td>10/29</td>
<td>Chapter 11: Sea Coasts</td>
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<tr>
<td>11/05</td>
<td>Chapter 9: Groundwater</td>
</tr>
<tr>
<td>11/12</td>
<td>Chapter 17: Plate Tectonics</td>
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<tr>
<td>11/26</td>
<td><strong>Final Exam</strong></td>
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**I. COURSE POLICIES**

**Attendance/Tardiness**

The grade you will receive for this course is based on your performance on exams, quizzes and exercises and lab assignments.
Late Work and Make-up Exams
Work is due by the stated deadlines. Exams may be made up only in cases of an excused absence (e.g., doctor’s excuse) and students should contact the instructor in advance to make prior arrangement if possible.

Extra Credit
None

Cell Phone Use
Not allowed.

Laptop Use
Only for taking class notes.

Food in Class
Not allowed.

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)**
  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/

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.