TEXAS A&M UNIVERSITY – CORPUS CHRISTI
COLLEGE OF SCIENCE AND ENGINEERING

GEOLOGY 1404 – HISTORICAL GEOLOGY
Department of Physical and Environmental Sciences

SPRING SEMESTER 2015

Course Information

| Course number/section: | GEOL 1404.001 (lecture) |
| Class meeting time:    | MWF 10:00 to 10:50 a.m. |
| Class location:        | CS 101                  |

| Course number/section: | GEOL 1404.101 (lab) |
| Class meeting time:    | W 12:00 to 01:50 p.m. |
| Class location:        | CS 226                |


Instructor Information

| Instructor:       | Dr. Tania-Maria Anders |
| Office location:  | CS 202                |
| Office Hours:     | Tue/Thu 2:00 to 3:00 pm, Tue 5:00 to 6:00 pm, and Wed 02:00 to 03:00 pm or by appointment. I encourage you to email me with any questions or concerns you may have (see email address listed below). |
| Telephone:        | 825-3755              |
| E-mail:           | tania.anders@tamucc.edu |

Required texts/material


Supplies: pencil, colored pencils, ruler

Course Description

Catalog Course Description:
Introduction to the origin and evolution of Earth and other planets. Changes in the form and distribution of Earth’s continents and oceans, and succession of plants and animals through geologic time. Laboratory studies of fossils, geologic maps, and the interpretation of ancient environments of rock formation. This course counts toward the natural science component of the University Core Curriculum.

Extended Course Description:
Geology 1404 is an introductory Earth Science course covering the history of Earth and the evolution of life on our planet. After a brief review of basic geological principles (plate tectonics theory, rock cycle), the course will provide an overview of geologic time, origin of the Universe and Earth, relative and radiometric dating, fossils, evolution, and changes in the form and distribution of Earth’s continents and oceans. The geologic and life history of North America and other parts of the world will be discussed in the second half of the semester. The course will close with an introduction to human evolution and global climate change.

**Prerequisites and Co-requisites**

**GEOL 1403 or GEOL 1303.**

**Student Learning Outcomes and Assessment**

Upon successful completion of this course, you should be familiar with / demonstrate knowledge of:
1. the evolution of Earth through time, including changing locations of continents, climate changes, as well as major organism groups and their evolution,
2. the principles of geologic age determination and the geologic time scale,
3. the scientific methodology of the Earth Sciences.

In addition to the content knowledge the 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 group verbally or in writing
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.*

**You will have an SI (Supplemental Instructions) leader for this course. Please make use of this service! The SI leader will answer questions, explain concepts, and help you develop the important routine of adding extra study time outside of class.**

**Instructional Methods and Activities**

Geology is a very visual and hands-on discipline. I have prepared Power Point slides for 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 I provide to your notes. 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**

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

A) Lecture exams:
   - Part 1: The Basics 60 points
   - Part 2: Earth’s History Precambrian through Paleozoic 60 points
Part 3: Earth’s History Mesozoic and Cenozoic

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<tr>
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<th>Points</th>
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<tbody>
<tr>
<td>Comprehensive Final</td>
<td>100</td>
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<td>B) Lecture quizzes: 10 points each</td>
<td>50</td>
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<tr>
<td>C) Lab assignments: 12@10 points each</td>
<td>120</td>
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<tr>
<td>D) Comprehensive lab final</td>
<td>80</td>
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<td><strong>Total:</strong></td>
<td>530</td>
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A perfect score in this course would be to earn all 530 points available. There will be no curve at the end of the semester!

**Final grading will be as follows:**

- A = 530-477 points
- B = 476-424 points
- C = 423-371 points
- D = 370-318 points
- F < 318 points

**Extra Credit**

You have three opportunities to earn extra credit points.

1. Turning in your completed score card (posted on blackboard) on the day of the final (5 points).
2. Points scored on lecture quizzes beyond the 5 quizzes counting towards your grade.
3. Scoring on extra credit questions that may be available on selected exams

**Course Policies**

**Attendance**

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

**Missed Exams**

If you miss an exam (which includes anyone walking in more than 15 minutes late on the day of an exam!), you will be given the opportunity to make up this exam only in case of an excused absence. It is your responsibility to contact me as soon as you return to campus to provide your excuse of absence. You need to make up the missed exam within ONE WEEK of you return to campus. You loose the privilege of making up an exam if you fail to notify me in a timely manner.

**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 come to class late need to wait outside the classroom until the class has completed the quiz and may not make up the missed quiz at a later time. 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 after the final. If you are absent for medical reasons a doctor’s note is required. The University Health Center offers care for students with acute illnesses. Most services are free. FMI contact 825-2601.

Again, it is your responsibility to contact me regarding the make-up of missed quizzes and exams. Lecture quizzes will include material covered in previous lectures and from the reading assignments.

**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.

**Use of Electronics**
While in the classroom, please store cell phones and other electronic devices that may distract you or others from actively participating in class in your bags. Laptop computers are allowed for class-related work only. Should you disregard this rule, the entire class with lose the privilege of using laptops in class.

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**College and University Policies**

**Academic Integrity**
It is expected that university students will demonstrate a high level of maturity, self-direction, and ability to manage their own affairs. Students are viewed as individuals who possess the qualities of worth, dignity, and the capacity for self-direction in personal behavior. 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, posting material developed by the faculty (e.g. exams) in any form including electronic, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one's own work.) Cheating will not be tolerated and will result in a failing grade in the course and possible further disciplinary action by the university. See Full University Policy at [http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity](http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity)

**Classroom/Professional Behavior/Civility**
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.

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.

**Notice to Students with Disabilities and Veterans**
Disability Services (DS) is the hub for coordinating services and accommodations to ensure accessibility and utilization of all programs for all Texas A&M University-Corpus Christi students with disabilities. Our services are designed to meet the unique educational needs of enrolled students with documented permanent or temporary disabilities. DS provides intake and consultation services to students seeking to register with our office. DS reviews an individual’s documentation of disability and assesses eligibility for services and the determination of
reasonable accommodations. For more information visit the Disability Services Office at 116 Corpus Christi Hall or go to http://disabilityservices.tamucc.edu/

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 or visit Disability Services at (361) 825-5816 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.

**Academic Advising**

The College of Science and 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. The College's Academic Advising Center is located in Center for Instructions CI 350, and can be reached at 825-3928.

**Grade Appeal Process**

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, and the College of Science and Engineering Grade Appeals webpage (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.

**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.

**Dropping a Course**

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 me before you decide to drop to be sure it is the best thing to do. 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. April 10, 2015 is the last day to drop a class with an automatic grade of "W" this term.

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.

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 regular scheduled lecture periods.

Important Dates

<table>
<thead>
<tr>
<th>January</th>
<th>First class day</th>
<th>March 16-20</th>
<th>Spring Break</th>
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</thead>
<tbody>
<tr>
<td>February</td>
<td>Exam 1</td>
<td>April 20</td>
<td>Exam 3</td>
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<tr>
<td>March</td>
<td>Exam 2</td>
<td>May 11</td>
<td>Final exam (08:00 to 10:30 am)</td>
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Lecture Schedule

January
Wed 01/21  Where are we today? Chapter 1: The Science of Historical Geology
Fri 01/23  Chapter 2: Early Geologists Tackle History's Mysteries
Mon 01/26  Chapter 2 cont. The Geologic Time scale
Wed 01/28  Chapter 3: Time and Geology
Fri 01/30  Chapter 3 cont.

February
Mon 02/02  Prerequisite: Chapter 4: Rocks and Minerals; a brief review
Wed 02/04  Chapter 5: The Sedimentary Archives
Fri 02/06  Chapter 5 cont.
Mon 02/09  Wrap up Part 1, filling gaps
Wed 02/11  EXAM 1
Fri 02/13  Chapter 6: Life on Earth - Fossils
Mon 02/16  Chapter 6 cont.
Wed 02/18  Prerequisite: Chapter 7: Plate Tectonics SELF and GROUP REVIEW
Fri 02/20  Chapter 7 review cont.
Mon 02/23  Chapter 8: The Archean Eon
Wed 02/25  Chapter 8 cont.
Fri 02/27  Chapter 9: The Proterozoic Eon

March
Mon 03/02  Chapter 9 cont.
Wed 03/04  Chapter 9 cont.
Fri 03/06  Chapter 10: Early Paleozoic
Mon 03/09  Chapter 10 cont.
### Laboratory Syllabus

**Lab Time and Place:** 1404.101: W 12:00 to 01:50 p.m., CS 226

**Required texts/material**

Handouts and worksheets required to prepare yourself for 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!**

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
- Calculator

**Lab Policies/Attire**

There is no food or drink permitted in the geology lab (CS 226). You are required to wear **closed-toed and -heeled shoes** to the lab. You are not required to wear a lab coat.
ALL STUDENTS MUST SUCCESSFULLY PASS A LAB SAFETY COURSE FOR WHICH YOU REGISTERED SEPARATELY.

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) review of rocks and plate tectonics, (2) geologic time and ordering of events, and (3) working with fossils. After the completion of these exercises, you should feel comfortable working with the geologic time scale and be able to successfully describe and identify the most common fossil groups of the Paleo-, Meso-, and Cenozoic Eras.

Student Learning Outcomes and Assessment

Upon successful completion of the laboratory exercises you should be able to
1. Chronologically order geologic events
2. Identify various fossils representing the three Phanerozoic Eras
3. Work with the geologic time scale

Lab Requirements and Grading

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 both lecture and labs.

| Lab Performance (quiz or assignment; 10 pts each) | 120 points |
| Lab Final Exam | 80 points |
| **Total:** | **200 points** |

Grade Assignment: Lab Policies:
See Course description See above and course description

Lab Schedule

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<th>January</th>
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<tr>
<td>Lab 1</td>
<td>Lab 2</td>
<td>Lab 6</td>
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<td>21</td>
<td>04</td>
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<tr>
<td>No lab meeting; complete lab safety</td>
<td>Time and Ordering of Geologic Events</td>
<td>Fossils I</td>
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<td>Lab 1</td>
<td>Lab 3</td>
<td>Lab 7</td>
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<td>28</td>
<td>11</td>
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<tr>
<td>The Geologic Time Scale</td>
<td>Relative and Absolute Age dating</td>
<td>Fossils II</td>
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<td>Lab 4</td>
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<td>Lab 8</td>
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<td>18</td>
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<tr>
<td>Rocks and Sedimentary Structures</td>
<td>SPRING BREAK</td>
<td>Earth Through Time I</td>
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<td>Lab 5</td>
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<td>April</td>
<td>Lab 9</td>
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<td>EXAM</td>
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<td>Lab 12</td>
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