

GEOLOGY 1301 001**EARTH SCIENCES I (CRN 25673)****LECTURE: F2F Room STEC RM 143****Spring 2026****SYLLABUS****DR. REX E CRICK****Instructor:** Dr. Rex E CrickOffice: **STEM 375**Lectures: MWF from 9 – 9:50 am @STEC BUILDING RM **STEC143**Office Hours: MW from 10 am – 11 am (or by appointment) **STEC RM 375**

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Email: rex.crick@tamusa.edu**Course Description:**

This is an interdisciplinary earth science course, incorporating aspects of mathematics, chemistry, biology, and physics to study geological, oceanic, and atmospheric processes. The broad questions examined in this course are the **Learning Outcomes** listed below. Plate tectonics, earth materials, landforms, structures, climate, and natural resources are the major topics of study. Emphasis will be on the observations and hypotheses used to interpret earth system processes. This course meets the standards for the ‘Life and Physical Sciences’ category of courses under the core curriculum.

Learning Outcomes:

1. Explain the process or scientific discover and the place of geological sciences is our lives.
2. Explain the current theories concerning the origin of the Universe and of the Solar System.
3. Explain the place of Earth in the Solar System and its relationships with other objects in the Solar System.
4. Relate the origin and evolution of Earth’s internal structures to its resulting geologic systems, including Earth materials and plate tectonic activities.
5. Explain the operation of Earth’s geologic systems and the interactions among the atmosphere, the geosphere, and the hydrosphere, including meteorology and oceanography.
6. Explain the history of the Earth including the evolution of earth systems and life forms.

Required Textbook and Online Class Resource (2 SEMESTER BOOK: WORKS FOR GEOL 1301 & GEOL 1302)1. **Understanding Earth** by Grotzinger and Jordan, 8th edition (McMillian Publishing). ISBN-10:1464138745

ISBN-13:9781464138744

2. **Understanding Earth** by Grotzinger and Jordan, 8th edition (McMillian Publishing), **E-BOOK**. ISBN-97813193246433. Access through Publisher MacMillan: <https://store.macmillanlearning.com/us/product/Understanding-Earth/p/131905532X>**BLACKBOARD:** <https://tamusa.blackboard.com>

Blackboard will be used to communicate information about the course. Course documents, lecture material, videos, and links will be available on blackboard for downloading, viewing, or printing. Students be able to check the status of their performance in this course. It is a student’s responsibility to check Blackboard for new announcements and course materials, and to report promptly any errors in grades. **Respondus Browser** is required for access to all exams.

Acquiring Respondus Monitor from TAMUSA

1. Students will need to bring to class on the day of an exam a laptop or iPad with Respondus installed and tested prior to the day of an exam. Respondus is provided by TAMUSA at HOME>INFORMATION TECHNOLOGY SERVICES>CUSTOMER SUPPORT>[RESOURCES](#). Scroll down page to the link [Install Respondus Lockdown Browser](#) and follow instructions.

Course schedule: The lecture topics, readings, and exam dates are listed on the following course calendar. Lecture topics and dates **may** change as necessary; **exam dates will not**.

Geology 1301 001 SPRING 2026 Course Schedule

| Module | Date | Topic | Chapter | Homework Due | ✓ |
|----------------------|--------|--|-----------------|----------------|---|
| 1 | 1/19 | MLK Day | 1+ | | |
| | | Introduction to Course & The Earth System | 1 | 1/24 [1A] | |
| | | The Scientific Method & Eratosthenes | 1 | 1/24 [1B] | |
| 2 | 1/26 | Plate Tectonics: Its Discovery and History | 2 | 1/31 [2] | |
| | | Plate Tectonics: How it works and how we know it works | 2 | | |
| ***** | 2/6 | In-Class Credit Project #1: Earth Circumference | + | | |
| 3 | 2/2 | Earth Materials: Matter, Minerals, and Rocks | 2/3 | 2/7 [3] | |
| ***** | 2/4/26 | CENSUS DATE | | | |
| | | Earth Materials: Matter, Minerals, and Rocks | 3 | | |
| 4 | 2/9 | Igneous Rocks – Where do they come from? | 4 | 2/14 [4A&4B] | |
| | | Igneous Rocks – Intrusions & Extrusions (5:119-129) | 4/5 | | |
| ***** | 2/27 | In-Class Credit Project #2: Sea Floor Spreading | + | | |
| | | EXAM REVIEW (ONLINE) | | | |
| **5** | 2/16 | EXAM I [(Weeks 1-4; Chapters 1-4/5(119-129)] | EXAM I | | |
| | 2/18 | Sedimentation – How Earth’s History Works? | 6 | 2/21 [5] | |
| | | Sediment to Sedimentary Rock – Earth’s History Book | 6 | | |
| 6 | 2/23 | Causes of Metamorphism | 7 | 2/28 [6] | |
| | | Types of Metamorphism | 7 | | |
| 7 | 3/2 | Clocks in Rocks and Earth Time | 9 | 3/7 [7] | |
| | | Relative Earth Time vs Absolute or Radiometric Time | 9 | | |
| ***** | 3/6 | In-Class Credit Project #3: Numeric Dating | + | | |
| 8 | | SPRING BREAK | | | |
| 9 | 3/16 | The Climate System – What it is and what it is not | 12 | 3/21 [8] | |
| | | Greenhouse: A necessary condition for life | 12 | | |
| | 3/25 | EXAM REVIEW (ONLINE) | | | |
| **10** | 3/23 | EXAM II (Chapters 6, 7, 9, 12) | EXAM II | | |
| | 3/25 | Civilization’s Role: We are part of the Geosystem! | 13 | 3/28 [9] | |
| | | The Impact/ Energy Resources and the Future | 13 | | |
| | | Where do humans go in 2300 | 13 | | |
| 11 | 3/30 | Global Change: Real or imagined? What does Earth say? | 14 | 4/4 [10] | |
| | | Types of Change | 14 | | |
| | | STUDY DAY – NO CLASSES | | | |
| 12 | 4/6 | Geobiology, paleobiology & paleobiogeography | 22 | 4/11 [11] | |
| | | Evolutionary Radiations and Mass Extinctions | 22 | | |
| | | History of Life | 22 | | |
| 13 | 4/13 | Early History of the Terrestrial Planets | 20+ | 4/18 [12A&12B] | |
| | | Direct/Indirect Evidence/Milankovitch Cycles/Methane | 20+ | | |
| ***** | 4/17 | In-Class Credit Project #4: AstroGeology | + | | |
| 13 | 4/20 | Weathering & Geomorphology | 16 | 4/25 [13] | |
| | | Weathering & Geomorphology | 16 | | |
| | | Weathering & Geomorphology | 16 | | |
| 14 | 4/27 | History of Continents: The world & Continental Growth | 21 | 5/2 [14] | |
| | | History of Continents: The world & Continental Growth | | | |
| | | History of Continents: The world & Continental Growth | | | |
| | | EXAM REVIEW ONLINE | | | |
| **15** | 5/4 | EXAM III (Chapters 13, 14, 22, 20, 16, 21) | EXAM III | | |
| | 5/5 | STUDY DAY – NO CLASS | | | |
| | 5/6 | FINAL EXAMS BEGIN 5/6 TO 5/12 | | | |
| ***** | | FINAL EXAM: TBA | FINAL | | |
| +=ADDITIONAL READING | | | | | |

Course mechanics and Course management

The mechanics and management of the course conform to Texas A&M University Student Rule 7.

This is A&M's governing rule for all students. Rule #7 states that *the university considers it the responsibility of the individual student to complete all assignments within the allotted time* (see paragraph #1 below). **Valid excuses** for being absent or being unable to complete assignments/exams (**those excuses recognized by the University**) are explained in **paragraph #2 – all valid excuses require documentation** and **only** excused exercises/exams can be made-up.

Undocumented absences are rarely excused. The list of “valid excuses” does not make reference to internet outages unless that outage affects TAMUSA’s campus operations. Nor does the list make reference to “running out of time”, “my computer died”, “I forgot”, “I was busy with other courses”, etc.

1. Attendance/Participation: The University views class “attendance” as class participation and an individual student responsibility. Students of a F2F class are expected to **do all of the following**:

- a. **visit class pages on Ultra at least once a day** to check messages from the professor related to class matters (there are always the possibilities of updates, new videos, changes due to current happenings in the geosciences like major earthquakes, volcanic eruptions, and weather phenomena),
- b. **visit the class pages on Ultra at least once a day to check for assignments or changes to assignments**, and
- c. **visit the class pages on Ultra at least once a day to make certain that homework, assignments, and exams are complete and submitted by the assigned deadline date and time.** Students can check, through gradebook, if an assignment is complete and submitted. This is the student’s responsibility.

Missing deadlines on the submittal of assignments and quizzes is solely the responsibility of a student and never an acceptable excuse for allowing a late submission. There is no mechanism for regaining lost points from a non-submittal.

- d. **CLASS MEETINGS:** Class meetings are interactive face-to-face meetings. Traditional and nontraditional lectures will convey the basic information necessary to understand the topic being addressed. Class time will also be used for discussing current and past issues, completing in-class exercises, and interpreting data so students can learn by doing. Student participation is crucial to success in the course! Attendance will be taken regularly beyond the Census Date.

2. Lectures and Readings - The goal of the readings is to prepare for the subject under discussion. Reading assignments in the textbook will parallel the lecture material. Students that remain current with the readings, will absorb more of the course content and have an easier time preparing for the exams. To do well in this course requires attending all lectures, taking good notes, completing the assignments on time, and **reading the assigned material**. It is always an advantage to read the material before class. **Exams will be based on the material presented in power-point lectures, on the assigned readings, and on videos.** **Not all material presented in lecture can be found in the textbook!**

- a. **Geology is not a static science** – As such, students should expect full discussions of current geologic events happening on or within Earth. This material, when relevant, will replace some or all scheduled lecture topics. Material covered in these discussions/lectures will not be available outside of lecture. These materials will also form the basis for some Exam questions, in-class projects, and/or homework where and when appropriate.

3. Films and videos: There will be a few good films and videos during the semester. Homework and exam questions will be taken from the videos.

4. Assigned homework exercises: There will be weekly homework exercises assigned over the semester. The course percentage is low because the homework is open book/notes. **The exercises are 20% of the course grade.**

5. In-Class Projects: These are of limited-content and individual projects to be completed only during class time (see the class schedule). The projects are designed to provide hands-on learning experiences solving scientific problems with the freedom of asking questions in a mentoring environment. All such projects require basic math. These projects are 15% of the course grade.

6. HOUR EXAMS: Three **HOUR EXAMS** (actual duration 50 minutes) ***will be given during class time*** utilizing Blackboard (see attached schedule) and Respondus Browser. While the exams will not be explicitly comprehensive, the material in this course builds upon previously studied concepts. Once a concept has been introduced in lecture, that concept is fair game for subsequent lectures and exams – this is a huge benefit as means of reviewing material over the semester. Exams account for a total of 45% (15% each) of your grade in the course.

A. Students will need to bring to class on the day of an exam a laptop or iPad capable of running the most recent student version of Respondus Browser. Respondus is provided by TAMUSA at [HOME>INFORMATION TECHNOLOGY SERVICES>CUSTOMER SUPPORT>RESOURCES](#). Scroll down page to the link [Install Respondus Lockdown Browser](#) and follow instructions.

7. THE FINAL EXAM is comprehensive (cumulative) for all material introduced during the semester to include assigned readings (whether covered in lecture or not), all topics covered in lecture, videos, movies, and in-class projects. The Final Exam is worth 20% of the course grade.

8. Questions about grades: Questions or concerns about a grade on an exam or assignment should be brought to my attention within one week after the day grades are posted. Normally after one week, the grade will stand as recorded; there will always be legitimate exceptions.

9. Excused & Unexcused Absences: If you miss an exam because of illness, you should contact me as soon as possible by Blackboard email or at Rex.Crick@tamusa.edu. If need-be, have a friend, spouse, partner, or parent contact me; communication is essential. **Never assume that an undocumented absence will be excused.** Consult the details of Rule #7 before considering an absence that does not meet the definition of an Excused Absence.

a. Please be aware that Rule 7.4.2 states that instructors are under no obligation to provide an opportunity for students to make up work missed because of unexcused absences.

10. Valid Excuses for Being Absent (requires some form of documentation) – See full list in Rule #7 Appendix:

- Significant illness of the student, household member, or immediate family member, including hospitalization.
- Death of immediate family member or household member.
- Religious Holidays.
- Interviews for full-time job opportunities after graduation and for graduate or professional school.

11. As outlined in A&M Student Rule #7, the university views class attendance as an individual student responsibility. Students are expected to attend class and to complete all assignments.

12. There is no opportunity for extra credit.

13. Final Course Grade computation:

- Hour Exams = 30%
- Homework = 30%
- In-class projects = 20%
- Final Exam = 20%

14. Academic Misconduct

- Texas A&M University is committed to the maintenance of the highest standards of integrity and ethical conduct of its students. The level of ethical behavior and integrity will be monitored in the course.
- Students are expected to do their own course work. Simple cases of first offense cheating or plagiarism by an individual student may be handled by the instructor after consultation with the department chair.

Faculty will confront the student with the evidence in private and advise of the penalty to be assessed. The evidence will be retained for at least one full year.

- c. Academic misconduct is a violation of the Student Code of Conduct; therefore, the instructor is required to report any form of academic misconduct to their Department Chair, their Dean and the Office of Student Rights and Responsibilities. For more serious cases, such as those involving repeated offenses, conspiracy with other students or the theft and selling of examination questions, students may be subject to grade sanctions in courses but also to disciplinary action.
- d. Penalties for academic dishonesty may range from a grade reduction on the particular assignment or in the course to suspension or expulsion from the University.
- e. **Penalties of suspension or expulsion from the University become a permanent entry in a student's transcript.**
- f. Please review the Student Handbook for a complete description of the process. The Student Handbook is available through the Student Rights and Responsibilities webpage: <https://www.tamusa.edu/student-rights-and-responsibilities/index.html>.

15. Grade computation and grading procedure:

| Percentage | Letter Grade |
|------------|--------------|
| 90 – 100 | A |
| 80 – 89 | B |
| 70 – 79 | C |
| 60 – 69 | D |
| Below 60 | F |

16. Your success in this course is my most important semester goal! There are always problems, but I cannot help if we do not communicate.

17. The syllabus and Rule 7 quiz is a required assignment with the same points as a homework assignment and due by Sunday 2/2/25 @ 11:59 PM. This is open book and does not require Respondus.

18. A&M Rule #7 (also available within Syllabus Module)

A&M Rule #7. Attendance & Student Responsibilities

(Revised: Fall 2025)

Introduction

Class attendance and participation is an individual student responsibility. Students taking traditional face-to-face courses are expected to attend class and to complete all assignments by stated due dates. Students enrolled in distance education courses are expected to regularly engage with instructional materials and complete all assignments by stated due dates. Instructors are expected to provide notice of the dates on which major exams will be given and assignments will be due on the course syllabus, which must be made available by the first-class period. Graduate and professional students are also expected to attend all examinations required by departments or advisory committees as formally scheduled such as, but not limited to, qualifying exams, preliminary exams and final defenses.

Violation of this attendance policy is subject to disciplinary action through the Aggie Honor System Office and the Student Code of Conduct (See Rule 24).

7.1 Notification of Absences

7.1.1 Unless otherwise stated in this rule, to be considered for an excused absence the student must notify the instructor in writing (e-mail is acceptable) prior to the day of absence. In cases where advanced notification is not possible, the student must provide notification by the end of the second business day after the last date of the absence. **This notification must include an explanation of why notice could not be sent. Such notification does not automatically qualify as an excused absence, and as such does not automatically provide a pathway for making up missed work.**

7.2 Absences

7.2.1 Excused Absences Defined by State and Federal Regulations

7.2.1.1 In accordance with Texas Education Code Section 51.9111 **Religious Holy Days**, Texas A&M University shall excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence. An instructor may appropriately respond if the student fails to satisfactorily complete the assignment or examination within a reasonable time after the absence. Questions about religious holy days should be directed to the Undergraduate Ombuds or the Graduate & Professional Ombuds.

7.2.1.2 In accordance with Texas Education Code Section 51.9111 **Excused Absence for Active Military Service**, Texas A&M University shall excuse a student from attending classes or engaging in other required activities, including examinations, in order for the student to participate in active military service to which the student is called, including travel associated with the service. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to complete an assignment or take an examination from which the student is excused within a reasonable time after the absence. An instructor may appropriately respond if the student fails to satisfactorily complete the assignment or examination within a reasonable time after the absence.

7.2.1.3 In accordance with Title IX of the Education Amendments of 1972, Texas A&M University shall treat **pregnancy** (childbirth, false pregnancy, termination of pregnancy and recovery there from) and related conditions as a justification for an excused absence for so long a period of time as is deemed medically necessary by the student's medical provider. Requests for excused absence related to pregnancy should be directed to the instructor. Questions about Title IX should be directed to the University Title IX Coordinator.

7.2.1.3.1 Excused Absences for a student that is a non-birthing parent, adoptive parent, or guardian of a child–

- Absences related to the birth of a child, adoption of a child or foster care placement of a child under three years of age will be excused, as directed below.
- Excused absences for a birthing parent are governed by Student Rule 7.2.1.3.
- Excused absences for a non-birthing parent or guardian of a child may be taken on the day of birth/placement and the days immediately following the birth or placement of a child.
- Excused absences for a non-birthing parent or guardian shall not exceed 14 consecutive calendar days, starting the day of the birth/placement.
- Students whose absence is excused under this subsection may not be penalized for the absence and shall be automatically approved by the Title IX Office to complete a missed assignment or examination in accordance with Student Rule 7.4.1.
- Requests for excused absences must be submitted as soon as the need becomes apparent. The Title IX Office will approve or deny requests in accordance with this rule.
- Requests and related questions should be directed to Civil Rights and Title IX at 979.458.8407 or TIX.Pregnancy@tamu.edu

7.2.1.4 In accordance with the Americans with Disabilities Act, Texas A&M University shall provide **equal access for students with disabilities**. Some students with disabilities may qualify for an attendance policy modification and should provide the instructor with proper notification from Disability Resources concerning this accommodation prior to a disability-related absence. Questions about disability related absence should be directed to Disability Resources.

7.2.2 Excused Absences Defined by Texas A&M University

7.2.2.1 **Personal injury or illness** that is too severe or contagious for the student to attend class.

7.2.2.1.1 **An absence for a non-acute medical service does not constitute an excused absence.**

7.2.2.2 **Death or major illness in a student's immediate family.** Immediate family may include: parents,

siblings, grandparents, spouse, child, spouse's child, spouse's parents, spouse's grandparents, step-parents, step-siblings, step-grandparents, grandchild, step-grandchild, legal guardian, and others as deemed appropriate by faculty member or student's academic dean or designee.

7.2.2.3 **Illness of a dependent family member.**

7.2.2.3.1 An absence for a non-acute medical service does not constitute an excused absence.

7.2.2.4 **Participation in legal or governmental proceedings** that require a student's presence and that cannot be rescheduled.

7.2.2.5 **Graduate or professional school interviews** which are mandatory, and fixed date by university/school policy, which cannot be rescheduled.

8 **Mandatory** interviews for permanent, full-time employment or full-time internships (including those that are part of a cooperative education program) that have a duration of at least 10 weeks, provided that such interviews are related to the student's academic program and provided that the interviews are fixed date by employer policy and cannot be rescheduled. A student may not request excused absences for employment or internship interviews for more than one scheduled class meeting in one academic term.

8.1.1.1 **Presentation of research or scholarship at a professional** conference related to the student's academic program, provided that the student is a presenter.

8.1.1.2 **Participation in an activity appearing on the university authorized activity list.** (see List of Authorized and Sponsored Activities)

8.1.1.3 **Mandatory participation as a student athlete in NCAA-sanctioned competition.**

8.1.1.4 **Required pre-donation and donation activities** for a student selected as a donor of a transplant such as bone marrow, stem cells (Peripheral Blood Stem Cell Donation), and organs, provided that it cannot be rescheduled.

8.1.1.4.1 **An absence for single visit donations such as blood donation, plasma donation, and platelet donation does not constitute an excused absence.**

8.1.1.5 For compelling reasons not included in Section 7.2, the dean or dean's designee of the student's college with the support of the dean or dean's designee of the college offering the course may provide a statement (email is acceptable) that the deans or designee have verified the absence as excused.

8.2 Absence Documentation and Verification

8.2.1 Absence Verification

8.2.1.1 **The student is responsible for providing verifiable documentation substantiating the reason for the absence, including reasons stated in Section 7.2. This documentation must be provided within three business days of the last date of the absence, unless otherwise stated in this rule.**

8.2.1.2 An instructor may confirm a student's absence documentation and excuse a student from attending class for the reasons stated in Section 7.2 or other reasons deemed appropriate by the student's instructor.

8.2.1.3 An instructor may choose to defer confirmation of a student's absence documentation, including cases when documentation is not available. Upon deferral, the dean or dean's designee of the student's college with the support of the dean or dean's designee of the college offering the course may provide a statement (email is acceptable) that the deans or designee have verified the absence as excused.

8.2.1.4 The university authorized activity list, on-line interfaith calendars, athletic competition schedules, and other published resources may be used to confirm student absences.

8.2.1.5 Students who give false information or choose to selectively attend classes or activities on the date(s) of excuse may be found in violation of Student Rule 24.4.1. and the Aggie Honor Code.

8.2.2 Absence documentation may include, but is not limited to, the following:

8.2.2.1 A medical confirmation note from the student's medical provider. The medical provider can

provide a medical confirmation note only if medical professionals are involved in the medical care of the student. The medical confirmation note must contain the date and time of the medical assessment and the date at which the student may return to classes. Students cannot be required to provide detailed medical information.

8.2.2.2 A medical confirmation note from the medical provider involved in the care of the student's immediate family member or dependent. The medical provider can provide a medical confirmation note only if medical professionals are involved in the medical care of the immediate family member or dependent. Students cannot be required to provide detailed medical information.

8.2.2.3 Death notice, obituary, or death certificate for a student's immediate family member.

8.2.2.4 Documentation regarding the scheduling of legal or governmental proceedings that require a student's presence and that cannot be rescheduled.

8.2.2.5 Documentation regarding the scheduling of mandatory admission interviews for professional or graduate schools as described in Section 7.2.2.5. Documentation must be provided 5 business days in advance.

8.2.2.6 Documentation regarding the scheduling of mandatory interviews as described in 7.2.2.7 must be provided 5 business days in advance.

8.2.2.7 Documentation regarding the scheduling of presentations of research or scholarship as described. Documentation for professional conference presentations must include confirmation of the student's role as a presenter. Documentation must be provided 5 business days in advance.

8.3 Make up Work

8.3.1 **If a student's absence is excused**, the instructor must either provide the student an opportunity to make up any quiz, exam or other work that contributes to the final grade or provide a satisfactory alternative by a date agreed upon by the student and instructor. If an instructor has a regularly scheduled make up exam, students are expected to attend unless they have an excused absence. **Students are encouraged to work with instructors to complete make-up work in advance of known scheduled absences (interviews, administrative proceedings, etc.).** Make-up work must be completed in a timeframe not to exceed 30 calendar days from the last day of the initial absence. Absences related to Title IX of the Education Amendments of 1972 (see Section 7.2.1.3) may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor.

8.3.2 **The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence.**

8.3.3 See Part III, Grievance Procedures: 49. Unexcused Absences, for information on appealing an instructor's decision regarding an excused absence.

8.4 Extended Absences

8.4.1 If the student is absent for excused reasons for an unreasonable amount of time during the semester, the academic Dean or designee of the student's college may consider giving the student a grade of W during the semester enrolled or a NG (no grade) following posting of final grades.

8.4.2 Whenever a student is absent for unknown reasons for an extended period of time, the instructor may initiate a check on the welfare of the student by reporting through the head of the student's major department to the Dean or designee of the student's college.