GEOLOGY 1301 002 **Fall 2025**

EARTH SCIENCES I **SYLLABUS**

LECTURE: F2F Room CH 102 **DR. Rex E Crick**

Instructor: Dr. Rex E Crick
Office: STEM 375
Lectures: MWF from 9 – 9:50 am @STEC BUILDING **RM CH 102**
Office Hours: MW from 10 am – 11 am (or by appointment) **STEC RM 375**
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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. ISBN-10:1464138745 ISBN-13:978- 1464138744
2. ***Understanding Earth*** by Grotzinger and Jordan, 8th edition, **E-BOOK**. ISBN-9781319324643

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 your grades. **Respondus Browser** is required for all exams.

Acquiring Respondus Monitor from TAMIU

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**. Please complete the reading assignments prior to each lecture.

Texas A&M University Student Rule 7: the university views class attendance as an individual student responsibility. Students are expected to attend class and to complete all assignments. There are no give backs or do overs. The full text of A&M Rule #7 is provided.

Geology 1301 002 Course Schedule

Module	Date	Topic	Chapter	Homework Due
1	8/25/25	Introduction to Course & The Earth System	1+	
		The Scientific Method & Earth Details	1	
		Interacting Components & Geologic Time	1	8/31 [1A]
******	8/29/25	In-Class Credit Project #1: Earth Circumference	+	8/30 [1B]
2	9/01/25	LABOR DAY – NO CLASSES	2	
		Plate Tectonics: Its Discovery and History	2	
		Plate Tectonics: How it works and how we know it works	2	9/07 [2]
3	9/08/25	Plate Tectonics/Earth Materials	2/3	
******	9/10/25	CENSUS DATE		
		Earth Materials: Matter, Minerals, and Rocks	3	9/14 [3]
4	9/15/25	Igneous Rocks – Where do they come from?	4	
		Igneous Rocks – Intrusions & Extrusions (5:119-129)	4/5	
******	9/19/25	In-Class Credit Project #2: Sea Floor Spreading	+	
		EXAM REVIEW (ONLINE)		9/21 [4A&4B]
***5**	9/22/25	EXAM I [(Weeks 1-4; Chapters 1-4/5(119-129)]	EXAM I	
	9/22/25	Sedimentation – How Earth's History Works?	6	
		Sediment to Sedimentary Rock – Earth's History Book	6	9/28 [5]
6	9/29/25	Causes of Metamorphism	7	
		Types of Metamorphism	7	
		Plate Tectonics and Metamorphism	7	10/05 [6]
7	10/06/25	Clocks in Rocks and Earth Time	9	
		Relative Earth Time	9	
		Absolute or Radiometric Time	9	10/12 [7]
8	10/13/25	The Climate System – What it is and what it is not	12	
		Greenhouse: A necessary condition for life	12	
******	10/17/25	In-Class Credit Project #3: Numeric Dating	+	
		Earth's natural state: Climate Variation EXAM REVIEW (ONLINE)	12	10/19 [8]
9	10/20/25	EXAM II (Chapters 6, 7, 9, 12)	EXAM II	
		Civilization's Role: We are part of the Geosystem!	13	
		The Impact/ Energy Resources and the Future	13	10/26 [9]
10	10/27/25	Global Change: Real or imagined? What does Earth say?	14	
		Types of Change	14	
		Do we have a role – Who is in charge?	14	11/02 [10]
11	11/3/255	Geobiology, paleobiology & paleobiogeography	22	
		Evolutionary Radiations and Mass Extinctions	22	
		History of Life	22	11/09 [11]
12	11/10	Early History of the Terrestrial Planets	20+	
		Direct / Indirect Evidence/Milankovitch Cycles/Methane's Role	20+	11/16 [12A&12B]
******	11/14/25	In-Class Credit Project #4: AstroGeology	+	
13	11/17/25	Weathering & Geomorphology	16	
		Weathering & Geomorphology	16	
		Weathering & Geomorphology	16	11/23 [13]
14	11/24/25	History of the Continents: The world & Continental Growth	21	11/30 [14]
	11/26/25	READING DAY – NO CLASSES EXAM REVIEW ONLINE		
	11/27/25	THANKSGIVING BREAK–		
15	12/01/25	EXAM III (Chapters 13, 14, 22, 20, 16, 21)	EXAM III	
	12/03/25	LAST DAY OF CLASS		
	12/05/25	STUDY DAY – Review Published for Final Exam		
*******	12/12/25	FINAL EXAM: 12 to 1:50 pm	FINAL	

Note: "+" indicates additional assigned readings available in associated Module

CLASS MEETINGS: Class meetings will be **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.

1. **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 and on the assigned readings and 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.

2. **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.

3. **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.

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

5. **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.

6. **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.

7. **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.

8. **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.

9. Valid Excuses for Being Absent (requires some form of documentation) – See full list in Rule #7 Appendix:
   a. Significant illness of the student, household member, or immediate family member, including hospitalization.
   b. Death of immediate family member or household member.
   c. Religious Holidays.
   d. Interviews for full-time job opportunities after graduation and for graduate or professional school.

10. 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.

11. There is no opportunity for extra credit.

12. Final Course Grade computation:

a.	Hour Exams =	45%
b.	Homework =	20%
c.	In-class projects =	15%
d.	Final Exam =	20%

13. Academic Misconduct
   a. 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.
   b. 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.

14. Grade computation and grading procedure:

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

15. Your success in this course is my most important semester goal! The following is what I need from you so I can help you succeed in the course:

- **Communication:** If I do not know of problems, then I cannot offer a fix
- **Stay current** with all assignments – there is no mechanism for make-ups (see #9 & #10 above)
- **Attend** all class & lab meetings
- **Engage** with me and the material
- **Review your class notes** each evening; ***what's not clear to you?*** Write it down – ask for clarification in lecture or lab or office hours or anywhere you find me.
- **Review** earlier class notes, *do you have any questions for me?*
- **Study** for and take all regular semester exams and the final exam
- **Seek help**

PLEASE, COMPLETE, SIGN, AND RETURN THIS PAGE

I, _____ (printed name known to TAMUSA registrar) have received a copy of the Fall 2025 Geology 1301-002 syllabus and a copy of Texas A&M Rule #7. The contents of both the syllabus and Rule #7 have been explained and discussed. I agree to abide by both the syllabus and Rule #7.

Signature:_____ Date: August 25, 2025