Geology 1301-003 **Fall 2026**

Earth Sciences I

Lecture: face-2-face **Dr. Pride Abongwa**

Last updated August 15, 2026

Changes will be announced in class, via email, and as a news item on Blackboard.

Instructor: Dr. Pride Abongwa

Office: 349C Science and Technology

Lectures: TR from 08:00 am – 09:15 am @STEM BUILDING **RM 242**

Office Hours: TR from 09:30 am – 10:30 a m (or by appointment)

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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 questions examined in this course are: How did planet earth form and how does it work? What is it made up of, and how does it change through time? Plate tectonics, earth materials, landforms, structures, climate, and the formation of natural resources will be studied. Emphasis will be on the observations and hypotheses used to interpret earth system processes. The process of scientific discovery will be introduced through local field trips, sample and data collection, and their interpretation. This course meets the standards for the 'Life and Physical Sciences' category of courses under the core curriculum.

Learning Outcomes: After completing the Earth Sciences 1 course, you will be able to:

- understand the fundamental concepts of Earth's many systems.
- find and assess scientifically credible information about Earth.
- communicate about Earth science in a meaningful way.
- make informed and responsible decisions regarding Earth and its resources.

- Demonstrate critical thinking skills by relating common observations of local geological formations to unifying theories of geology such as plate tectonics.
- Demonstrate team work skills by completing group projects on the analysis of field data.

Required Textbooks and Online Class Resource

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 pertaining to the course. Course documents, lecture material, videos, and links will be available on blackboard for downloading, viewing, or printing. You will also be able to check the status of your performance in this course. It is your responsibility to check Blackboard for new announcements and course materials, and to report promptly any errors in your grades.

Additional required materials: Please bring the following to class: Writing instrument of your choice (pen, pencil, etc.), calculator, and notebook or scratch paper.

Course Structure and Policies:

1. Course schedule: The lecture topics, readings, and exam dates are shown on the course calendar. The professor reserves the right to shift lecture topics as required. However, exam dates will not be changed. You are expected to have completed the reading assignments prior to each lecture.

Week	Date	Topic	Outcomes	Readings (do before class)
1 &2		Syllabus/Earth systems: Geosphere		1
	Sept 5th	**Test on Knowledge in Geology**	Testing knowledge of the course (not graded)	

2		Earth systems: Atmosphere and Hydrosphere	Emphasis on the hydrosphere and the importance of water to life	1
		Earth Systems: Biosphere **(Group exercise on anthropogenic pollution of groundwater)**	Interaction between humans and water and its effect on water quality	1
2 & 3		Plate Tectonics: Continental Drift		2
4&5		Plate Tectonics: Plate Boundaries		2
		Group Exercise on the observed morphological differences between Eastern and Western US Coast lines)	Students will appreciate the difference between active and passive margins	
6&7		Minerals and Rocks		3
		Rocks and The Rock Cycle		3
		Igneous Rocks		4
8&9		Igneous Rocks: Solids from Melts		
	Oct 14th	**Exam 1**		
				4
9&10		Sedimentary Rocks: Surface Processes **(Group exercise on karst aquifer and its vulnerability to pollution)**	Water pollution in rocks: Karst systems and its vulnerability	5
10&11 &12		Metamorphic Rocks: Temperature and Pressure in Rocks Alteration		6
		Deformation: Folding		7
		Deformation: Faulting		7
	Nov 11th	**Exam 2**		
		Clocks in Rocks: Timing the geologic Record		8
13		Early History of the Terrestrial Planets		9
	Nov 19th	**Test on knowledge in Geology**	Evaluate what students have learned in the course	

	Nov 20st	**Term Project (Class) Presentation**	**Water Quality and urbanization – Pollution sources**	
14		Early History of the Terrestrial Planets		9
15 & 16		History of the Continents		10
		Geobiology: Life interacts with Earth		11
		Final Exam Review		
		Final Exam (Cumulative)		

2. Class Meetings: Our class meetings will be **interactive**. Lectures will be used to transmit the basic information necessary to understand the topic being addressed, considerable time will be spent discussing issues, doing exercises, and interpreting data so you can learn by doing. Your participation is crucial to your success in the course!

3. Lectures and Readings - The goal of the readings is to prepare for the subject under discussion. The reading assignments in the textbook will parallel the lecture material. If you keep current with the readings, then you will get more out of the course and you'll also have an easier time preparing for the exams. In order to do well in this course, you will be expected to listen to all lectures, take good notes, do the exercises and *read the assigned material*. It is to your advantage to read the material before class. **The exams will be based on the material presented in power-point lectures and on the assigned readings**.

4. Films and videos: There could be a few good films and videos during the semester.

5. Weekly quizzes and exercises: Throughout the semester, we will be having weekly quizzes and exercises. The quizzes and exercises will account for **30%** of the course grade.

6. Project Presentations: There will be a project presentation which shall be presented in class. The Term Project constitutes **10%** of the course grade.

7. Exams: Two EXAMS will be given during the semester (see attached schedule). The exams will account for a total of **40% (20% each) of your grade** in the course. While the exams will not be explicitly comprehensive, the material in this course builds upon previous concepts. Therefore, once a concept has been introduced, it will be assumed that you remember it and understand it in subsequent lectures and in subsequent examinations. If you have any questions or concerns about a grade you receive on an exam, you must bring them to my attention within one week of the day that the grades are posted. After this week has passed, the exam grade will stand as recorded and will not be changed. All exams will be held during class-time (See schedule).

8. The **FINAL EXAM** will cover the last segment of the course plus additional questions from previous material; i.e., **the Final Exam is *cumulative*** and will be **worth 20%** of your grade in the course.

9. Excused Absences: If you miss an exam because of **illness**, you must contact me as soon as possible by email (pabongwa@tamusa.edu). If need-be, have a friend or parent contact me; **communication is essential**. If you do miss a class meeting, lecture material will be available online at Blackboard. Social events, fundraisers, etc. are not valid reasons for missing exams.

11. Grade computation and grading procedure:

-Weekly Quizzes and Exercises:
Multiple choice questions, short and long answer type questions, and scientific problem solving **(30%)**
-Two term exams:
Multiple choice questions, short and long answer type questions, and scientific problem solving **(40%; 20% each)**
- Term Project:
Presentation voice-over power-point **(10%)**
-Comprehensive final exam

Multiple choice questions, short and long answer type questions, and scientific problem solving **(20%)**

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

12. Academic Integrity Policy: Texas A&M University - San Antonio is committed to the maintenance of the highest standards of integrity and ethical conduct of its members. This level of ethical behavior and integrity will be maintained in this course. See university policy on academic integrity http://www.tamusa.edu/studentengagementsuccess.edu

WHAT YOU CAN EXPECT

A. You will get a broad introduction to the Earth science, the scientific principles upon which it is based, and the importance of geology in our daily lives.

B. Class meetings will be interactive, with numerous in-class activities and exercises. Grades will be based on both individual and group assignments, and your participation in these exercises.

Credit: Syllabus adapted from R. Mark Leckie's Oceanography course and the Earth Science Literacy Principles

IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Persons with Disabilities: The Americans with Disabilities Act Amendments Act (ADAAA) of 2008 and the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights protection for persons with disabilities. Title II of the ADAAA and Section 504 of the Rehabilitation Act require that students with disabilities be guaranteed equal access to the learning environment through the provision of reasonable and appropriate accommodation of their disability. If you have a diagnosed disability that may require an accommodation, please contact Disability Support

Services (DSS) for the coordination of services. The phone number for DSS is (210) 784-1335 and email is dss@tamusa.edu.

Academic Learning Center: All currently enrolled students at Texas A&M University-San Antonio can utilize the Academic Learning Center for subject-area tutoring. The Academic Learning Center is an appointment based center where appointments are made through the Navigate platform. Students access Navigate through Jagwire in the Student Services tab. The Center is active on campus outreaching to students to highlight services offered. You can contact the Academic Learning Center by emailing tutoring@tamusa.edu or calling (210)-784-1332. Appointments can also be made through JagWire under the services tab.

Counseling Resources: As a college student, there may be times when personal stressors interfere with your academic performance and/or negatively impact your daily functioning. If you or someone you know is experiencing life stressors, emotional difficulties, or mental health concerns at Texas A&M University – San Antonio, please contact the Student Counseling Center (SCC) located in Modular C, Room 166 (Rear entrance) or call 210-784-1331 between the hours of 8:00AM and 5:00PM. All mental health services provided by the SCC are free, confidential (as the law allows), and are not part of a student's academic or university record. SCC provides brief individual, couples, and group therapy, crisis intervention, consultation, case management, and prevention services. For more information, please visit www.tamusa.edu/studentcounseling In a crisis situation, please walk-in to the Student Counseling Center (SCC) any time between the hours of 8:00AM and 5:00PM to be seen by a licensed clinician. After hours, please contact UPD at 911 or text "HOME" to 741-741 24/7/365 to connect with a trained crisis counselor. The National Suicide Prevention hotline also offers a 24/7/365 hotline at 1-800-273-8255.

Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio's mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email and/or phone call with instructions and updates. To register or update your information visit: https://tamusa.bbcportal.com/.

More information about Emergency Preparedness and the Emergency Response Guide can be found here: https://www.tamusa.edu/upd/index.html.

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended the first week of class. Any student receiving federal financial aid who does not attend the first week of class will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Jaguar Writing Center: The Jaguar Writing Center provides writing support to graduate and undergraduate students in all three colleges. Writing tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. The Writing Center is currently holding all appointments digitally. Students can schedule appointments with the Writing Center in JagWire under the student services tab. Students wanting to work in realtime with a tutor can schedule an "Online Appointment." Students wishing to receive asynchronous, written feedback from a tutor can schedule an "eTutoring"

appointment. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at www.tamusa.edu/Writing-Center. The Writing Center can also be reached by emailing writingcenter@tamusa.edu.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Dean of Students (DOS@tamusa.edu) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to provide any resources they may possess.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to communicate, in advance if possible, and special circumstances (e.g., upcoming deployment, drill requirements, disability accommodations). You are also encouraged to visit the Patriots' Casa in-person room 202, or to contact the Office of Military Affairs with any questions at military@tamusa.edu or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student's GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as "F" grades and will impact the student's GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equality of opportunity and human dignity. To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality, diversity, pluralism and the uniqueness of the individual within our state, nation, and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, or gender expression. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units.

Texas A&M University-San Antonio faculty are committed to helping create a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking, know that help and support are available. A&M-San Antonio has staff members trained to support survivors in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the university. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and other healthcare providers are required to report information about such discrimination and harassment to the university. This means that if you

tell a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the university's Title IX Coordinator. If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact the Student Counseling Center at (210) 784-1331, Modular C.

Students' Rights and Responsibilities:

The purpose of the following statement is to enumerate the essential provisions for the student freedom and responsibility to learn at Texas A&M University-San Antonio. All students are required to follow all policies and regulations as set forth by The Texas A&M University System. This includes the A HYPERLINK "https://www.tamusa.edu/uploadfile/folders/fcestrad/pdf/pdf-635767864704349879-10.100.150.124.pdf"& HYPERLINK "https://www.tamusa.edu/uploadfile/folders/fcestrad/pdf/pdf-635767864704349879-10.100.150.124.pdf"M-San Antonio Student Code of Conduct.

Students' Rights

- A student shall have the right to participate in a free exchange of ideas, and there shall be no university rule or procedure that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
- Each student shall have the right to participate in all areas and activities of the university, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, genetic information or veteran status in accordance with applicable federal and state laws.
- A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.
- Each student subject to disciplinary action arising from violations of university student rules shall be assured a fundamentally fair process.

Students' Responsibilities

- A student has the responsibility to respect the rights and property of others, including other students, the faculty and the administration.
- A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, Student Code of Conduct, on our website, University Catalog and students must comply with them and the laws of the land.
- A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire university community.
- A student has the responsibility to recognize the University's obligation to provide an environment for learning.
- A student has the responsibility to check their university email for any updates or official university notification.
- We expect that students 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.