

Principles of Earth Science Syllabus for Lecture and Laboratories

GEOL	1212-001	22512
GEOL	1112-004	22510
GEOL	1112-005	22511

INSTRUCTOR

Dr. Benjamin Brunner

Associate Professor, Geological Sciences

Office hours: Monday & Wednesday 8:30 am – 10 am; preferred by appointment via email

Office: 404A Geology Building

E-mail: bbrunner@utep.edu

TEACHING ASSISTANT

Chris Munoz, cjmunoz3@miners.utep.edu; meetings please by appointment via email

MEETING PATTERN & LOCATION, important dates

Lectures

- GEOL 1212 CRN 22512: In person, Monday, 1:30 pm - 3:20 am, Jan 17, 2023 - May 04, 2023, Geology Building 123, Limited ADA Access, First meeting: Monday, January 23, 2023

Laboratories

- GEOL 1112 CRN 22511: In person, Monday, 3:30 pm - 5:20 am, Jan 23, 2023 - May 04, 2023, Geology Building 404, Limited ADA Access, First meeting: Monday, January 23, 2023
- GEOL 1112 CRN 22510: In person, Wednesday, 1:30 pm - 3:20 am, Jan 25, 2023 - May 04, 2023, Geology Building 404, Limited ADA Access, First meeting: Wednesday, January 25, 2023

Note: Monday, January 16 is Dr. Martin Luther King, Jr. Holiday – University Closed

March 13-17: Spring break – No classes

Note: Thursday, Friday March 23/24: DEERS Colloquium

Thursday March 30: Spring Drop/Withdrawal deadline

Note: Friday March 31: Cesar Chavez day – No classes

Friday May 5: Dead Day – End of classes

May 8-12: Final exam week

NOTE: YOU WILL BE AUTOMATICALLY DROPPED FROM THIS COURSE IF:

- You accumulate (combined) more than three
 - Failures to submit an assignment
 - Unexcused absences or late arrivals to class
- You accumulate more than five absences or late arrivals to class (no matter if excused/unexcused). Dr. Brunner will grant hardship exemptions, but only in well justified cases.
- You demonstrate repeated absence of commitment to actively participate in the course. Examples of such behavior include any activities that have nothing to do with class (e.g., texting, emailing, use of social media during class time) and refusal to engage in group activities.

COURSE SYNOPSIS

Study of the earth as a planet: Includes an introduction to historical geology, astronomy, physiography, and oceanography.

COURSE OBJECTIVES

Gain an understanding of:

- Earth processes: atmosphere, hydrosphere, biosphere, geosphere – interactions and feedback loops between those entities
- Dimension and magnitudes in which those processes happen: size matters
- Application of above to a qualitative but solid understanding of challenges that humanity faces (climate crisis, geohazards, meteorite impacts, scarceness of resources, etc.)

The course design follows the philosophy:

- We aim to learn, not memorize.
- Learning is way easier if we want to know – i.e., are curious about something.
- Class and lab time are valuable: we want use this time to interact, discuss and learn from each other.

MODIFICATIONS THE COURSE IN RESPONSE TO COVID-19 POST-PANDEMIC PHASE

Unfortunately, the pandemic is not entirely over at this point. There are still outbreaks of COVID-19, and it also appears that our immune systems do not do well with other diseases in the aftermath of social distancing. Please bring it to my attention if you have any health concerns and I will do my utmost to come up with a solution. It is up to the individual students to communicate with the instructor and the colleagues in class if they encounter challenges.

REQUIRED TEXTBOOKS AND OTHER MATERIALS

- PLANET EARTH – The Essential Guide To Planet Earth (Benjamin J. Burger) - **FREE**

Online: https://en.wikibooks.org/wiki/Planet_Earth

- AN INTRODUCTION TO GEOLOGY (Chris Johnson, Matthew D. Affolter, Paul Inkenbrandt, Cam Mosher) - **FREE**

Online: <https://slcc.pressbooks.pub/introgeology/>

Download: file:///Users/benjaminbrunner/Downloads/An-Introduction-to-Geology-1649702642_print.pdf

Do you want to read more? Are you bored out of your mind with the required material? Different books that cater to your needs can be borrowed from Dr. Brunner – all you have to do is ask.

Disabilities: I will make any reasonable accommodations for students with limitations due to disabilities, including learning disabilities. Please see me personally before or after class in the first two weeks or make an appointment, to discuss any special needs you might have. If you have a documented disability and require specific accommodations, you will need to contact the Center for Accommodations and Support Services (CASS) in the East Union Bldg., Room 106 within the first two weeks of classes.

CASS can also be reached in the following ways:

Web: sa.utep.edu/cass

Phone: (915) 747-5148 voice or TTY

Fax: (915) 747-8712

E-Mail: cass@utep.edu

Cheating/Plagiarism: Cheating is unethical and not acceptable. Plagiarism is using information or original wording in a paper without giving credit to the source of that information or wording: it is also not acceptable. Do not submit work under your name that you did not do yourself. You may not submit work for this class that you did for another class. If you are found to be cheating or plagiarizing, you will be subject to disciplinary action, per UTEP catalog policy. Refer to <http://www.utep.edu/dos/acadintg.htm> for further information.

PARTICIPATION IS ESSENTIAL (SEE GRADES and DROP RULE)

Please contact Dr. Brunner about any concerns, schedule conflicts, etc. in advance or otherwise as soon as possible! A significant portion of your grade is based on participation, so any missed classes and assignments must have proper documentation or your grade will drop – and excessive absences etc. can result in you being dropped from class (PLEASE SEE BOX ON FIRST PAGE). Valid excuses include illness, absence with the instructor's prior approval, official University business, etc.

Accommodations are possible for active-duty military and others, but arrangements must be made in a timely manner. If you are in the military with the potential of being called to military service and /or training during the course of the semester, you are encouraged to contact the instructor as soon as possible.

How to get excused from missing/being late to class: Send email to bbrunner@utep.edu in advance where possible or as soon as safely possible (don't text & drive).

- Subject line MUST include GEOL 1212 (class) or GEOL 1112 (lab) and your name
- Text MUST include
 - Reason for absence/being late
 - Request to be excused for this absence/being late
 - Acknowledgement that you are responsible to catch up with missed material in timely fashion and that you will acquire this material from colleagues in course

Example:

Subject line: GEOL 1212 – James Bond

Text:

Dear Dr. Brunner,

I missed class on Monday February 31st, 3131.

As a secret agent in Her Majesty's service, I had to defuse a nuclear bomb on that day in an undisclosed location. Could you please excuse me from missing class?

I fully aware that it is my responsibility will catch up with the missed course material and will acquire it from my colleagues.

Sincerely yours,

J.B.

IMPORTANT NOTES

- 1) This is a front-loaded class: most reading assignments precede the corresponding class. This will allow us to address the tricky issues of the topic in class. Reading the assignments before the lecture is the absolute key to the success of this form of teaching and learning.
- 2) Learning in teams is highly encouraged. It is much more effective than learning alone. There is a difference between learning in teams and copying assignments or parts of assignments from each other. One is highly encouraged, the other is not acceptable. If you have any concerns or questions, please ask immediately!

GRADES (can be negotiated with instructor in first three weeks of course)

Course:

Concept sketches (50%), Quiz (50%), Extra efforts including participation in class (20%), **No** finals (negotiable in first three weeks of course)

Labs:

Lab assignments (100%), Extra efforts including participation in lab (20%)

Please note: if you are in trouble with your grades, please contact Dr. Brunner right away to find out if there are solutions. Requests for make-up exams or make-up assignments in the last 3 weeks of the semester will be automatically denied.



Never swim
alone!

Learning in
teams is highly
recommended!

SCHEDULE OF TOPICS – *subject to change!*

Date:	Topic:	Reading & Assignments based on following weeks topic
Week 1 Jan 16...	<ul style="list-style-type: none"> 2023: no class/labs in week of Jan 16 to 20 Monday 	Syllabus
Week 2 Jan 23...	<ul style="list-style-type: none"> Principles of Earth Science and you? Introductions, Syllabus Concept sketches (lab) 	Reading & Quiz
Week 3 Jan 30...	<ul style="list-style-type: none"> Cranking up the heat: Earth's Energy – heat and temperature <i>Planet Earth, Section 2</i> 	Reading & Quiz
Week 4 Feb 6...	<ul style="list-style-type: none"> Convection & Coriolis: Atmosphere, Oceans, Earth's interior <i>Planet Earth, Section 1e, Section 4i, Section 5d,e</i> 	Reading & Quiz
Week 5 Feb 13...	<ul style="list-style-type: none"> Convection & Coriolis: Atmosphere, Oceans, Earth's interior continued <i>Planet Earth, Section 1e, Section 4i, Section 5d,e</i> 	Reading & Concept Sketch 1
Week 6 Feb 20...	<ul style="list-style-type: none"> Plate tectonics <i>Planet Earth, Section 6a-d</i> 	Reading & Quiz
Week 7 Feb 27...	<ul style="list-style-type: none"> Rock cycle <i>Planet Earth, Section 6e-j</i> 	Reading & Quiz
Week 8 Mar 6...	<ul style="list-style-type: none"> Rock cycle – fossils, stratigraphy and geologic time <i>Planet Earth, Section 6e-j</i> 	Reading & Concept Sketch2
Week 9 Mar 13...	SPRING BREAK, no classes	No assignment
Week 10 Mar 20...	<ul style="list-style-type: none"> Earth's history, geologic time 	Reading & Quiz
Week 11 Mar 27...	<ul style="list-style-type: none"> Earth's life - evolution <i>Planet Earth, Section 7a-f</i> 	Reading & Quiz
Week 12 April 3...	<ul style="list-style-type: none"> Earth's life - biosphere <i>Planet Earth, Section 7g-i</i> 	Reading & Concept Sketch 3
Week 13 April 10...	<ul style="list-style-type: none"> Earth's biogeochemical cycles – the role of carbon <i>Lecture handouts</i> 	Reading & Quiz
Week 14 April 17...	<ul style="list-style-type: none"> Earth's biogeochemical cycles – Humans <i>Planet Earth, Section 8</i> 	Reading & Quiz
Week 15 April 24...	<ul style="list-style-type: none"> Earth's biogeochemical cycles – climate change <i>Lecture handouts</i> 	Reading & Concept Sketch 4
Week 16 May 1...	Course review	No assignment
Week 17 May 8...	FINAL EXAM WEEK	No final exam planned

Some considerations about the grades:

- 50% concept sketches: There are 4 concept sketches, and those count for half of your grade. This means you need to invest considerable effort into those, and must make sure you hand them in on time.
- 50% quizzes: There are ~ 9 quizzes, those count for half of your grade. So, there is no reason to panic about a poor quiz, as long as it stays and exception. Also, there will be a team aspect to the quizzes, which should help.
- No final exam: typically, students memorize a lot of material for finals, just to immediately forget about them right after the exam. Thus, this is a lot of stress, but little impact. Therefore, I prefer not doing a final exam, unless requested by the class.