GEOL 1314 (CRN 23286) Introduction to Historical Geology
Lecture Syllabus Spring 2022

Lecture*: In person*- Tuesday and Thursday 3:00 - 4:20pm in Rm. 112, Education Building. Lecture power points available 1 hour before class on Blackboard. You will need to attend class to take the quizzes and participate in group learning sessions.

Historical Geology Labs GEOL 1104: *In person*

CRN 24724 Wednesday 8:30-10:20am Geol. 216
CRN 28331 Thursday 8:30-10:20am Geol. 216

Lab is a separate class and not required for enrollment in GEOL 1314, but is highly recommended! Lab starts one week after the start of the course 1/18/22.

Meet Your Instructors

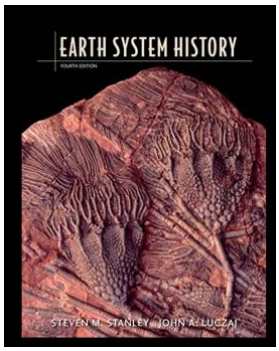
Lecture Instructor: Dr. Katherine Giles
Office: 201A Geological Sciences Building
Email: kagiles@utep.edu
Office Hours: In person or virtual
Mondays:1-2pm via Blackboard Collaborate
Tuesdays & Thursdays: 1-3pm, GS 201
Or feel free to contact me via email anytime with any questions or to set up an individual appointment. Can be via Zoom for your convenience.

Lecture and Lab Teaching Assistant: Madison Woelfel
Email: mcwoelfel@miners.utep.edu
Office Hours: Email Madison to set up a time to zoom.

Required Lecture Textbook:
Earth System History (4th Edition)
by Steven M. Stanley and John Luczaj

NOTE: this book is available as e-book and also used (older editions are ok!)

No Required Text for the Lab!



Course Description:
The purpose of this class is to introduce you to the history of Earth System (geosphere, hydrosphere, atmosphere, biosphere) and important processes and interactions that shape it. You will learn about the development and interaction of physical, chemical, and biological processes that lead to today's Earth System and explore the methods and thought concepts that lead scientists to their interpretations of Earth's past.

Course Objectives:
1) Obtaining an overview of Earth's geologic past including:
   (a) Geological, chemical, and biological evolution of Earth,
   (b) Key events in Earth's history,
   (c) Major global tectonic cycles (Supercontinents), and
   (d) Geologic timescale
2) Understanding of tools and concepts that allow scientists to draw conclusions about Earth's geologic past:
   (a) Relative and absolute dating approaches,
   (b) Evolution, and
   (c) Biogeochemical cycles
3) Ability to apply achievements from objectives 1 and 2 to critical evaluation of statements about Earth's past, present, and future.

COVID-19 PRECAUTION STATEMENT

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.

At this time, masks and vaccination are not required for UTEP students and employees. As a Texas public university, we are a state agency subject to state regulations and UT System rules. Accordingly, we do not deny anyone services based on a vaccination status or whether or not they're wearing a mask.

I'll be wearing my mask as the CDC recommends and I encourage you to do the same.

Course Grading Breakdown:

- **Quizzes (20%)**
- **Concept Sketches (25%)**
- **Group Activities (15%)**
- **Exams (20%)**
- **Geologic History Research Paper (20%)**

Exams (20%)

There will be 2 comprehensive exams given. The first will cover the first 6 weeks of review of basic geologic concepts. The 2nd will be at the end of the semester covering the last half of the course reviewing the history of individual geologic time periods. The exams will be open notes from quizzes & open concept sketches, but be aware that if you are not intimately familiar with the concepts you won't be able to finish on time. The exams will be roughly 20 questions comprising a mixture of question types: fill in the blank, short answer, draw a diagram, etc.

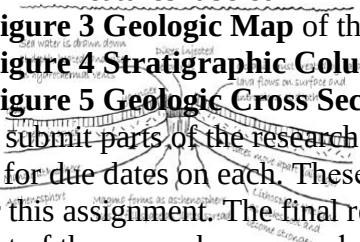
Quizzes (20%)

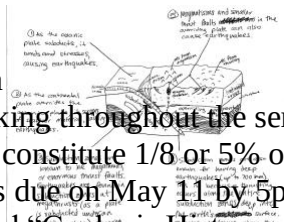
There will be a quiz on each assigned chapter in the required textbook. Chapters should be read prior to the lecture class that chapter will be discussed. Note: some weeks have 2 chapters to read & we'll have 2 quizzes that week. Weeks with only 1 chapter will have the quiz on Tuesday. The quiz will be taken during the first 5 minutes of the class, so be sure to show up on time for class. Notes on the chapter on a 8.5" by 11" sheet of paper can be used to answer quiz questions. I suggest using the questions at the end of each chapter to guide your reading of the chapter & quiz preparation. These questions highlight the most important concepts in that particular chapter and will be used to design quiz questions. Also, The geologic timescale will be part of every quiz.

Geologic History Research Paper (20%)

You can only retain knowledge and skills if you truly engage in using them. To foster this, you will write a research paper summarizing the ***Geologic History*** of a specific area of North America of your choosing. This can be a mountain range like the Grand Tetons or a National Park like The Grand Canyon. The El Paso area & Franklin Mountains ***cannot*** be used because they constitute the example research paper on Blackboard. The paper should be a minimum of 5 double-spaced pages not including figures or references. The paper should cite at least 5 references and list the references in a "References Cited" section at the end of the paper. All figures that are not your original work should be referenced in the figure caption, as well as the body of the research paper text. The following are ***required figures*** for the paper:

- **Figure 1 Location Map** of the area
- **Figure 2 Google Earth Image** of the area with significant topographic/surface features labeled
- **Figure 3 Geologic Map** of the area
- **Figure 4 Stratigraphic Column** of the area
- **Figure 5 Geologic Cross Section** of the area





You will submit parts of the research paper for checking throughout the semester- check the schedule for due dates on each. These "checks" will constitute 1/8 or 5% of the 20% of your grade for this assignment. The final research paper is due on May 11 by 5pm. An outline of the format of the research paper and an example titled "Geologic History of the Franklin Mountains, TX" can be found in the Geologic History Research Paper folder in Blackboard.

Concept Sketches (25%)

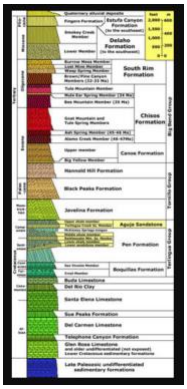
Concept sketches are hand or computer drawn diagrams that are concisely annotated with short statements that describe the processes, concepts, and interrelationships of concepts/topics covered in the assigned textbook chapter. There are 8 assigned concept sketches for the class. Check the class schedule for due dates for the 8. The sketches should be turned in at the class for the date they are assigned. The topic/chapter they are to cover is tied to the due date. Each sketch should have a title at the top and fit on a 8.5 by 11 inch sheet of paper. Do not use copies of figures from the book or off the internet. Make your own- be creative! You'll learn much more! See diagrams below & the folder "Concept Sketch Examples" in Blackboard for an idea of what I'm looking for.

Group Activities (15%)

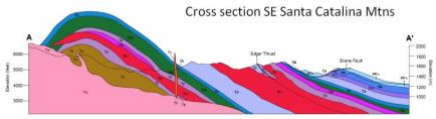
There will be 15 Group Activities spaced through-out the semester. These will be done in class. You will break into groups of 5. Each group will work on the questions or activity together and turn it in at the end of class. Each group will present their results to the class during class.

Geologic Map

Stratigraphic Column



Cross section



Important Notes:
1) Learning in teams through open discussion has been shown to be much more effective than learning alone and is highly encouraged in this class!
2) Course Drop Deadline: April 1, 2022:

The College of Science aligns with UTEP's posted drop date of April 1 for the Spring 2022 semester. The College of Science will not approve any student- or faculty-initiated drop requests for a course after that date, except under circumstances of complete withdrawal of all courses due to medical or non-medical reasons.

3) There is no make-up for **unexcused** missed Quizzes, Group Activities or late turn-in of Concept Sketches or Research Paper checks.

See below on how to be excused from absence/late arrival to class

5) If you think you may have a *disability or if you are experiencing learning difficulties*, please let Dr. Giles know & contact the Center for Accommodations and Support Services (CASS), East Union Bldg, Room 106; Office Phone: 915-747-5148 / Email: cass@utep.edu / https://www.utep.edu/student-affairs/cass/

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.

This is important for your Individual Concept Sketches – make sure that they are 'yours', even if you are working in teams.

Excused Absences:
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 Dr. Giles as soon as possible.

How to be excused for absence or being late to class:
• Apply to be excused by writing an email to Dr. Giles at: kagiles@utep.edu explaining your absence
• Subject line MUST include (in this order): Hist Geol 1314 – YOUR NAME – Date of absence
• If absence is foreseeable (examples: job interview, professional meeting, surgery, etc): send message before the absence
• If absence was not foreseeable (examples: covid, migraine, car crash, childbirth, being arrested): asap, when it can be done safely (do not text and drive!).
• Student must ensure that they have been excused for an absence in a timely fashion

TENTATIVE SCHEDULE OF LECTURE TOPICS

Date	Topic	Reading
Week 1		
Jan. 18	• Why are you here? – Syllabus Overview *(Group Activity 1)*	
Jan. 20	• *Quiz 1* Earth as a System	Chapter 1
Week 2		
Jan. 25	• *Quiz 2* Minerals *(Group Activity 2)*	Chapter 2
Jan. 27	• Rocks *(Concept Sketch 1 turn in)*	
Week 3		
Feb. 1	• *Quiz 3* Diversity of Life *(Group Activity 3)*	Chapter 3
Feb. 3	• *Quiz 4* Environments and Life *(Research Project Title & Intro)*	Chapter 4
Week 4		
Feb. 8	• *Quiz 5* Sediments *(Group Activity 4)*	Chapter 5
Feb. 10	• Sedimentary Environments *(Concept Sketch 2 turn in)*	
Week 5		
Feb. 15	• *Quiz 6* Correlation *(Group Activity 5)*	Chapter 6
Feb. 17	• Quiz 5 Dating of the Rock Record *(Concept Sketch 3 turn in)*	
Week 6		
Feb. 22	• *Quiz 7* Evolution and the Fossil Record *(Group Activity Review)*	Chapter 7
Feb. 24	*• Exam 1 Covers Chapters 1 – 6 (*Turn in 5 Figures for research paper)*	
Week 7		
March 1	• *Quiz 8* Plate Tectonics *(Concept Sketch 4 turn in)*	Chapter 8
March 3	• *Quiz 9* Continental Tectonics and Mountain Chains *(GA 6)*	Chapter 9
Week 8		
March 8	• *Quiz 10* Major Geochemical Cycles *(Concept Sketch 5 turn in)*	Chapter 10
March 10	• Major Geochemical Cycles *(GA 7) (*Turn in research paper Stratigraphy section)*	
Week 9		
March 15		
March 17	*• UTEP SPRING BREAK - NO CLASS*	
Week 10		
March 22	• *Quiz 11* Hadean and Archean Eons *(Group Activity 8)*	Chapter 11
March 24	• *Quiz 12* Proterozoic Eon *(Early Earth Concept Sketch 6 turn in)*	Chapter 12
Week 11		
March 29	• *Quiz 13* Early Paleozoic Era *(Group Activity 9)*	Chapter 13
March 31	• *Quiz 14* Middle Paleozoic Era *(Group Activity 10)*	Chapter 14
	*• April 1: Course Drop Deadline (*Turn in research paper Structure & Tectonics section)*	
Week 12		
April 5	• *Quiz 15* Late Paleozoic Era *(Group Activity 11)*	Chapter 15
April 7	• The Permian Basin of West Texas *(Pangea Concept Sketch 7 turn in)*	
Week 13		
April 12	• *Quiz 16* Early Mesozoic Era *(Group Activity 12)*	Chapter 16
April 14	• Early Mesozoic Era *(Jurassic Park Concept Sketch 8 turn in)*	
Week 14		
April 19	• *Quiz 17* The Cretaceous Epoch *Group Activity 14)*	Chapter 17
April 21	• The Cretaceous Epoch Cont *((*Turn in research paper References Cited)*	
Week 15		
April 26	• *Quiz 18* Paleogene Epoch *(Group Activity 15)*	Chapter 18
April 28	• *Quiz 19* Late Cenozoic, Neogene Epoch	Chapter 19
Week 16		
May 3	• *Quiz 20* Holocene, Anthropocene *(Group Activity Review)*	Chapter 20
May 5	** Exam 2 Hadean – Holocene History Chapters 11-20*	
Finals week		
May 10	*• Turn in Geologic History Research Paper to Madison via email by 5pm*	