

# GEOL 1314 (CRN 23611) Introduction to Historical Geology Lecture Syllabus Spring 2021

**Lecture Synchronous Virtual Meeting via Blackboard Collaborate:** Tuesday and Thursday 3:00 - 4:20pm. The Collaborate Meetings will be recorded and posted on Blackboard directly after each meeting. You will need to attend to take the quizzes.

**Historical Geology Lab GEOL 1104** is a separate class and not required for enrollment in GEOL 1314, but is highly recommended. The Lab is listed as meeting in person, but has been changed to completely virtual for Spring 2021. You will receive instructions from the TA.

## Meet Your Instructors

### Lecture Instructor: Dr. Katherine Giles

Office: 201A Geological Sciences Building

Email: [kagiles@utep.edu](mailto:kagiles@utep.edu)

Virtual Office Hours: via Blackboard Collaborate

Mondays: 1-2pm

Tuesdays: 11-Noon

*Or feel free to contact me via email anytime with any questions or to set up an individual Zoom meeting appointment.*



### Lecture Teaching Assistant & Co-Instructor: Rachel Phillips

Email: [rfphillips@miners.utep.edu](mailto:rfphillips@miners.utep.edu)

Virtual Office Hours: Via Blackboard Collaborate

Wednesday: 11-Noon

Thursday: 11-Noon



### Geol. 1104 Lab for Geol. 1314 Teaching Assistant

Tuesday or Wednesday Virtual Labs starting Jan. 26/27

Racheal Schrock Lab Instructor

Email: [rgschrock@miners.utep.edu](mailto:rgschrock@miners.utep.edu)

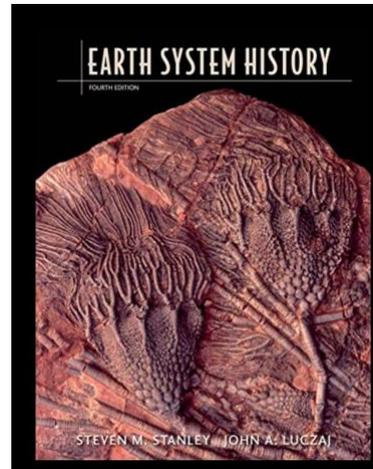


**Required Lecture Textbook:**

*Earth System History (4th Edition)*  
by Steven M. Stanley and John Luczaj

**Required Lab Manual:**

*Investigations in Historical Geology: Lab Manual*  
by Deborah Caskey and Vicki Harder.  
There will be handouts & material posted on  
Blackboard in addition.



**Course Description:**

The purpose of this class is to introduce students to the history of the Earth System. Students 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.



## Course Grading

**Course Grading Breakdown:**  
**Quizzes (20%)**  
**Concept Sketches (25%)**  
**Geologic History Research Paper (40%)**  
**PackBack Questions & Answers (15%)**

**Note: There are no formal exams for this class!**

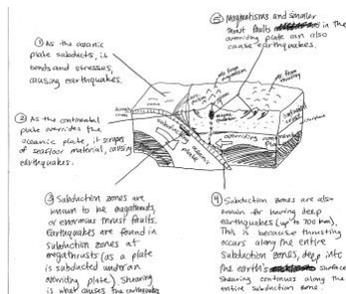
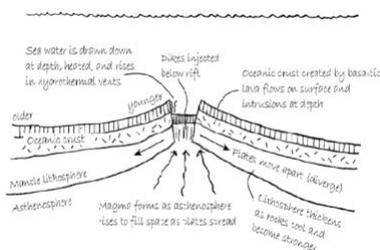


### Quizzes (20%)

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 & will have 2 quizzes that week. Weeks with 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. You'll email your answers to Rachel following completion of the quiz. Textbooks can be used to answer quiz questions, but note there isn't sufficient time allotted for the quiz to search for the answer if you haven't read the chapter prior to class. Use the questions at the end of each chapter to guide your quiz preparation. These questions highlight the most important concepts in that particular chapter and will be used to design quiz questions.

### 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 5 assigned concept sketches for the class. Check the class schedule for due dates for the 5. The sketches should be emailed to Rachel at the beginning of class for the date they are assigned. The topic/chapter they are to cover is on the due date. Each sketch should have a title at the top and fit on a 8.5 by 11 inch sheet of paper. Scan or simply take a picture of your sketch and email it to Rachel. Do not use copies of figures from the book or off the internet. Make your own- be creative! You'll learn much more! See "Concept Sketch Examples" folder in Blackboard for an idea of what I'm looking for.



## Geologic History Research Paper (40%)

Each student will write a research paper summarizing the *Geologic History* of a specific area of North America of their 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 that Rachel wrote. The paper should be a minimum of 5 double-paced 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

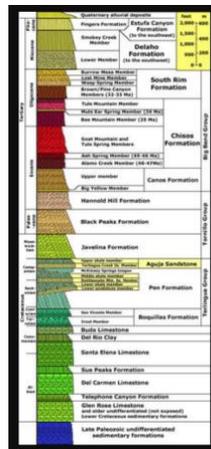
**Figure 5 Geologic Cross Section** of the area

You will submit the title of your research project and these 5 figures in a folder labeled with your name to Rachel the Friday before spring break (March 12). This will constitute 1/8 or 5% of the 40% 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

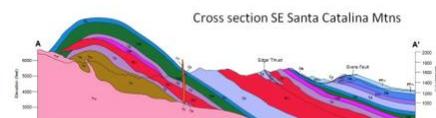
**Geologic Map**



**Stratigraphic Column**



**Cross section**



### **PackBack (15%)**

You can only retain knowledge and skills if you truly engage in using them. To foster this, we use Packback Questions, which is an online discussion platform powered by artificial intelligence. This platform is specifically designed to encourage curiosity and increase critical thinking & writing skills. On Packback, you'll be encouraged & rewarded for asking complex questions about how what we're studying relates to the real world. As it relates to this specific course, my goals for using Packback are to engage you in a critical evaluation of statements about Earth' past, present, and future (course objective 3).

Academic dialogue on Packback will:

- deepen your understanding of the course content by gaining diverse insights and perspectives from your peers;
- give you a space to relate what you are learning to real-life examples and personal experiences;
- help you develop writing skills necessary for any career path;
- reinforce the skill of justifying thoughts and claims with credible evidence.

There will be a Weekly Sunday at 12:00AM MST deadline for submissions. In order to receive your points per week, you should submit the following per each deadline period:

- 1 open-ended Question per week each worth 33.33% of each assignment grade
- 2 Responses per week each worth 66.67% of each assignment grade.

*Note: Please post your questions early in the week so the rest of the class has an opportunity to answer them! Note: You can answer questions posted from previous weeks.*

### How to Register on Packback

An email invitation will be sent to you from help@packback.co prompting you to finish registration. If you don't receive an email (be sure to check your spam), you may register by following the instructions below:

1. Create an account by navigating to <https://questions.packback.co> and clicking "Sign up for an Account"

Note: If you already have an account on Packback you can log in with your credentials.

2. Then enter our class community's lookup key into the "Looking to join a community you don't see here?" section in Packback at the bottom of the homepage.

Community Lookup Key: **05f9adff-8623-4214-990a-dd54c5d3a336**

3. Follow the instructions on your screen to finish your registration.

Packback requires a paid subscription of \$25. Refer to [www.packback.co/product/pricing](http://www.packback.co/product/pricing) for more information. You will be prompted to pay at the end of registration.

### How to Get Help from the Packback Team:

If you have any questions or concerns about Packback throughout the semester, please read their FAQ at help.packback.co. If you need more help, contact their customer support team directly at help@packback.co.

For a brief introduction to Packback Questions and why we are using it in class, watch this video: [vimeo.com/packback/Welcome-to-Packback-Questions](https://vimeo.com/packback/Welcome-to-Packback-Questions)

**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, 2021:

The College of Science aligns with UTEP's posted drop date of April 1 for the Spring 2021 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, PackBack Assignments or late turn-in of Concept Sketches.

*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](mailto: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](mailto: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: 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

<u>Date</u>	<u>Topic</u>	<u>Reading</u>
Week 1 Jan. 19 & 21	<ul style="list-style-type: none"> <li>• Why are you here? – Syllabus Overview</li> <li>• <i>Quiz 1</i> Earth as a System</li> </ul>	Chapter 1
Week 2 Jan. 26 & 28	<ul style="list-style-type: none"> <li>• <i>Quiz 2</i></li> <li>• Minerals and Rocks (<i>Concept Sketch 1</i>)</li> </ul>	Chapter 2
Week 3 Feb. 2 & 4	<ul style="list-style-type: none"> <li>• <i>Quiz 3</i> Diversity of Life</li> <li>• <i>Quiz 4</i> Environments and Life</li> </ul>	Chapter 3 Chapter 4
Week 4 Feb. 9 & 11	<ul style="list-style-type: none"> <li>• <i>Quiz 5</i></li> <li>• Sediments/Sedimentary Environments (<i>Concept Sketch 2</i>)</li> </ul>	Chapter 5
Week 5 Feb. 16 & 18	<ul style="list-style-type: none"> <li>• <i>Quiz 6</i></li> <li>• Correlation &amp; Dating of the Rock Record (<i>Concept Sketch 3</i>)</li> </ul>	Chapter 6
Week 6 Feb. 23 & 25	<ul style="list-style-type: none"> <li>• <i>Quiz 7</i></li> <li>• Evolution and the Fossil Record</li> </ul>	Chapter 7
Week 7 March 2 & 4	<ul style="list-style-type: none"> <li>• <i>Quiz 8</i> Plate Tectonics (<i>Concept Sketch 4</i>)</li> <li>• <i>Quiz 9</i> Continental Tectonics and Mountain Chains</li> </ul>	Chapter 8 Chapter 9
Week 8 March 9 & 11	<ul style="list-style-type: none"> <li>• <i>Quiz 10</i> Major Geochemical Cycles (<i>Concept Sketch 5</i>)</li> </ul>	Chapter 10
Week 9 March 16 & 18	<p style="color: red;"><i>Turn in Figures for research paper by March 12</i></p> <ul style="list-style-type: none"> <li>• <b>UTEP SPRING BREAK - NO CLASS</b></li> </ul>	
Week 10 March 23 & 25	<ul style="list-style-type: none"> <li>• <i>Quiz 11</i> Hadean and Archean Eons</li> <li>• <i>Quiz 12</i> Proterozoic Eon</li> </ul>	Chapter 11 Chapter 12
Week 11 March 30 & 4/1	<ul style="list-style-type: none"> <li>• <i>Quiz 13</i> Early Paleozoic Era</li> <li>• <i>Quiz 14</i> Middle Paleozoic Era</li> <li>• <b>April 3: Course Drop Deadline</b></li> </ul>	Chapter 13 Chapter 14
Week 12 April 6 & 8	<ul style="list-style-type: none"> <li>• <i>Quiz 15</i></li> <li>• Late Paleozoic Era</li> <li>• The Permian Basin of West Texas</li> </ul>	Chapter 15
Week 13 April 13 & 15	<ul style="list-style-type: none"> <li>• <i>Quiz 16</i></li> <li>• Early Mesozoic Era</li> </ul>	Chapter 16
Week 14 April 20 & 22	<ul style="list-style-type: none"> <li>• <i>Quiz 17</i></li> <li>• The Cretaceous Epoch</li> </ul>	Chapter 17
Week 15 April 27 - 29	<ul style="list-style-type: none"> <li>• <i>Quiz 18</i> Paleogene Epoch</li> <li>• <i>Quiz 19</i> Late Cenozoic, Neogene Epoch</li> </ul>	Chapter 18 Chapter 19
Week 16 May 4 & 6	<ul style="list-style-type: none"> <li>• <i>Quiz 20</i></li> <li>• Holocene, Anthropocene</li> </ul>	Chapter 20
Finals week May 11	<ul style="list-style-type: none"> <li>• <b>Turn in Geologic History Research Paper by 5pm</b></li> </ul>	