Spring 2026

GEOL 102-001
Historical Geology

Monday/Wednesday 9:00-10:15 am Lecture Hall 1

Instructor: Dr. Andrew Hoxey, ahoxey@gmu.edu
Office hours: Wednesday, 2:00-3:30 pm
Office: 3412 Exploratory Hall

Course Description

Historical Geology is an overview of the evolution of our planet, from the formation of the solar system to modern societal challenges related to Earth Sciences. This course will use major geologic events, geologic processes, and the fossil record as a framework for examining the history of the planet, evolution of life on Earth, and how Earth scientists use the scientific method. This course is designed to develop critical thinking skills and bolster understanding of Earth's history and the relationship of geology to modern society.

This fulfills the **Natural Science Overview** requirement of the **Mason Core** curriculum

Course Delivery Format
This course will be delivered in an in-person format with both lecture and in-class exercises. Course materials will be organized on Canvas.

Course Goals

Student Learning Outcomes of the class:

- Gain a general understanding scientific inquiry is based on investigation of evidence from the natural world, and that scientific knowledge and understanding evolves based on new evidence and differs from personal and cultural beliefs
- Learn to recognize how Earth sciences impact modern society and how we interact with:
    a. natural resources and sustainability
    b. publicly facing scientific information
- Participate in the elements of scientific inquiry, including making careful and systematic observations, developing and testing a hypothesis, analyzing evidence, and interpreting results
- Build the vocabulary necessary for further investigation of geological science and discussion in Earth history, evolution, and life on Earth

Methods for achieving our goals:

- In-class lectures focused on a general understanding of geological sciences and the observations that form geologists' understanding of Earth's history
- Reading and discussion of relevant literature
- Interpretation of maps, paleontological databases, graphical data, and other data
- Synthesize information into a comprehensive framework

Required Materials

Textbook - *The Earth through Time*, Levin, 11th ed, Wiley

Some course materials will be available via Canvas.

Course Grades

Grading in the course will be on a 1000-point scale, with points earned the following way:

Item	Points
Exams (3 total)	600
Homework	200
Quizzes	200
Total	1000

A+	97 - 100%
A	93 - 96%
A-	90 - 92%
B+	87 - 89%
B	83 - 86%
B-	80 - 82%
C+	77 - 79%
C	73 - 76%
C-	70-72%
D	60 - 69%
F	0 - 59%

Exams

Attendance for exams in required. Missing any of the exams results in a score of zero for the missed exam. Make-ups of exams must be arranged no later than the day of the exam and require proof of extenuating circumstances. Make-up exams must be completed within a week of the original scheduled date.

Quizzes

Periodic multiple-choice quizzes will be administered through Canvas and cover the material presented in lecture. Quizzes will be posted within 5 days of their due date. Late quiz submissions will NOT be accepted.
Quizzes allow 2 attempts.

Homework Assignments

Homework assignments will be posted and submitted through canvas and will include exercises that will synthesize material presented in lecture and the readings. Late homework submissions with NOT be accepted.
Homeworks allow 3 attempts.

Communication

Email is the most efficient way to communicate with me. Writing professional emails is a requirement in all workplaces and this course. Emails should include the course number in the subject line, a salutation, and a by-line.

I am happy to meet with you outside of class and/or normal office hours. If you are unavailable during office hours and need to make an appointment, please contact me with two proposed times you are available to meet.

Other class policies

You may use AI models to aid in summarizing material from the textbook. However, please recognize that AI models often include incorrect information and should not be used as a reliable source for material.
You may **NOT** use AI models for any assignments in this course unless otherwise stipulated by the assignment.

Be respectful of the course and your colleagues. Avoid:

-Use of phones outside of emergency use
-Conversations that distract those around you
-Use of electronics for tasks not related to the course material

GMU POLICY GUIDELINES

These university and class policies are important to understand:

- Integrity: GMU has academic standards with guidelines regarding academic integrity; please see academicstandards.gmu.edu/ for more information.
- Disability: If you are a student with a disability and you need academic accommodations, please contact me and also contact the Office of Disability Services (ODS) at 703-993-2474 of ds.gmu.edu All academic accommodations must be arranged through the ODS.
- Diversity: Diversity is a core value at GMU; please see https://oacc.gmu.edu/ more information.
- Privacy: Students must use their MasonLive email account to receive important University information, including messages related to this class. Please see http://masonlive.gmu.edu for more information.
- Electronics: Please be respectful of our time together and do not engage in activities that are unrelated to class. Cell phones may be left on but muted and used for emergencies only.

Course Schedule

Date	Topic	Chapter Readings	Assignments Due
21-Jan	Introduction/Geology Fundamentals	1	
26-Jan	Rocks & Minerals	4	
28-Jan	Sedimentary Archives; Core Principles	2, 5	
2-Feb	Life on Earth	6	
4-Feb	Plate Tectonics	7	
9-Feb	Plate Tectonics	7	Quiz 1
11-Feb	Measuring Time	3	HW 1
16-Feb	Study Day		
18-Feb	**EXAM - 1: Building Blocks**		
23-Feb	Earth Beginnings	8	
25-Feb	Archean	9	
2-Mar	Proterozoic	10	HW 2
4-Mar	Great Unconformity, Cambrian	11	Quiz 2
9-Mar	**SPRING BREAK**		
11-Mar	**SPRING BREAK**		
16-Mar	Paleozoic Marine Life		
18-Mar	Paleozoic Terrestrial Life	12	
23-Mar	Paleozoic Orogenies	12	HW 3
25-Mar	Study Day		Quiz 3
30-Mar	**EXAM - 2: Early Earth**		
1-Apr	Mesozoic Paleogeography	13	
6-Apr	Mesozoic Animals	14	
8-Apr	Mesozoic Tectonics		
13-Apr	Mesozoic End		
15-Apr	Cenozoic Life	15	HW 4
20-Apr	Cenozoic Tectonics	16	
22-Apr	Cenozoic Climate	17	Quiz 4
27-Apr	Human Evolution		
29-Apr	Geology and Society		
4-May	Study Day		
5/11 @ 7:30-10:15 am	**EXAM - 3: Modern Geology**		

GMU Final Schedule - https://registrar.gmu.edu/calendars/spring_2026/