

Fall 2025

# GEOL 102

## Historical Geology

Tuesday/Thursday 5:55-7:10 pm Music/Theater 1006

Instructor: Dr. Andrew Hoxey, [ahoxey@gmu.edu](mailto:ahoxey@gmu.edu)

Office hours: Monday, 3:00-4:30 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 and general understanding of scientific inquiry, the scientific method, and how Earth scientists come to an understanding of Earth History
- Learn to recognize how Earth sciences impact modern society and how we interact with:
  - a. natural resources and sustainability
  - b. publicly facing scientific information
- Learn to critically examine the sources and validity of 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, 11<sup>th</sup> ed, Wiley

Some course materials will be available via Canvas.

## Course Grades

Grading in the course will be on a 100-point scale, with points earned the following way:

Item	Points
Exams (3 total)	60
Homework	20
Quizzes	20
<b>Total</b>	<b>100</b>

**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 is 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 will NOT be accepted.

## 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/](http://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](http://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
26-Aug	Introduction/Geology Fundamentals	1
28-Aug	Principles & Time	2, 3
2-Sep	Rocks & Minerals	4
4-Sep	Sedimentary Archives	5
9-Sep	Life on Earth	6
11-Sep	Plate Tectonics	7
16-Sep	Plate Tectonics	7
18-Sep	Study Day	
23-Sep	EXAM - 1	
25-Sep	Archean	8
30-Sep	Proterozoic	9
2-Oct	Early Paleozoic History	10
7-Oct	Late Paleozoic	11
9-Oct	Late Paleozoic	
14-Oct	Paleozoic Life	12
16-Oct	Paleozoic Life	12
21-Oct	Study Day	
23-Oct	EXAM - 2	
28-Oct	Mesozoic Tectonics	13
30-Oct	Middle Mesozoic	14
4-Nov	ELECTION DAY - No Class	
6-Nov	Late Mesozoic	
11-Nov	Cenozoic Tectonics	15
13-Nov	Cenozoic Life	16
18-Nov	Human Evolution	17
20-Nov	Pleistocene	
25-Nov	Climate Change and Humans	
27-Nov	THANKSGIVING - No Class	
2-Dec	Future	
4-Dec	Study Day	
Thursday, 11-Dec @ 4:30	EXAM - 3	