

INTRODUCTORY HISTORICAL GEOLOGY GEOL102-003 – FALL 2022

Syllabus

Lecture type: ONLINE - SYNCHRONOUS through Blackboard Collaborate Virtual Classroom.

Lecture time: T-TR 1:30-2:45 PM

Instructor: Dr. G. Mattietti; **E-mail:** gkysar@gmu.edu

Office Hours: Wednesday 2-4 PM, through Blackboard virtual classroom

Instructional Material

- Suggested Textbook: [Earth Through Time](#) by Harold Levin and David T. King Jr. Students need only the textbook, no the ancillary material from the publisher. Cheaper option is to rent the e-book. Used, and/or loose-leaf copies and earlier editions are acceptable. Alternatively, readings are linked through Blackboard.
- Pdfs of the lecture-course notes, lecture activities, test and test practice are available to the students through Blackboard*. Notes for each lecture are posted the day before class.

Course Objectives and Outcomes

Historical geology is a discipline of geology that seeks to understand the history of planet Earth and its life by using stratigraphic principles and the knowledge acquired from paleontology and physical geology. In GEOL 102 focuses on the evolution of the world in which we live, starting from the formation of the solar system. We will consider the hypothesis about the origin of Earth and learn from the geologic evidence of the past and the observation of the present. The course includes an overview of the evolution of the homo species and the search for life on other planets. Throughout the course, we will consider the historical development of the fundamental ideas of modern geology.

Students who apply themselves to the study of the course material will gain the foundation requirement of core knowledge of Natural sciences for a better understanding of how science approaches the knowledge of our world.

This course fulfills the [Mason Core Learning Outcomes for Natural Sciences](#)

Therefore, this course will provide students with an understanding that:

1. Scientific inquiry is based on investigation of evidence from the natural world, and that scientific knowledge and understanding: • evolves based on new evidence • differs from personal and cultural beliefs
2. There are scope and limits of science.

Additionally, students will be able to recognize and articulate the relationship between the natural sciences and society and the application of science to societal challenges (e.g., climate change, etc.) and evaluate scientific claim (e.g., distinguish primary and secondary sources, assess credibility and validity of information).

**Lecture powerpoint slides, notes, any course materials, tests, outlines, and similar materials posted on blackboard are protected by U.S. copyright law and/or are intellectual property of the course instructor. You may take notes and make copies of course materials for your own use but you cannot repost on the web or distribute in any format outside the class.*

Course requirements and Grading

GEOL 102 grade is based on the combination of 3 Lecture exam and Homework.

Exams are online, multiple choice, 50 questions, non-cumulative, NO lowest score exam will be dropped. All exams are taken individually and during class time exclusively. There is no final exam, however, exam 3 is taken on the day of the final exams as scheduled by the registrar and will be limited to 75 minutes.

Online exams are available on blackboard through with Respondus Lockdown browser. Missing exams results in a score of zero. Make up of exams without proof of extenuating circumstances carries a 15% penalty.

Homework consists of assignments designed to further the understanding of the lecture topics; homework assignments can be repeated until all answers are correct. Homework comes with deadlines: late submissions on assignments carry a penalty of 15%.

The final grade for GEOL 102 is calculated as follows, with no Exceptions: 28% (1st exam) + 28% (2nd exam) + 28% (3rd exam) +16%(homework) =100%.

Grading scale: Final grade is based on the following scale, with no exceptions:

A+ ≥99% and above;	A ≥94% to <99%;	A- ≥90% to <94%
B+ ≥87% to <90%;	B ≥83% to <87%;	B- ≥80% to <83%
C+ ≥75% to <80%	C ≥70% to <75%;	C- ≥65% to <70%
D ≥ 53% to <65%;	F <53%	

- No score curve, unless the end-of-semester the MEDIAN for the whole class (based on all lecture exams and homework scores) falls below 80%
- NO Extra-credit available. No individualized assignment for extra credit will be granted to any student because individualized extra credit is unfair to the rest of the class.

NOTE: If you need a 4 credit-laboratory course, you must ALSO enroll in GEOL 104. (4 credit lab science = GEOL 102+GEOL 104)

General Course Policies

By staying enrolled in this course, you agree to the following course policies:

- Attendance to class: It is not mandatory, but saves you a lot of study time.
- Communications: email is the official way of communicating with students. Any email from me will come from gkysar@gmu.edu; in accordance with protection of privacy best practices, I will not respond to email sent from non GMU account. It is your responsibility to make sure that your GMU email is set up properly and to check your email regularly. Your email must have a subject because emails without subject are filtered as spam mail.
- Class etiquette: be considerate! Please mute your microphone during synchronous classes. If you have questions, you can type them in the chat box or ask using the microphone once prompted to do so. To save bandwidth, and for privacy, we will not use the personal cameras during synchronous class times.
- Course Assessment: See Course requirement and grading section above
- Extenuating circumstances might occur that prevent you from taking an exam. If such circumstances can be justified, a make-up session will be arranged. Should you realize that you cannot take an exam as scheduled, inform the professor immediately. A make up for unjustified absence/failure to take an exam or submit homework on time carries a penalty of 15% on the score.

All GMU Policies apply to this course:

- **Academic Integrity** It is expected that students adhere to the George Mason University Honor Code as it relates to integrity regarding coursework and grades. The Honor Code reads as follows: "Student members of the George Mason University community pledge not to cheat, plagiarize, steal and/or lie in matters related to academic work." More information about the Honor Code, including definitions of cheating, lying, and plagiarism, can be found at the Office of Academic Integrity website at [pdf of the honor code](#)
- **Disability Accommodation.** If you need special accommodations/arrangement for the class and the exams, you must first file with the [Office of Disability Services](#) (ext: 993-2474)
- **Diversity** and **Inclusion**: Faculty, staff and students in this course welcome and value individuals and their differences including race, economic status, gender expression and identity, sex, sexual orientation, ethnicity, national origin, first language, religion, age, and disability.
- As a faculty member I am required to report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's [Title IX Coordinator](#) per [university policy 1412](#). If you wish to speak with someone confidentially, please contact the [Student Support and Advocacy Center](#) (703-380-1434) or [Counseling and Psychological Services](#) (703-993-2380) and [Mason's Title IX Coordinator](#) (703-993-8730; titleix@gmu.edu)
- Privacy: [Student privacy](#) is governed by the [Family Educational Rights and Privacy Act \(FERPA\)](#) and is an essential aspect of this course. Students must use their GMU email account to receive important University information, including communications related to this class. In accordance with FERPA regulation, I will not respond to messages sent from or send messages to a non-Mason email address.

Course Calendar*

See Academic Calendar for standard holidays

Date	Lecture topic	
Aug. 23	Part 1: Principles of historical geology – The Precambrian	The Science of Historical Geology – The sedimentary archives
Aug. 25		The sedimentary archives: environments and facies
Aug. 30		The sedimentary archives: stratigraphic principles
Sept.1		Deep time - correlations
Sept 6		Fossils and life
Sept 8		The Hadean and the Archaean - the baby solar system
Sept.13		Proterozoic Geology
Sept 15		Precambrian Life
Sept 23		Study day/Review / Q&A for exam 1
Sept 27		EXAM 1
Sept. 29	Part 2: Paleozoic and Mesozoic	Early Paleozoic Geology
Oct. 4		Late Paleozoic building Pangea- Paleozoic climate
Oct. 6		Paleozoic Life 1 – from water to land
Oct. 13		Paleozoic Life 2 - plants
Oct. 18		Mesozoic Geology
Oct. 20		Mesozoic Life 1
Oct. 24		Mesozoic Life 2 – intro to dinosaurs
Oct. 25		Dinosaurs – Biomechanics case studies
Oct. 27		Study day/ Review / Q&A for exam 2
Nov. 1		EXAM 2
Nov. 3	Part 3: Cenozoic geology and life. Historical geology beyond Earth	Cenozoic Geology of North America
Nov. 8		Cenozoic Geology of the rest of the World
Nov. 10		Life of the Cenozoic – Megafaunas case studies
Nov. 15		Case studies: evolution of flight in vertebrates –
Nov. 17		Primates – Human origin
Nov. 22		Climate of the Cenozoic
Nov. 29		Life beyond Earth - – the search for life on other planets
Dec. 2		Study day/ Review/ Q&A for exam 3
Dec. 13	EXAM 3 - during timing scheduled by the registrar only	

* instructor reserves the right to change lecture topic and order to fit class needs and learning objectives.

Best practices for effective studying for GEOL102

The following are suggestions from tried and true strategy for doing well in this class:

1 – Attend to the live online class so you can participate actively; take your own notes, in addition to those posted on blackboard. Engaging with the learning material will help you remember better. The lecture are recorded from the live presentation, so you can play the recordings if you accidentally miss class or if you want to review some specific aspects of a lecture.

2 - For each hour of lecture, spend at least one our studying on your own.
. Spread that time during the week. The most effective way to study is to review your class notes on the same day of class.

3 - There is a considerable amount of material to know for GEOL 102, many technical terms and names to remember and fit in the big picture of the understanding of geological processes. It is not wise to count on scoring high on an exam by binge- studying the night before; Mega study sessions tend to result in huge headaches and memory blackouts at exam times. One of the best strategies is to review what you have learned at the end of each week, make note of what is unclear and ask for clarifications at office hours or during lectures during Q&As.

4 – How to know if something is going to be in the exam? All geology topics discussed in class can be in the exam questions. The course will not cover all that is in the book, but all that is in the notes AND has been covered in class can be material for the exam.

5 - It is a good thing to have questions and doubts about the class materials; it means your brain is working at understanding and elaborating the knowledge. Ask questions during class as well as take advantage of office hours (it is like free tutoring).

6 - Engage with the topics of Historical geology. Talk about what you learned in class, create study sessions with your classmates, talk about geology with family and friends. Make observations of your surroundings, pay attention when geology-related topics come up in the news. Above all, enjoy learning about your home planet's rich history!

GMU Resources has additional resources for your academic success; among others: [Academic success workshops](#) (see calendar), [University Life for students](#).