Geology 101 (Lecture Section 001)
Introductory Geology I
(Physical Geology)
Fall 2021 Syllabus

Meeting Times and Location

Mondays and Wednesdays 10:30 −11:45 am
Innovation Hall 103

This course also has a required Laboratory Section that meets outside of lecture times. You must be enrolled in a GEOL 101 Lab section in addition to the GEOL 101 Lecture section.

Instructor

Dr. Jules Goldspiel
Department of Atmospheric, Oceanic and Earth Sciences

Office: Exploratory Hall 3414
Mailbox in Exploratory Hall 3400
Office Hours: Mondays 2:00−4:00 pm
Other days and times by appointment
e-mail: jgoldspi@gmu.edu (best contact method)

Course Information

4 Credits

This is a Mason Core course under the Exploration Course section and Natural Science with Lab category. The general goals of natural science core courses are to engage students in scientific exploration, foster your curiosity, enhance your enthusiasm for science, and enable you to apply scientific knowledge and reasoning to personal, professional and public decision making.

This course will focus on the structure of Earth, properties of Earth materials, processes that operate on and below the surface of Earth, and human interactions with Earth. Topics covered will include rocks and minerals, earthquakes and seismology, volcanic processes, marine processes, paleomagnetism, plate tectonics, rivers, glaciers, groundwater, and weathering and erosion.

The goals of this course are for students to:

- Appreciate the range of physical and chemical processes that are (and have been) active on Earth
- Understand that Earth's continents are not fixed in place and have not always been where they are today
- Understand how different processes, large and small, leave their marks on Earth
- Understand how the interior structure of the Earth can be determined
- Appreciate the age of the Earth and understand how geologic ages are determined
- Appreciate the many geologic properties that make Earth unique among planets
- Understand that scientific inquiry is based on collection of evidence, and testing and analysis of theories against the evidence
- Understand that scientific knowledge and theories evolve based on collection of new evidence and new understandings of old evidence, and that scientific inquiry differs from personal and cultural beliefs
- Recognize the scope and limits of science
- Evaluate scientific information and learn to distinguish primary and secondary sources, and to assess the credibility and validity of the information

- Participate in scientific inquiry and communicate the elements of the process, including:
  - Making careful and systematic observations
  - Developing and testing a hypothesis
  - Analyzing evidence
  - Interpreting results
- Recognize and articulate the relationship between the natural sciences and society, and the application of science to societal challenges

Required Course Books and other Materials

Lecture Textbook

Essentials of Geology, 13th Edition, 2018, F. K. Lutgens, E. J. Tarbuck and D. Tasa, Pearson.
(The lecture textbook is available in both print and electronic formats. See GMU Bookstore.)

Laboratory Workbook

Physical Geology, 6th Edition, 2017, G. Kysar Mattietti and S. Verardo, Kendall Hunt.
(The laboratory workbook is available in electronic formats only. See https://he.kendallhunt.com/product/physical-geology or GMU Bookstore.)

Scantron forms

All lecture exams will use Scantron forms, and students are required to supply their own forms. These forms are available at the GMU Bookstore. You will need the rectangular forms that have 50 question spaces on each side, and five response choices (A-E). The Scantron form number is 882-E. Green is the standard color, but the color of the form is not important as long as the form number includes 882-E.

Required Coursework & Grading Weights

The graded coursework for this class consists of three exams plus the labs of the Laboratory Section. Each exam will have the same weight as the *total* of the Laboratory work.

Weight	Coursework
25%	Exam I
25%	Exam II
25%	Exam III (Final Exam)
25%	Lab Grade (Combined Laboratory Section Work)

See your Laboratory Section Syllabus for details on Lab requirements and expectations.

Grade Scale

A	≥ 90%	Letter grades will be determined by the percentage of total points possible, with
B	≥ 80%	point values weighted as indicated in the table above. The grade scale is subject to
C	≥ 70%	change if the class mean is higher or lower than expected, but any such change
D	≥ 60%	would be more favorable to students, i.e., the cutoffs for each could be at lower
F	< 60%	percentages than indicated by this scale but they will not be higher.

+/- qualifiers will be used for grades near the letter grade limits

Tentative Course Schedule

Week	Date	Topic	Textbook Chapters
1	08/23	Course Information & Overview of Physical Geology	1
	08/25	Matter and Minerals	3
2	08/30	Igneous Rocks, Magma and Intrusive Igneous Structures	4
	09/01	Volcanoes and Volcanic Hazards	5
3	09/06	*Labor Day – No Class*	
	09/08	Weathering and Soils	6
4	09/13	Sedimentary Rocks	7
	09/15	Metamorphic Rocks	8
5	09/20	Review 1	
	09/22	*Exam I*	
6	09/27	Mass Wasting	12
	09/29	Surface Water and Its Work	13
7	10/04	Groundwater and Its Work	14
	10/06	Glaciers and Glaciation	15
8	10/11	*Fall Break – No Class (Monday classes and labs slide one day)*	
	10/12	Ice Ages **[TUESDAY CLASS!]**	
	10/13	Deserts and the Work of Wind	16
9	10/18	Shorelines	17
	10/20	Review 2	
10	10/25	*Exam II*	
	10/27	Plate Tectonics	2
11	11/01	Earthquakes and Earth Interior	9
	11/03	Origin and Evolution of Ocean Floors	10
12	11/08	Crustal Deformation	11
	11/10	Mountain Building and Geologic Time	18
13	11/15	Evolution of Earth	19
	11/17	Earth Resources	
14	11/22	Climate Change	20
	11/24	*Thanksgiving Break – No Class*	
15	11/29	Earth Geology in Context of Other Planetary Bodies	
	12/01	Review 3	
16	12/08	*Exam III* (*Final Exam*) (10:30 am – 1:15 pm)	

If GMU is closed on the scheduled date of the Final Exam, the make-up date and time of the Final Exam will be announced. Check Blackboard and e-mail.

Note: Course content and schedule may be modified by the instructor as the semester progresses.

Key Add/Drop/Withdrawal Dates

Aug 30 Last day to add classes
Sep 07 1st drop deadline (full tuition refund, no record on transcript)
Sep 14 2nd drop deadline (50% tuition refund, no record on transcript)
Sep 27 Last day for unrestricted Self-Withdrawal (no tuition refund, W on transcript)
Oct 27 Last day for Selective Withdrawal (no tuition refund, W on transcript)

Course Policies

Electronic Devices: The use of electronic devices (computer, tablet, phone, e-reader and the like) is permitted during class. While in class, your phone ringer and any other audible alerts on your devices must be off. Be respectful of your peers and instructor and do not use your electronic devices to engage in activities that are unrelated to the class while class is in session. The instructor reserves the right to prohibit the use of electronic devices by any student whose use of a device is disruptive to the class.

You may have to use University computers as part of the required work in this course. All standard University policies apply to the use of University computers and University computer systems for this course. Please see the GMU polices website (https://universitypolicy.gmu.edu/policies/responsible-use-of-computing/) for a summary of the University computer policies.

Calculators are the only aid that may be used during exams. If you plan to use a calculator function on a phone, tablet or other electronic device during an exam, you must only use the calculator function. No other use of electronic devices is allowed during exams, i.e., you may not use electronic devices to access notes or any other outside information during exams.

Course Materials and Presentations: All course materials and presentations (e.g., instructor notes, lectures, lecture outlines, lecture charts, assignments, exams, demonstrations) are for course use only. *They may not be shared, posted or in any way redistributed outside of the course, either electronically or as hardcopy*.

Recording of Lectures: Lectures and demonstrations may *not* be electronically recorded without prior permission of the instructor and completion of the appropriate University Recording/Lecture Notes Agreement form. The opinions, questions or comments of other class members must not be played back to anyone outside of the class.

Attendance: Students are expected to attend class regularly. However, attendance at lectures is not strictly required, and lecture attendance itself does not factor directly into grades. Attendance is required for Laboratory sections, as is full participation in Laboratory exercises.

Exams: All exams except for the Final Exam will be taken during the regular class meeting time on the days listed in the course schedule. The time and day for the Final Exam is listed on the course schedule. All exams are closed book and closed notes, and use of any other outside information is prohibited.

Missed Exams: Reasonable accommodations will be made for missed exams due to sickness, religious observance and other unavoidable schedule conflicts if the instructor is notified prior to the date the exam is given. Unusual situations that prevent advance notice to the instructor will be handled on a case-by-case basis. In any event, exams that are not made up or remain unexcused one week after the scheduled exam date are subject to a grade of zero.

Collaboration: Students are encouraged to study together and discuss with each other the information and concepts covered in the lectures and course readings. Any discussions and collaborations must be done in accord with all University and local authority COVID-19 protocols, policies and regulations. For more information on health and saftey protocols, see GMU's Safe Return to Campus website (https://www2.gmu.edu/safe-return-campus).

Collaboration of any sort is not permitted during exams.

Grade Postings on Blackboard: Your exam and laboratory scores will be posted on Blackboard unless otherwise requested. Please tell the instructor if you do not want your scores posted on Blackboard.

Unscheduled University Closure: In the event of an unscheduled University closure or access limitation due to weather or other reasons, check Blackboard and your GMU e-mail for any class announcements. If class cannot meet because of the closure or access limitations, supplementary activities may be assigned.

University Policies

General University Policies: The University Catalog is the central resource for GMU policies affecting student, faculty and staff conduct in university academic affairs. Please see the catalog (https://catalog.gmu.edu) or the University Policy web site (https://universitypolicy.gmu.edu) for information on academic and non-academic policies not explicitly specified in the syllabus.

Academic Integrity: GMU is an Honor Code university; please see the Office for Academic Integrity (https://oai.gmu.edu) for a full description of the code and the honor committee process. The principle of academic integrity is taken seriously and violations are treated gravely. Three fundamental principles to follow at all times are: (1) collaboration on coursework may or may not be permitted (see policies for specific courses), but either way all work submitted must be your own; (2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and (3) if you are uncertain about the ground rules for collaboration on a particular assignment, ask for clarification. Another aspect of academic integrity is the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives and traditions.

Electronic Communications: The instructor will only use the GMU e-mail or Blackboard systems for electronic communications with students. To make such communications easier, it is requested that all student electronic communications to the instructor be sent through your GMU e-mail account or through Blackboard. Please do not use personal e-mail accounts. For more information about student e-mail accounts, please see the GMU mail website (http://mail.gmu.edu).

Disability Accommodations: All academic accommodations must be arranged through Disability Services. If you need academic accommodations, please contact Disability Services at 703-993-2474 or talk to the instructor. See also the Disability Services website (https://ds.gmu.edu) for more information.

Diversity: Through its curriculum, programs, policies, procedures, services and resources, GMU strives to maintain a quality environment for work, study and personal growth. An emphasis upon diversity and inclusion throughout the campus community is essential to achieve these goals.

Diversity is broadly defined to include such characteristics as, but not limited to, race, ethnicity, gender, religion, age, disability and sexual orientation. Diversity also entails different viewpoints, philosophies and perspectives. Attention to these aspects of diversity will help promote a culture of inclusion and belonging, and an environment where diverse opinions, backgrounds and practices have the opportunity to be voiced, heard and respected.

Sexual Misconduct and Interpersonal Violence: GMU is committed to providing a safe learning, living and working environment. Your experience at Mason is meant to be vibrant and dynamic, and one that includes ample opportunities for exploration of self, identity and independence. Sexual misconduct and incidents of interpersonal violence deeply interrupt that experience, and GMU is committed to maintaining a campus that is free of such incidents.

GMU encourages individuals who have been sexually harassed, assaulted or subjected to sexual misconduct to seek assistance and support. Confidential resources that are available on campus include: University Title IX Coordinator, Counseling and Psychological Services, Student Support and Advocacy Center, and Student Health Services. Please note that most all other members of the University community are not considered confidential resources and are required to report incidents of sexual misconduct or other prohibited conduct to the University Title IX Coordinator.

Title IX

Title IX is a federal civil rights law that was passed as part of the Education Amendments of 1972. It prohibits discrimination on the basis of sex under any education program or activity receiving federal funding. GMU receives federal funds in many forms and so is required to comply with Title IX.

Sexual assault and sexual harassment are forms of sex discrimination prohibited by Title IX. Other issues that are investigated under Title IX include stalking, intimate partner violence, gender-based harassment, sexual exploitation, complicity and retaliation for good faith reporting of any of these forms of conduct or participation in any investigation or proceeding.

For more information see https://diversity.gmu.edu/title-ix/what-title-ix/university-title-ix-statement and https://www2.ed.gov/about/offices/list/ocr/docs/tix_dis.html .

Student Support Resources

GMU has several support resources available to all students. Potentially useful starting points for more information include:

- Learning Services: https://learningservices.gmu.edu
- Tutoring Resources: https://learningservices.gmu.edu/tutoring-resources
- Student Health Services: https://shs.gmu.edu
- Counseling and Psychological Services: https://caps.gmu.edu
- Student Support and Advocacy Center: https://ssac.gmu.edu
- Compliance, Diversity and Ethics: https://diversity.gmu.edu
- Sexual Misconduct, Harassment and Discrimination resources: https://diversity.gmu.edu/title-ix
- University Title IX Coordinator: https://diversity.gmu.edu/title-ix/who-can-i-call
- University Career Services: https://careers.gmu.edu

Many other resources listed under Student Life: https://www2.gmu.edu/student-life

Coronavirus/COVID-19 Information and Resources

COVID-19 remains a potential threat to the normal operations of classes and other activities at GMU this semester. Please pay attention to announcements regarding changes that may have to be made to this and other classes as conditions warrant.

GMU maintains a website with information and resources related to the coronavirus and the associated procedures and changes in GMU operations that are in response to the virus. The site is updated regularly with new data and information. It also contains links to external sites (i.e., outside of GMU) where additional information can be found (https://www2.gmu.edu/safe-return-campus).

Mason COVID Health Check Requirements: All students taking courses with a face-to-face component are required to follow the University's public health and safety precautions and procedures outlined on the university Safe Return to Campus webpage (https://www2.gmu.edu/safe-return-campus). Similarly, all students in face-to-face and hybrid courses must also complete the Mason COVID Health Check daily, seven days a week. The COVID Health Check system uses a color code system and students will receive either a Green, Yellow, or Red email response. Only students who receive a "green" notification are permitted to attend courses with a face-to-face component. If you suspect that you are sick or have been directed to self-isolate, please quarantine or get testing. Faculty are allowed to ask you to show them that you have received a Green email and are thereby permitted to be in class.

Facemask Requirements: Students are required to follow Mason's current policy about facemask-wearing. As of August 11, 2021, all community members are required to wear a facemask in all indoor settings, including classrooms, unless Disability Services has approved an accommodation. An appropriate facemask must cover your nose and mouth at all times in our classroom (see https://www2.gmu.edu/safe-return-campus/personal-and-public-health/face-coverings. If this policy changes, you will be informed.