

**Geology 101
Introductory Geology I
(Physical Geology)
Section 001
Fall 2019 Syllabus**

Meeting Times and Location

Mondays and Wednesdays 10:30 –11:45 am
Nguyen Engineering Building 1101

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

e-mail: jgoldspi@gmu.edu (best contact method)
Phone: 240-670-3000
Office: Exploratory Hall 3417, Adjunct Office
Mailbox in Exploratory Hall 3400
Office Hours: Wednesdays 1:30–2:30 pm
Other days and times by appointment

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 Workbook, 6th Edition, 2017, G. Kysar Mattiotti and S. Verardo, Kendall Hunt.
(The lab workbook is available in both print and electronic formats, see GMU Bookstore or <https://he.kendallhunt.com/product/physical-geology-workbook>)

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

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

Tentative Course Schedule

Week	Date	Topic	Textbook Chapters
1	08/26	Introduction to Physical Geology	1
	08/28	Matter and Minerals	3
2	09/02	<i>Labor Day – No Class</i>	
	09/04	Igneous Rocks	4
3	09/09	Volcanoes	5
	09/11	Weathering and Soils	6
4	09/16	Sedimentary Rocks	7
	09/18	Metamorphic Rocks	8
5	09/23	Review	
	09/25	<i>Exam I</i>	
6	09/30	Mass Wasting	12
	10/02	Surface Water	13
7	10/07	Groundwater	14
	10/09	Glaciers	15
8	10/14	<i>Fall Break – Monday classes and labs slide one day</i>	
	10/15	Ice Age [TUESDAY CLASS!]	
	10/16	Wind	16
9	10/21	Shorelines	17
	10/23	Review	
10	10/28	<i>Exam II</i>	
	10/30	Plate Tectonics	2
11	11/04	Earthquakes and Earth's Interior	9
	11/06	Origin and Evolution of Ocean Floors (Divergent Boundaries)	10
12	11/11	Crust Deformation and Mountain Building (Convergent Boundaries)	11
	11/13	Geologic Time	18
13	11/18	Evolution of Earth	19
	11/20	Energy and Mineral Resources	
14	11/25	Climate Change	20
	11/27	<i>Thanksgiving Break – No Class</i>	
15	12/02	Earth Geology in Context of Other Solar System Bodies	
	12/04	Review	
16	12/11	* <i>Exam III (Final Exam) (10:30 am – 1:15 pm)</i>	

* 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

- Sep 03 Last day to add classes
- Sep 09 1st drop deadline (full tuition refund, no record on transcript)
- Sep 17 2nd drop deadline (50% tuition refund, no record on transcript)
- Sep 30 Last day for Self-Withdrawal (no tuition refund, W on transcript)
- Oct 29 Last day for Selective Withdrawal (no tuition refund, W on transcript)

Course Policies

Electronic Devices: The use of electronic devices (computers, tablets, cell phones, e-readers and the like) is permitted during class. While in class, your cell phone ringer and any other audible alerts on your devices should be off. Please be respectful of your peers and your 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 the devices is disruptive to the class.

You may have to use University computers as part of the required work in this course. Be advised that all standard University policies apply to the use of University computers for this course. Please see the GMU policies website (<https://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>) for a summary of the University computer policies.

Only calculators 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 for notes, internet access or any other 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 or redistributed outside of the course, either electronically or as hardcopy.

Lectures and demonstrations may *not* be electronically recorded.

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.

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.

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 for weather or any other reason, check Blackboard and your GMU e-mail for any class announcements. If class cannot meet because of the closure, 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 (MasonLive) e-mail account or through Blackboard. Please do not use personal e-mail accounts. For more information about student e-mail accounts, please see <http://mail.gmu.edu>.

Disability Accommodations: If you are a student with a disability and need academic accommodations, please see the instructor and contact Disability Services at 703-993-2474. See also <https://ds.gmu.edu>. All academic accommodations must be arranged through Disability Services.

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 a campus that is free of these types of incidents.

GMU encourages individuals who have been sexually harassed, assaulted or subjected to sexual misconduct to seek assistance and support. Confidential resources are available on campus at 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/or Discrimination resources:
<https://diversity.gmu.edu/sexual-misconduct>
- 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>