

**Geology 325
Planetary Geology
Fall 2019 Syllabus**

Meeting Times and Location

Wednesdays 7:20 –10:00 pm
Exploratory Hall 1005

Instructor

Dr. Jules Goldspiel
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Other days and times by appointment

Course Information

3 Credits

Prerequisites: GEOL 101 (Introductory Geology I) or GEOL 102 (Introductory Geology II)

This course will focus on the geology and geologic processes relevant to the terrestrial planets, moons, and other Solar System bodies including dwarf planets, asteroids and comets. The emphasis will be on understanding past and present surface geologic processes. The geology of Earth will not be covered directly, but geologic features and processes on Earth will be compared and contrasted with those on other planetary bodies when relevant.

Participation in one Observation Night at the GMU Observatory is required outside of class hours.

The goals of this course are for students to:

- Develop an understanding of what is known and unknown about the surfaces and interiors of planets, moons and other Solar System bodies
- Understand the range of geologic processes occurring throughout the Solar System today
- Understand the evidence for different geologic processes that may have occurred on different Solar System bodies in the past
- Understand the tools and techniques used to study the geology and geologic history of planets, moons and other Solar System bodies

Students will find it helpful to have ready access to a scientific calculator or spreadsheet program.

Recommended Course Textbook

Introduction to Planetary Geomorphology, 2013, Ronald Greeley, Cambridge University Press.

Grade Scale

A	≥ 90%	Letter grades are determined by the percentage of total points possible, with point values weighted as indicated in the table below. 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

Required Coursework & Grading Weights

The graded coursework for this class consists of Homework, a Semester Exercise, an Observation Night, two Preliminary Exams and a Final Exam. The weight of each component is as listed below.

Weight	Coursework
20%	Homework (5 assignments total)
20%	Semester Exercise
5%	Observation Night participation
15%	Preliminary Exam I
15%	Preliminary Exam II
25%	Final Exam

Tentative Course Schedule

Week	Date	Topic	Textbook Chapters	Homework Assigned
1	08/28	The Solar System & Planetary Exploration	1, 2	
2	09/04	Planetary Geologic Processes	3	#1
3	09/11	The Moon & Surface Ages	4	
4	09/18	Mercury	5	#2
5	09/25	Venus & Relevance of Atmospheres	6	
6	10/02	<i>Preliminary Exam I</i>		
7	10/09	Mars System & Gradation	7	
8	10/16	Mars System & Basic Planetary Properties		#3
9	10/23	Jupiter System & Tides	8	
10	10/30	Saturn System	9	#4
11	11/06	Uranus System & Neptune System	10	
12	11/13	<i>Preliminary Exam II</i>		
13	11/20	Dwarf Planets & Small Solar System Bodies		#5
14	11/27	<i>Thanksgiving Break – No Class</i>		
15	12/04	Meteorites & Exoplanets & Course Review	11	
16	12/11	* <i>Final Exam (7:30 pm – 10:15 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.

Other Important Dates

Sep 03	Last day to add classes
Sep 09	1 st drop deadline (full tuition refund, no record on transcript)
Sep 17	2 nd 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)
Nov 06	Semester Exercise due
[TBD*]	Observation Nights (<i>Sep and Oct dates to be confirmed with Observatory</i>)

* Observation Nights are weather permitting. Status will be announced on the scheduled day.

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 polices 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 is not strictly required except for one Observation Night. The Observation Night will be held outside of regular class time. You must fully participate in one Observation Night to receive full credit for this assignment.

Assignments: Homework assignments will be posted on Blackboard on the days listed in the course schedule. Except when specifically noted, homework assignments are due by the start of class (7:20 pm) one week after they are issued. Assignments may be e-mailed or handed directly to the instructor. *Do not leave assignments in the instructor's office mailbox.*

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.

Late Assignments and Missed Exams: Reasonable accommodations will be made for late assignments and missed exams due to sickness, religious observance and other unavoidable schedule conflicts if the instructor is notified prior to the date the assignment is due or exam given. Unusual situations that prevent advance notice to the instructor will be handled on a case-by-case basis. In any event, assignments and exams that are not turned in, are not made up or remain unexcused one week after the scheduled due date or 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 on homework assignments and the Semester Exercise is permitted so long as all students in the collaboration fully participate in the discussion of all questions, do a fair share of the collaborative work, and do their own write-ups. Simple division of labor (i.e., dividing questions within the group) is not consistent with this collaboration policy. Collaboration of any sort is not permitted during exams.

Grade Postings on Blackboard: Your assignment and exam 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>