

# Course Change Request

## New Course Proposal

Date Submitted: 10/23/17 12:00 pm

Viewing: **GEOL 325 : Planetary Geology**

Last edit: 10/23/17 12:00 pm

Changes proposed by: bklinger

**Are you completing this form on someone else's behalf?**

### In Workflow

1. **AOES Chair**
2. **SC Curriculum Committee**
3. SC Associate Dean
4. Assoc Provost- Undergraduate
5. Registrar-Courses
6. Banner

### Approval Path

1. 10/23/17 12:56 pm  
Jim Kinter (ikinter):  
Approved for AOES  
Chair

No

**Effective Term:** Spring 2018

**Subject Code:** GEOL - Geology

**Course Number:**  
325

**Bundled Courses:**

**Equivalent Courses:**

**Catalog Title:** Planetary Geology

**Banner Title:** Planetary Geology

**Will section titles vary by semester?** No

**Credits:** 3

**Schedule Type:** Lecture

**Hours of Lecture or Seminar per week:** 3

**Repeatable:** May only be taken once for credit (NR)

**Default Grade Mode:** Undergraduate Regular

**Recommended Prerequisite(s):**

**Recommended Corequisite(s):**

**Required Prerequisite(s) / Corequisite(s) (Updates only):**  
GEOL 101 or GEOL 102

**Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):**

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?	

**Registration Restrictions (Updates only):**

**Registrar's Office Use Only - Registration Restrictions:**

**Field(s) of Study:**

**Class(es):**

**Level(s):**

**Degree(s):**

**School(s):**

**Catalog Description:**

Covers the geology and geologic processes of the terrestrial planets, moons, and other small bodies in the solar system including dwarf planets, asteroids and comets. The emphasis is on understanding past and present surface geologic processes. Observation session at campus observatory may be required outside of class hours.

**Justification:**

Course has been run twice as Special Topics and has been well-received by students.

**Does this course cover material which crosses into another department?** No

**Learning Outcomes:**

The goals of this course are for students to:

- Develop an understanding of what is known and not known about the surfaces and interiors of these bodies
- Understand the range of geologic processes occurring throughout the solar system today
- Understand the evidence for different processes that may have occurred in the past on different solar system bodies
- Understand the tools and techniques used to study the geology and geologic history of these bodies.

**Attach Syllabus**

[geol325dsyll.pdf](#)

**Additional  
Attachments****Staffing:**

Dr. Jules Goldspiel (AOES Adjunct)

**Relationship to  
Existing Programs:**

The course will be an elective in Earth Science BS and Geology BA.

**Relationship to  
Existing Courses:**

Replaces section of GEOL 315 Special Topics.

**Additional  
Comments:****Reviewer  
Comments**

Key: 15643

## **GEOL 325 Planetary Geology Syllabus Fall 2017**

### **Meeting Times and Location**

Wednesdays 4:30 –7:10 pm  
Exploratory Hall 1005

### **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 EXPL 3400)  
Office Hours: Mondays 11:00–12:00 pm, other days and times by appointment

### **Course Information**

3 Credit Hours  
Prerequisites: GEOL 101 (Introductory Geology I) or GEOL 102 (Introductory Geology II),  
or permission of instructor

This course will focus on the geology and geologic processes relevant to the terrestrial planets, the moons of the terrestrial and giant planets, and other small bodies in the solar system including dwarf planets, asteroids and comets. The emphasis will be on 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.

Note: An observation session at the campus observatory will be required outside of class hours.

The goals of this course are for students to:

- Develop an understanding of what is known and not known about the surfaces and interiors of these bodies
- Understand the range of geologic processes occurring throughout the solar system today
- Understand the evidence for different processes that may have occurred in the past on different solar system bodies
- Understand the tools and techniques used to study the geology and geologic history of these 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

### **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%	

### Required Coursework & Grading Weights

Weight	Coursework
20%	Homework (5 assignments total)
20%	Data Collection & Analysis Exercise
5%	Observation session participation
15%	Preliminary Exam I
15%	Preliminary Exam II
25%	Final Exam

### Tentative Course Schedule

Week	Date	Topic	Textbook Chapters	Homework Assigned
1	08/30	Solar System & Planetary Geology Overview	1	
2	09/06	Planetary Exploration Methods	2	#1
3	09/13	Planetary Geologic Processes	3	
4	09/20	Moon & Impact Cratering	4	#2
5	09/27	Mercury & Basic Planetary Body Properties	5	
6	10/04	Venus & Atmosphere Effects	6	
7	10/11	<i>Preliminary Exam I</i>		
8	10/18	Mars System & Gradation	7	#3
9	10/25	Jupiter System & Tides, Volcanoes and Ice Geology	8	#4
10	11/01	Saturn System & Tides, Rings and Hydrocarbon Geology	9	
11	11/08	Uranus and Neptune Systems	10	
12	11/15	<i>Preliminary Exam II</i>		
13	11/22	<i>Thanksgiving Break – No Class</i>		
14	11/29	Pluto, Dwarf Planets, Asteroids, Comets, Other Small Bodies & Low Gravity Geology		#5
15	12/06	Exoplanets & Course Review	11	
16	12/13	* <i>Final Exam (4:30 pm – 7:15 pm)</i>		

Note: Except for the Final Exam, which is scheduled by the University, the course content and schedule may be modified by the instructor as the semester progresses.

\* 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.

### Important Dates

Sep 05 Last day to add classes  
Sep 05 1<sup>st</sup> drop deadline (no tuition penalty, no record on transcript)  
Sep 12 2<sup>nd</sup> drop deadline (33% tuition penalty, W on transcript)  
Sep 29 Final drop deadline (67% tuition penalty, W on transcript)  
Nov 08 Data Collection & Analysis Exercise due  
Dec 13\* Final Exam

## Course Policies

Electronic Devices: The use of electronic devices (computers, tablets, cell phones, e-readers and the like) is permitted during class for the purposes of taking and reading notes. Please be respectful of your peers and your instructor and do not engage in activities that are unrelated to the class. Also, if your cell phone is on, the ringer should be off while in class. 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.

University computers will be used in this course. As in regular classes, when using the university computers for the coursework, do not engage in activities that are unrelated to the class. Also be advised that all standard university policies apply to the use of university computers in this course (see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing>).

Only calculators may be used during exams. If you plan to use a calculator function on a smart 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; you may not use electronic devices for notes, internet access or any other information.

Course Materials and Presentations: All course materials and presentations (e.g., instructor notes, assignments, exams, lectures, demonstrations) are for course use only and may not be otherwise 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 the Observation session; you must fully participate in the Observation session to receive full credit for this part of the course.

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 (4:30 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.*

Late Assignments and Missed Exams: Except when specifically noted, homework assignments are due by the start of class one week after they are issued. Exams will be taken in class on the days listed in the course schedule. Reasonable accommodations will be made for 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: Assignment and exam scores will be posted on Blackboard unless otherwise requested by student. Let the instructor know if you do not want your scores to be posted.

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 (<http://catalog.gmu.edu>) or the University Policy web site (<http://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 (<http://oai.gmu.edu>) for a full description of the code and the honor committee process. The principle of academic integrity is taken very 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 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: All electronic communications with the instructor must occur through your GMU (MasonLive) e-mail account. The instructor is similarly required to use his GMU e-mail when communicating with students. For more information about student e-mail accounts, please see <http://masonlive.gmu.edu>.

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

Diversity: GMU aims to promote an environment for outstanding growth and productivity among its students, faculty and staff. Through its curriculum, programs, policies, procedures, services and resources, Mason 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 believe that they 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 Health Services and the University Ombudsperson. Please note that all other members of the University community are not considered confidential resources and are required to report incidents of sexual misconduct to the University Title IX Coordinator.

**Student Support Resources**

- Counseling and Psychological Services: <http://caps.gmu.edu>
- Student Health Services: <http://shs.gmu.edu>
- University Ombudsperson: <http://ombudsman.gmu.edu>
- Student Support and Advocacy Center: <http://ssac.gmu.edu>
- University Title IX Coordinator: <https://diversity.gmu.edu/title-ix/where-turn>
- Learning Services: <http://learningservices.gmu.edu>
- Tutoring Resources: <http://learningservices.gmu.edu/tutoring-resources>
- University Career Services: <http://careers.gmu.edu>
- Many other resources listed on: <https://www2.gmu.edu/student-life>