

# GLY 2042: Planetary Geology – Spring 2025 – 3 credit hours

Mon., Wed., Fri. (Period 5: 11:45am – 12:35pm EST) in Williamson Hall, room 210

**Instructor:** Dr. Stephen Elardo  
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**Office hours:**  
Wednesdays, 2 – 3pm, 4 – 5pm EST or by appointment

**Course Website:** <http://elearning.ufl.edu>

**Course Materials:** None required.

Optional: An Introduction to the Solar System, edited by Rothery, McBride, and Gilmour, 3<sup>rd</sup> edition

## Course Objectives

- 1) Apply knowledge of how the Solar System and its planetary bodies formed to observations of those bodies.
- 2) Identify key components of how and why other planetary bodies differ from Earth and what they can tell us about the Earth.
- 3) Demonstrate knowledge of the differences and connections between geological and planetary sciences.
- 4) Identify key moments in the exploration history of the Solar System and apply knowledge to identify the strengths and limitations of various types of planetary exploration missions.
- 5) Identify the main characteristics of planetary bodies and demonstrate knowledge of their formation

<b>Grading Scheme:</b>	A = 93.0-100%	A- = 90.0-92.9%	
	B+ = 87.0-89.9%	B = 83.0-86.9%	B- = 80.0-82.9%
	C+ = 77.0-79.9%	C = 73.0-76.9%	C- = 70.0-72.9%
	D+ = 67.0-69.9%	D = 63.0-66.9%	D- = 60.0-62.9%
	E = below 60%		

	POINTS
<b>MIDTERM</b>	20%
<b>FINAL EXAM – COMPREHENSIVE (DEC. 16<sup>TH</sup> 10AM – 12PM)</b>	20%
<b>HOMEWORKS AND QUIZZES</b>	20%
<b>LECTURE ATTENDANCE &amp; PARTICIPATION</b>	15%
<b>FINAL PROJECT</b>	25%

## Attendance Rubric:

Attendance and participation are critical to successful completion of this course. Attendance will be taken during each class meeting and recorded. Students will earn 1 point per class period for attendance. Students are allowed one “personal day” for the semester, after which each absence that does not meet university criteria for “excused” will result in 0 points.

## Participation Rubric:

Students will earn 3 point per week for participation. Consistent informed, thoughtful, and considerate class participation is expected and will be evaluated using the rubric below.

*High Quality (HQ) Average (A) Needs Improvement (NI)*

Informed: Shows evidence of having done the assigned work. 1 (HQ) 0.5 (A) 0.25 (NI)

Thoughtful: Shows evidence of having understood and considered issues raised. 1 (HQ) 0.5 (A) 0.25 (NI)

Considerate: Takes the perspective others into account. 1 (HQ) 0.5 (A) 0.25 (NI)

**Lecture Schedule:** The tentative schedule for lecture topics and exams is below and will be posted separately on Canvas.

**Homework and Canvas Quizzes:** Throughout the semester, homework exercises and quizzes will be assigned through Canvas. These assignments should be completed and submitted through Canvas.

**Late Work Policy:** Work turned in late for unexcused reasons will be subject to a grade reduction of 20% per day.

**Makeup Policy:** Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

**Email:** ALL email communications must be sent from (and will be sent to) your Gatorlink accounts, or be sent through the Canvas email tool. Emails will receive a response within 24 hours Monday through Friday. **Before sending Dr. Elardo a question via email please check the syllabus and class website for the answer to your question.**

### **Course Evaluation**

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://gatorevals.aa.ufl.edu/>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://gatorevals.aa.ufl.edu/>.

### **Students Requiring Accommodations**

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

### **University Honesty Policy**

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor in this class.

**University Policy on Accommodating Students with Disabilities:** Students requesting accommodation for disabilities must first register with the Dean of Students Office (is <http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**University Policy on Academic Misconduct:** Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at <http://www.dso.ufl.edu/students.php>.

**Netiquette: Communication Courtesy:** All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. [Describe what is expected and what will occur as a result of improper behavior – <http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf>

### **In-Class Recording**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

### **Campus Resources:**

#### **Health and Wellness**

***U Matter, We Care:*** If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

***Counseling and Wellness Center:*** Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.

***Student Health Care Center:*** Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

***University Police Department:*** Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

***UF Health Shands Emergency Room / Trauma Center:*** For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

#### **Software Use**

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

#### **Student Privacy**

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

## Schedule of Topics

---Below schedule is tentative and may vary depending on lecture pace---

Week	Day	Date	Topic	Reading
1	M	Jan 13	Course Introduction/Exploration of the Solar System	
	W	Jan 15	Exploration of the Solar System	
	F	Jan 17	Stellar Evolution and Nucleosynthesis	289 - 323
2	M	Jan 20	<b>Holiday – No Class</b>	
	W	Jan 22	Solar System Formation	3-31
	F	Jan 24	Solar System Formation	
3	M	Jan 27	Differentiation and Composition of the Planets I	33 - 84
	W	Jan 29	Differentiation and Composition of the Planets II	
	F	Jan 31	Differentiation and Composition of the Planets III	
4	M	Feb 3	Asteroids and the Belt	251 - 269
	W	Feb 5	Asteroid Belt – Meteorites	325 - 357
	F	Feb 7	Asteroid Belt – Meteorites	
5	M	Feb 10	Asteroid Belt – Vesta and Ceres I	
	W	Feb 12	Surface Processes – Volcanism	85 - 127
	F	Feb 14	Surface Processes – Volcanism	
6	M	Feb 17	Surface Processes – Cratering and Tectonics	129 -151
	W	Feb 19	Surface Processes – Cratering and Tectonics	
	F	Feb 21	Surface Processes – Fluvial Transport and Space Weathering	155 - 161
7	M	Feb 24	Exploration Techniques and Instruments	
	W	Feb 26	<b>Midterm Exam</b>	
	F	Feb 28	Mercury	
8	M	Mar 3	Venus	
	W	Mar 5	Venus	
	F	Mar 7	Exploration of the Moon	
9	M	Mar 10	<b>Lunar and Planetary Science Conference – No Class</b>	
	W	Mar 12	<b>Lunar and Planetary Science Conference – No Class</b>	
	F	Mar 14	<b>Lunar and Planetary Science Conference – No Class</b>	
10	M	Mar 17	<b>Spring Break – Enjoy!</b>	
	W	Mar 19	<b>Spring Break – Enjoy!</b>	
	F	Mar 21	<b>Spring Break – Enjoy!</b>	
11	M	Mar 24	Exploration of Mars – <b>Prof. Amy Williams Guest Lecture</b>	
	W	Mar 26	Martian Geology	
	F	Mar 28	Martian Geology	
12	M	Mar 31	Lunar Geology	
	W	Apr 2	Lunar Geology	
	F	Apr 4	Exploration of the Outer Planets	207 - 248
13	M	Apr 7	Jupiter and Moons	
	W	Apr 9	Jupiter and Moons	
	F	Apr 11	Saturn and Moons	
14	M	Apr 14	Uranus, Neptune, and Moons	
	W	Apr 16	Uranus, Neptune, and Moons	
	F	Apr 18	Pluto, Moons, the Kuiper Belt, and the Oort Cloud	269 - 282
15	M	Apr 21	<b>Student Project Presentations</b>	
	W	Apr 23	<b>Student Project Presentations</b>	
	F	Apr 25	<b>Reading Day – No Class</b>	