

# PTYS 594A: Planetary Geology Field Studies

## Instructor and Contact Information

Instructor: Dr. Shane Byrne

Pronouns: he/him/his

Office: Kuiper 524

Telephone: +1-520-626-0407

E-mail: [shane@lpl.arizona.edu](mailto:shane@lpl.arizona.edu)

Office Hours: Open Door Policy (appointments are more likely to succeed)

Course Website: <https://pirlwww.lpl.arizona.edu/wiki/Fieldtrip>

Course Meetings: Kuiper 312: Fridays 3-4pm.

## Destination

In Spring 2020, the destination will be to the Mojave Desert in California from 4/17 to 4/20.

## Behavior Expectations During the Trip

- You and I have a shared responsibility to foster a positive learning environment. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading, making phone calls, web surfing, etc.).
- When in the field or vehicles collaborative behavior is expected. **I especially expect an environment free of threatening, discriminatory or harassing behavior.** Students should not take risks that put themselves or the group in danger – this includes behavior so negligent that it creates risk.
- Respect for the sites we visit is essential. Pay attention to what's around you as there are many dangerous plants and animals that could negatively impact you. Likewise, some sites we visit may have significance to native peoples or be protected for other reasons – be sure to behave in a way that does not negatively impact these sites.
- Various other UA-based expectations appear later in the syllabus.

## Description of Course

The acquisition of first-hand experience with geologic processes and features, focusing on how those features/processes relate to the surfaces of other planets and how accurately those features/processes can be deduced from remote sensing data. This is a three- to five-day field trip to an area of geologic interest where each student gives a short presentation to the group. This trip typically involves camping and occasional moderate hiking; students need to supply their own camping materials. Students may enroll in the course up to 10 times for credit. Field trips are led by a Planetary Sciences faculty member once per semester. Alternative grading (SPF).

# **PTYS 594A: Planetary Geology Field Studies**

## **Course Prerequisites or Co-requisites**

The course is intended for students Department of Planetary Sciences (PTYS) Graduate Program. Students outside of PTYS must obtain consent from the Instructor, prior to registering for the course. The course itself has no prerequisites. However, students will be required to undertake light hiking to access outcrops for field-based observations. If there are any reservations or concerns regarding such hikes, students should contract the Instructor. Participation in the field trip is required to obtain a passing grade of S or P.

## **Course Format and Teaching Methods**

Students are expected to complete a research report prior to leaving for the field and present the report during the field trip. Students are also expected to take field notes to document their observations of relevant geological outcrops. Teaching methods will therefore include a combination of in-class lectures and fieldwork, with students being required to participate in both of these activities. A planning session, held prior to the field trip, will determine the project each student will complete. A post-field trip meeting will be held to review the trip activities. Dates of the planning session, trip and post-trip meeting will be announced via email to all enrolled students at the beginning of the semester.

## **Course Objectives**

The objective of the course is for students to develop skills related to geological observation and description, linking their understanding of terrestrial geology with the remote sensing of planetary surfaces. Additional learning outcomes include developing an improved understanding of geological, geophysical, and geochemical processes relevant to the study of planetary bodies.

## **Expected Learning Outcomes**

Students will learn techniques for collecting field-based techniques including basic geological descriptions of geologic outcrops as well as advanced methods of measurement. Additionally, students will learn about fundamental geological surface processes related to volcanology, sedimentology, and tectonics. These skills and knowledge-based outcomes are applicable to both Earth and Planetary Sciences. Students will also learn about field safety and how to develop research plans to develop and test hypotheses related to geology.

## **Absence and Class Participation Policy**

Participation in the pre-trip meeting, trip itself and post-trip meeting are required to obtain a passing grade. Absences for university-approved activities for which you have in advance a note of dean's approval will be excused, or other arrangements will be made. If you will be absent due to a religious holiday, please let me know in advance. Absences for other reasons will not be excused unless special dispensation was received prior to the deadline.

The UA's policy concerning Class Attendance, Participation, and Administrative

## PTYS 594A: Planetary Geology Field Studies

Drops is available at: <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, <http://policy.arizona.edu/human-resources/religious-accommodation-policy>.

Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See: <https://deanofstudents.arizona.edu/absences>

If you anticipate being absent, are unexpectedly absent, or are unable to participate in class online activities, please contact me as soon as possible. *To request a disability-related accommodation to this attendance policy, please contact the Disability Resource Center at (520) 621-3268 or [drc-info@email.arizona.edu](mailto:drc-info@email.arizona.edu).* If you are experiencing unexpected barriers to your success in your courses, the Dean of Students Office is a central support resource for all students and may be helpful. The Dean of Students Office is located in the Robert L. Nugent Building, room 100, or call 520-621-7057.

### Course Communications

All communications outside the meetings described above will be through email. All necessary materials will be posted on the class website.

### Required Texts or Readings

There are no required texts, but students are expected to conduct independent readings to research their field trip report. These readings should include peer-reviewed sources of information with appropriate references.

### Required or Special Materials

Field books, hand lenses, hand-held global positioning systems (GPS) and other educational materials required for the field will be provided.

All other materials (e.g., camping equipment) will not be provided, and are the student's responsibility to obtain.

### Required Extracurricular Activities

Students are also encouraged to complete High Occupancy Vehicle (HOV) training prior to the field trip. Students who have completed this training and volunteer for additional responsibilities (e.g., driving or formatting the field trip guide) will be eligible for a Superior (S) pass.

### Assignments and Examinations: Schedule/Due Dates

**Research Report:** Students are expected to prepare a 3–5 page report related to their choice of topic prior to the field trip. Students are encouraged to propose their own topic (with instructor approval) or chose from an instructor-provided list

## PTYS 594A: Planetary Geology Field Studies

in the pre-trip meeting. Completed reports will be due before the trip on a date determined in the pre-trip meeting.

**Report Presentation:** The field report will be presented by in the field by each student are expected to be 10 to 15 minutes in length.

### Final Examination or Project

This course does not have a final examination.

### Grading Scale and Policies

Grading for this course will be: S, P, F (Superior, Pass, Fail) based on:

Participation	20%
Field Trip Report	40%
Field Trip Presentation	40%

Grades are assigned as follows:  $S \geq 90\%$ ,  $90\% > P \geq 50\%$ , and  $F < 50\%$ .

Note: All assignments will be graded by the Instructor; students must participate in the field trip to obtain a passing grade; and late work will generally not be accepted. See "Absence and Class Participation Policy" Section for more details.

**Requests for incomplete (I) or withdrawal (W)** must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

### Classroom Behavior Policy

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.).

Students are asked to refrain from disruptive conversations with people sitting around them during lecture. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave lecture or discussion and may be reported to the Dean of Students.

Some learning styles are best served by using personal electronics, such as laptops and iPads. These devices can be distracting to other learners. Therefore, students who prefer to use electronic devices for note-taking during lecture should use one side of the classroom.

Use of personal electronics such as laptops, iPads, and other such mobile devices is distracting to the other students and the instructor. Their use can degrade the

## **PTYS 594A: Planetary Geology Field Studies**

learning environment. Therefore, students are not permitted to use these devices during the class period.

### **Threatening Behavior Policy**

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See <http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>.

### **Accessibility and Accommodations**

At the University of Arizona, we strive to make learning experiences as accessible as possible. If you anticipate or experience barriers based on disability or pregnancy, please contact the Disability Resource Center (520-621-3268, <https://drc.arizona.edu/>) to establish reasonable accommodations.

### **Code of Academic Integrity**

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: <http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>.

The University Libraries have some excellent tips for avoiding plagiarism, available at <http://new.library.arizona.edu/research/citing/plagiarism>.

*Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor's express written consent.* Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

### **UA Nondiscrimination and Anti-harassment Policy**

The University of Arizona is committed to creating and maintaining an environment free of discrimination; see <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

### **Additional Resources for Students**

UA Academic policies and procedures are available at: <http://catalog.arizona.edu/policies>

## **PTYS 594A: Planetary Geology Field Studies**

Student Assistance and Advocacy information is available at:

<http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

### **Confidentiality of Student Records**

<http://www.registrar.arizona.edu/personal-information/family-educational-rights-and-privacy-act-1974-ferpa?topic=ferpa>

### **Subject to Change Statement**

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the Instructor.

This subject-to-change notice may be subject to change with advance notice, as deemed appropriate by the Instructor.