

PTYS 590: Planetary Geology Field Studies

Spring 2025

Destination and Dates: Salton Sea; Dates TBD.

First Meeting Held: 1/17/2023 3pm (subsequent meetings will be arranged then)

Meeting room: Kuiper Space Sciences Building, Room 330. Generally, 3pm on Fridays.

D2L link: <https://d2l.arizona.edu/d2l/home/1548091>

Trip leaders this semester:

Shane Byrne

Email: sbyrne@arizona.edu

Phone: 520-269-1022

Joe Schools

Email: jschools@arizona.edu

Phone: 714-308-2592

Description of Course

This course provides students with field-based opportunities to examine the products of fundamental geologic processes and learn how these landforms and processes relate to the surfaces of other planets. Students are expected to choose and complete a research report prior to leaving for the field and present the report during the field trip. This course will involve camping and occasional moderate hiking. If there are any reservations or concerns regarding such hikes, students should contact the Instructor. Students need to supply their own camping materials. Students may enroll in the course up to ten times for credit. Field trips are led by a Planetary Sciences faculty member and are assessed using SPF grading system. The course is intended for Department of Planetary Sciences (PTYS) Graduate Students. Other students must obtain Instructor consent prior to registering for the course.

Code of Conduct

The general [LPL Code of Conduct](#) applies to this course. A Code-of-Conduct addendum is included at the end of this document that is specific to LPL field trip courses.

Course Objectives

The objective of the course is for students to develop skills related to geological observation and description. Additionally, students will link their understanding of terrestrial geology with the remote sensing of planetary surfaces to develop an improved understanding of geological, geophysical, and geochemical processes relevant to the study of planetary bodies.

Expected Learning Outcomes

Students will be able to develop research plans and test their own hypotheses related to geology and paleo-environments. Students will be able to create geological descriptions using field-based techniques and advanced methods of measurements. Students will be able to develop connections between fundamental geological surface processes operating on Earth—such as sedimentology, tectonics, and processes of weathering and erosion—and analogous processes operating on other planetary bodies to understand their similarities and differences. Students will develop their communication skills by presenting scientific information to their peers.

COVID-19 and other illnesses:

- If you feel sick, have tested positive for an infectious illness, or have been in close contact with someone who is infectious, stay home. Except for seeking medical care, avoid contact with others and do not travel.
- Notify the instructor if you will be missing a meeting or the trip itself.

Required Materials

- 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.
- 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, suitable clothing) will not be provided, and are the student's responsibility to obtain.
- Potable water is generally provided, but students need their own bottle to refill. Students are responsible for bringing their own food.

Assignments and Examinations: Schedule/Due Dates

- **Research Report:** Students are expected to prepare a 3 to 5-page report related to their choice of topic prior to the field trip. A list of suggested topics will be posted on D2L. However, students are also encouraged to propose their own topic (with instructor approval). Completed reports will be due before the trip on a date set by that semester's instructor.
- **Report Presentation:** The field report will be presented by in the field by each student are expected to be 10-15 minutes in length.
- **Alternative Report/Presentation Formats:** If you face challenges in meeting course requirements, please contact the instructor for an alternative assignment.
- **Field Notebooks:** On trips where field notebooks are utilized, they will be collected and evaluated at the end of the field trip.

Grading Scale and Policies

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

| | |
|------------------------------|-----|
| Field Trip Report | 40% |
| Field Trip Presentation | 40% |
| Participation and engagement | 20% |

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

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.

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.

University Policies: Other University policies are listed at:

<https://academicaffairs.arizona.edu/syllabus-policies>

CODE OF CONDUCT AND FIELD SAFETY FOR LPL CLASS FIELD TRIPS

1. SCOPE

This document establishes a “Code of Conduct” and provides “Field Safety” information for LPL class field trips (primarily Pmys 590). All members of such a trip are expected to conduct themselves in accordance with these guidelines to create a positive, productive, and safe work environment in which everyone feels welcome, valued and enabled to succeed. We value diversity, equity, and inclusion in all of its forms, and the following principles, guidelines, best practices, and rules cover actions and behaviors for class participants. Safety is the most important criterion for field trip success and the following guidelines will help ensure a positive outcome for all attendees.

2. CODE OF CONDUCT

The general LPL Code-of-Conduct applies to LPL Field Trips. Please review this document as you are expected to abide by its contents:

https://www.lpl.arizona.edu/sites/default/files/documents/LPL_code_of_conduct_v20241107.pdf

In addition, an addendum (not a replacement) to this code of conduct is provided below as well as safety guidelines that all trip attendees are expected to abide by.

2B. CODE OF CONDUCT ADDENDUM

Communication

An open dialogue between all participants is key for safe, productive, and enjoyable field operations. All participants are strongly encouraged to communicate their questions, concerns, and/or comments directly to the field trip leaders at any point before, during, or after the field trip. The earlier concerns are voiced, the more quickly and effectively any issues can be dealt with before they develop into a larger problem.

Environmental and Cultural Considerations

We are guests at our field sites. Respecting local cultures and the landscape we are in is the responsibility of all participants for the duration of the field trip. “Leave no trace” applies (see: <https://www.nps.gov/articles/leave-no-trace-seven-principles.htm>). Do not disturb the landscape in an irreparable way or leave garbage or debris behind. We are ambassadors for our home institution and should conduct ourselves accordingly. As such it is important to treat the field environment as though we are entering someone else's home and treat the environment with respect.

Photography and videos

Please ask before taking a photo or video of others unless they are at such a distance as to be unidentifiable. If you are asked to stop at any point, this equates to not having permission. Always obtain consent before posting images or videos of others online.

Prohibited Conduct as Defined by ABOR 5-308: Photographing, videotaping, filming, digitally

recording, or by any other means secretly viewing, with or without a device, another person without that person's consent in any location where the person has a reasonable expectation of privacy, or in a manner that violates a reasonable expectation of privacy. This section does not apply to lawful security or surveillance filming or recording that is authorized by law enforcement or authorized university officials.

3. FIELD SAFETY PROTOCOLS

Health and safety in the field

Participants are strongly encouraged to read background material on the field area that we will be visiting. It is your responsibility to make decisions for your personal health and safety and use your common sense if something feels uncomfortable. Report to the instructor(s) immediately if at any time you feel you are in danger or your health (including mental health) is in jeopardy. ***Go everywhere with a partner. Nobody should travel anywhere alone.***

Hydration is key, no matter what environment you are in. Participants are strongly encouraged to utilize hydration packs. Several liters of water are recommended to be carried by each individual. ~1L per hour of activity. Snacks with salt are also encouraged to promote retention of fluids.

What to do if you or others are injured while in the field:

- If you are in immediate danger or sustain an injury, then ***stop what you are doing***. In the United States call **911** immediately if you cannot end the risk to yourself or others
- If already injured, ***do not*** continue participating in physical activities and immediately notify the field trip leader(s) that you have been injured and need to seek medical help or receive first-aid
- If you believe yourself or another participant may have sustained a back or neck injury, ***do not attempt to move yourself or the injured party***, notify the instructor(s) immediately – Emergency services will be contacted
- ***All injuries (even if perceived to be minor) must be reported to the field trip leader.***
- Injuries sustained when on UA business may be subject to workers compensation. If seeking non-emergency treatment after the trip, then check with your health insurance company.

Driving safety

The number one priority of driving is safety and not “sticking to the schedule” or keeping the caravan together at all costs. We cannot write a guideline for every driving eventuality, but in general every driving decision should be the one that minimizes risk. Whether you are a passenger or driver, communicate any safety concerns to the instructor(s) as soon as possible. A non-exhaustive list of safety considerations is:

- ***Do not speed.*** It is the leading cause of all motor accidents. If you receive a speeding ticket then UA will not reimburse you or represent you if you're contesting it. Do not speed to catch up with the convoy if separated – use the CB/cell phone to notify the lead vehicle to slow down.
- ***Excessive slowness also constitutes a risk,*** if the rest of the convoy needs to constantly slow down or pull off the road to wait for you. Try to keep pace with the rest of the vehicles as much as traffic and road conditions allow – if you are uncomfortable with the convoy speed then please speak to the instructors or use another driver.
- ***Do not drive if you are feeling ill or are excessively tired.*** Please exchange another driver if this occurs.
- ***The front seat passenger (not the driver) should manage the CB Radio*** or phone communication with other vehicles.
- ***Do not make unscheduled stops unless it is an emergency.*** If anyone needs a bathroom break then notify the lead vehicle to look for a place to stop – others will be also grateful for the break. If you need to stop in an emergency, then notify the instructor(s) as soon as it is safe to do so.
- ***Report any accident or mechanical problem*** with the vehicle (no matter how slight) to the field trip leader(s).
- ***CB Radio conversations are public,*** it is akin to shouting across a crowded room. Use good judgment about what you say, as we are not on private channels and others in the vicinity may hear you.

Campsite expectations and personal gear

- Each person is responsible for maintaining a comfortable setting for themselves and others by treating one another and the environment with respect.
- Each person is responsible for their own personal gear. The instructor will provide as much advance information as possible on typical weather, campsite, and trail conditions at the trip destination. If unsure about the equipment required, then contact the instructor well before the departure date (please don't guess or ignore the problem).
- Each person is responsible for their own meals. On the trip, please exercise good judgement in food selection and preparation to avoid illness. If you're unsure about what is suitable for the field, then consult the instructor.