

PTYS 590: Planetary Geology Field Studies

Spring 2023

Destination and Dates: Hawaii 3/1/2023 – 3/11/2023

First Meeting Held: 1/13/2023 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/1275383>

Trip leaders this semester:

Shane Byrne	Email: shane@lpl.arizona.edu	Phone: 520-269-1022
Brett Carr	Email: bbcarr@arizona.edu	Phone: 405-473-5512
Christopher Hamilton	Email: chamilton@arizona.edu	Phone: 301-305-3818

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.

A document detailing the class code of conduct and safety guidelines will be posted on the class D2L site. All trip participants must download this document and return a signed copy to the instructor.

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 3–5 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 a student faces 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%
Notes taken at field sites	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>