

Fall Semester, 2025
PTYS 595B-003 – Special Topics in Planetary Science

Instructor Information

Victor R. Baker, Regents Professor of Planetary Sciences, Geosciences, Hydrology and Atmospheric Sciences. Office Hours by Appointment (call 520-405-8976)

Course Description

The topics for this graduate-level seminar are divided into two broad areas: (1) planetary geology of Mars, including work initiated on planetary analogs from the Fall 2024 field camp in the Channeled Scabland region (though other research topics will be welcome as well); (2) Geo-philosophy. Students can specialize in either area, but, of course, they are also free to participate in both, if they so wish.

For both areas, current research directions and topics from the relevant scientific literature will be covered. For graduate students with less experience in the subject area, there can be a series of lectures and background materials provided by the instructor. For more experienced participants the emphasis will be on discussion of specialized subject areas related to their research projects. Arrangements may be made to have visiting presentations (on-line) with researchers specializing in various aspects of the seminar topics.

Course Prerequisites: Graduate Status in Planetary Sciences or Geology. Alternatively others may participate by permission of the instructor.

Course Format, Teaching Methods, and Modality: Seminar, with in-person meetings for small group discussions, plus on-line presentations and lectures by the instructor and/or visitors on specific topics of interest to the participants. Because participants have a variety of schedules, there will need to be hybrid formats, both in-person and via zoom.

Course Objectives: Course participants will advance their understanding of geological and/or geo-philosophical issues related to the Earth planetary sciences. This can include progress on existing research topics and the exploration of new topics.

Expected Learning Outcomes: Students will achieve an understanding of geological thinking, as it can be applied to Earth planetary science problems, including such topics as planetary analogs, planetary surface mapping, and the causal inferences that can be made in the course of investigating phenomena on Earth or Mars.

Required Texts and Materials: There are no required texts or material. Various readings will be supplied as email attachments.

Schedule of Topics and Activities: The official in-person seminar meetings will be on Friday afternoon, 1:30 to 3 pm. There will also be topical presentations at other times during the week according to the schedules of subgroups focused on different geological and geo-philosophical issues.

Assessments: These will depend on the registration level. Many students will be registered for one credit. This will require regular attendance and active participation in the weekly hybrid meetings, plus some engagement with other activities, including supplemental meetings and on-line lectures. Students registered for two credits will do the same, but they will also pursue a specific topic of interest and provide a product of that inquiry, such as a seminar presentation, the leading of a discussion on a topic, or a very brief written report. Students registered for 3 or 4 credits will do the same, but also produce a more extensive written report.

Grades will be assessed based on producing the appropriate outcome for the credit level of participation, with the top grade assigned for excellence in that outcome. There will be no quizzes or exams.

Final Examination or Project: There is no final examination or specific project requirement other than what is indicated under “Assessments.”

Safety on Campus and in the Classroom

For a list of emergency procedures for all types of incidents, please visit the website of the Critical Incident Response Team (CIRT): <https://cirt.arizona.edu/case-emergency/overview>

Also watch the video available at

https://arizona.sabacloud.com/Saba/Web_spf/NA7P1PRD161/common/learningeventdetail/crtfy000000000003560

Nondiscrimination and Anti-harassment Policy

The University of Arizona is committed to creating and maintaining an environment free of discrimination. In support of this commitment, the University prohibits discrimination, including harassment and retaliation, based on a protected classification, including race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, or genetic information. For more information, including how to report a concern, please see: <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

University Policies All university policies related to a syllabus are available at: <https://catalog.arizona.edu/syllabus-policies>.

Subject to Change Notice

Information contained in this course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor of this course.

Graduate Student Resources

Consider accessing the University of Arizona's Basic Needs Resources page:
<http://basicneeds.arizona.edu/index.html>