

PLANETARY GEOSCIENCE

TENNESSEE TECHNOLOGICAL UNIVERSITY
DEPARTMENT OF EARTH SCIENCES

GEOL 3310-001: PLANETARY GEOSCIENCE (3 Credits)

Lecture: MWF 11:15 am – 12:10 pm, KITT 311

Instructor: Jeannette (Wolak) Luna, PhD

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COVID-19 Course Modality: This is a hybrid course. We meet in person on Mondays from 11:15-12:10 in KITT 311. Lecture attendance is required - - please see Dr. Luna if you need to make arrangements for a medical absence. Wednesday and Friday lectures are asynchronous and available to watch online.

Office Hours: I have an open-door policy, and as long as I am in my office, I am happy to answer questions about assignments, grades, rocks, and space! If you would like to set up an appointment, please email me with a time that works with your schedule.

Course Description:

Introduction to the geology of rocky bodies in the solar system as well as known exoplanets. Integrates data from past and present space exploration missions to compare processes operating on the surface of the Earth to processes operating on the surface of other celestial objects.

Prerequisites: There are no prerequisites for this class.

Recommended/Required Textbooks

_____ Journal Articles - supplied by instructor. We will read a series of professional, peer-reviewed scientific journal articles. Black and white copies will be provided to you in class; digital/color copies will be available on iLearn.

Required Online Tools:

_____ iLearn - [Tennessee Tech iLearn Website](#)

- Access to supplementary lecture and homework materials will be available through iLearn.

_____ Google Earth - [Google Earth Website](#)

- Google Earth is a free download that allows you to view satellite imagery, maps, terrain and 3D buildings. We will use it frequently in class, and some homework exercises will require you to use it.

Student Learning Outcomes

There are five learning outcomes for this course. Assessment methods to measure these outcomes include in-class quizzes, homework assignments, lecture exams and a term project.

- I. Describe the physical, chemical, and biological evolution of rocky bodies in the solar system.
- II. Use remotely sensed data such as images or spectra to interpret the geology of an area.
- III. Apply geologic mapping principles to interpret the geologic history of a region on another planet or solar system body.
- IV. Analyze data returned from previous missions to test a scientific hypothesis.
- V. Communicate results in a mock planetary scientific conference.

Course Grades

Course grades are maintained in iLearn. If you have a question concerning any of your grades, please let me know. Note that course grades cannot be discussed via email due to federal privacy laws (FERPA).

Make-up Policy for Exams: You may not make up lecture exams except under extenuating circumstances, e.g. medically excused absences.

Late Work and Bonus Points

Late work will not be accepted. Bonus points may be available throughout the semester on varying assignments. It is recommended that you take advantage of bonus opportunities, as they are available. Do not ask me at the end of the semester to add bonus assignments.

Grading Summary

Lecture Exams: There are 3 exams total.	50%
Homework and Mapping Assignments	20%
Independent Research Project	30%

Field Trip: We may (depending on covid restrictions) take a Saturday field trip to Flynn Creek Crater, an impact structure located in central Tennessee. The dates for the trip will be announced in class. Participation is optional, but you are encouraged to attend. This is a unique opportunity to 'see' a crater in the wild!

Materials List: You may find it helpful to have the following materials available for this course.

- _____ Three Ring Binder – Powerpoint slides are available to print on iLearn.
 - _____ Jump Drive
 - _____ Highlighter
 - _____ Colored pencils
 - _____ Calculator
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Tennessee Tech Disability Policy

No person with a disability will be discriminated against on the basis of his or her disability as defined in Section 504 of the Rehabilitation Act of 1973 and redefined in Public Law 101-336, the Americans with Disabilities Act (ADA) of 1990. The ADA requires institutions of higher learning to make reasonable accommodations for the needs of qualified students with disabilities as they pursue a postsecondary education. Tennessee Technological University, being committed to high academic standards and the development of self-esteem and dignity in all members of the academic community, will provide reasonable accommodations to assist the student with disabilities in participating in university programs.

Tennessee Tech Student Academic Misconduct Policy: Maintaining high standards of academic integrity in every class at Tennessee Tech is critical to the reputation of Tennessee Tech, its students, alumni, and the employers of Tennessee Tech graduates. The Student Academic Misconduct Policy describes the definitions of academic misconduct and policies and procedures for addressing Academic Misconduct at Tennessee Tech. For details, view the Tennessee Tech's Policy 217 – Student Academic Misconduct at [Policy Central](#).

Campus-Wide COVID-19 Guidelines

1. Students must take personal responsibility in following the recommended CDC COVID-19 guidelines. Students are expected follow all COVID-19 directives published by Tennessee Tech including, but not limited to, notices on Tennessee Tech's webpage, building and facilities signage, and similar publications.

The university's Return to Campus Student Handbook can be found at <https://www.tntech.edu/return/index.php>.

2. According to Tennessee Tech University's protocols, face coverings must be worn (covering the mouth and nose) by students in the classroom at all times.
 3. Students must abide by predetermined social distancing guidelines and seating arrangements. Movement during class sessions should be limited as to not endanger other students or faculty. Students should be conscious and respectful of others and their health concerns.
 4. Students who refuse to comply with university protocols on these matters will be reported to the Tennessee Tech Dean of Students.
 5. Students should direct all requests for excused class absences related to COVID-19, regardless of where the COVID-19 testing is performed, to Tennessee Tech's Health Services. The Office of Student Affairs will provide notifications to faculty members of student absences and the expected length of the absence.
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