

## GEOL1110L-501 Spring 2020 - Physical Geology Laboratory

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**Office hours:** T&Th 10:30-12:00 and 4:20-5:00; W 9:00-10:40

**Class time and location:** Thursday 12:30-2:30 P.M. in VAHS 108

**Textbook:** none; required readings will be posted as PDFs in the class UNMLearn website

**Supplies needed:** Notebook or binder with lined paper, pencils; some students prefer different colors of pens/pencils for note-taking and diagrams; magnifying glass/hand lens; clear plastic ruler

### Schedule

<u>DATE</u>	<u>SUBJECT</u>
1/23	Introductions; The math you need
1/30	Observations; density
2/6	Silicate minerals
2/13	Non-silicate minerals
2/20	Igneous rocks
2/27	Metamorphic rocks
3/5	Sedimentary rocks
3/12	Dating; Geologic history
3/19	SPRING BREAK – no class meeting
3/26	Topographic maps
4/2	Geologic maps
4/9	Valencia County geology
4/16	Groundwater introduction
4/23	New Mexico groundwater contamination
4/30	Earthquakes and seismicity
5/7	Plate boundaries and tectonics

A note on the schedule: dates are subject to change. All changes will be posted on the class website ASAP.

### Reading:

Successful students will read lab materials BEFORE the lab and formulate questions to address in the lab period. This will allow you not only to comprehend lab materials in a more complete manner, but also to complete the lab more efficiently. It only takes a few minutes to pre-read the materials!

### Attendance:

Attendance is *necessary* for successful completion of the class. If you miss 2 of the first 3 classes of the semester, you will be dropped from the class. Beyond this time, I will not drop you unless *you* request it. Labs cannot be made up.

### Grading:

Your final lab grade will be based on the grades you earn for each lab (100 points each), some of which will include short lab write-ups or quizzes to be turned in the following week. At the end of the semester, your lowest lab score will be dropped.

**Student Learning Outcomes:**

1. Use physical properties to identify mineral specimens.
2. Describe, classify, and identify igneous, sedimentary, and metamorphic rocks and their textures.
3. Utilize the principles of stratigraphy to provide an explanation of the geologic history portrayed in a photograph or cross-section.
4. Explain how contour lines are used to represent topography, use map scales to measure distances on the ground, and construct topographic profiles.
5. Identify landforms from images and topographic maps.
6. Interpret geologic maps and construct geologic cross-sections.
7. Acquire and communicate scientific data, ideas, and interpretations through written, oral, or visual means. Examples may include creating and describing graphs, maps and photos.
8. Apply critical thinking skills such as inductive, deductive, and mathematical reasoning to solve geological problems.

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