

SYLLABUS
Earth & Planetary Science 101 GEOLOGY
Spring 2016

Instructor: Chuck Schick
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Office Hours: after class or by appointment
Class Times: MW 9:00 to 10:15am

SCHEDULE

WEEK	Week of	Text Ch.	TOPICS
1	Jan 18	1	Introduction to the class. Scientific Method Laws, Theory's and models. Know the difference.
2	Jan 25	1,2	Earths Basic Composition. What is a mineral?, xstals? silicate structures Igneous Rocks (I usually skip volcanoes) Magma Differentiation and the Reaction Series
3	Feb 1	3	Basic Rx types Rocks and the Geologic Records
4	Feb 8	4	Igneous Rocks (most are not from volcanoes)
5	Feb 15	5	Weathering Processes and Erosion Test Review (Be there!!)
6	Feb 22	5	TEST #1 (first class of week), Sediments and Sedimentary Processes
7	Feb 29	8	Sedimentary Rocks
8	Mar 6	9	Metamorphic Rocks and Deformation, Pressure and Temperature. Staurolite, kyanite garnet (same composition different minerals)
9	Mar 13		SPRING BREAK WEEK, WORK ON YOUR PAPER
10	Mar 20	10	Significant events in Geologic Time and Geologic Time Test #2 REVIEW (be there)
11	Mar 27	15,16	TEST #2 (first class of week), Mass Wasting, Hydrology and Groundwater Erosion processes
12	Apr 3	17	Hydrogeology and Groundwater
13	Apr 10	18	Glacial Geology and Landscape Formation (Geomorphology)
14	Apr 17	12	Earthquakes and tectonic forces
15	Apr 24	15 again	Geologic Disasters, Earthquakes, seismology
16	May 1		Test #3 (first class of week), Wrap up class Catch up if needed.

Course Textbook: How Does Earth Work? 2nd Edition (2010), G.A. Smith and A. Pun;
Publisher: Prentice Hall

Suggested reading from the course textbook is given in the above syllabus.
Reading is best done *before* each class. This will allow you to bring questions to lectures and ultimately provide you with a better understanding of the course material.

Course Goals:

1) *To introduce the principles and process of science using the study of earth science as an aide*

It behooves us to learn how to use the scientific method in our everyday thinking, and to learn how scientists use this method to assign levels of confidence to their findings.

2) *To give each student a better appreciation of the world around them, and how it affects their lives and the lives of others*

If nothing else I hope that you come away from this course with a closer connection to your home – the Earth: have a better understanding of the hazards to human life and property due to earth processes; know how rocks are formed, how they are different, and how this gives them properties that make them useful for different human activities; and how earth processes have acted slowly, or quickly, to construct the landscape around us.

Student Learning Objectives (SLOs):

1. By evaluating a set of data, the student will define a problem, pose a hypothesis, and describe how the hypothesis can be tested.
(Relates to UNM/HED Area 3, Competencies 1, 2, 4)
2. Students will be able to state the age of the Earth and describe how geologists measure absolute rock ages by radioactive decay.
(Relates to UNM/HED Area 3, Competencies 1, 3)
3. Students will be able to determine the relative order in which a series of geologic events occurred by applying the concepts of relative dating.
(Relates to UNM/HED Area 3, Competencies 1, 3)
4. Students will be able to describe the compositional (crust, mantle, core) and mechanical (lithosphere, asthenosphere, outer core, inner core) layers that exist in the Earth.
(Relates to UNM/HED Area 3, Competency 3)
5. Students will be able to name and describe fluvial, karst, glacial, coastal and Aeolian landforms (e.g. meanders, moraines, dunes, etc.) and be able to explain the specific geologic processes involved in their formation.
(Relates to UNM/HED Area 3, Competencies 3, 5)
6. Students will be able to describe the three main rock types (igneous, sedimentary, and metamorphic) and how they form in the context of the rock cycle. (Relates to UNM/HED Area 3, Competency 3)
7. Students will be able to explain the evidence for the plate tectonic processes that occur at each of the three types of plate boundaries.
(Relates to UNM/HED Area 3, Competencies 2, 3)
8. Students will be able to describe the geologic processes involved in formation and concentration of a significant geologic resource (examples include fossil fuels and metals).
(Relates to UNM/HED Area 3, Competencies 3, 5)
9. Students will describe the processes that are responsible for specific geologic hazards (e.g., earthquakes, volcanic eruptions, mass movement, flooding, etc.).

(Relates to UNM/HED Area 3, Competencies 3, 5)

Plagiarism/Cheating:

I encourage you to talk with one another about assignments before, and while, you do them, but all submitted work must be your own. In addition if you copy information from textbooks, newspapers, the internet or other media sources you must cite them as your source of information. Blatant copying (plagiarism) will result in a score of zero for all students involved. A second offense will result in you receiving an F for this course. I would like to draw your attention to:

The University of New Mexico's policy on "Dishonesty in Academic Matters":
"Each student is expected to maintain the highest standards of honesty and integrity in academic and

professional matters. The University reserves the right to take disciplinary action, including dismissal, against any student who is found responsible for academic dishonesty.

Academic responsibility includes, but is not limited to, dishonesty in quizzes, tests or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; and misrepresenting academic or professional qualifications within or outside the University".

Access:

If you have a documented learning disability, please provide a copy of your letter from **Equal Access Services** as soon as possible to ensure that your accommodations are provided for in a timely manner.

Electronic Devices:

To the benefit of you, your classmates and the learning environment **please turn off** electronic devices

such as cell phones before class begins. If you wish to use a **laptop or tablet** for note-taking **please press mute** to eliminate distracting noises. Your cooperation in these matters is appreciated by all.

Make-up Tests: No Make-up Exams. See Grading Policy below.

Grading Policy:

There are Three (3) Tests and a FINAL Examination for a grand total of four (4). These tests count for 90% of your grade. You may drop the lowest test score (Best 3 out of 4 Exams). Class participation will be worth approximately 10%. Poor attendance could RESULT IN YOU BEING DROPPED from the class.

Special Needs:

If you have a disability, please inform me of your special needs ASAP so we can ensure your needs are met in a timely manner.