

GENERAL GEOLOGY LABORATORY - GEOL101 - CRN: 10759

3 Laboratory Hours, 1 Unit Letter Grade, Student may petition for Credit/No Credit

PREREQUISITES ADVISORY: Completion of GEOL 100 and ENGL 056, with a grade of "C" or better, or equivalent, or Assessment Skill Level R5.

MEETING TIME/PLACE: June 17 to July 24 - Mon, Tues, Wed, 2:00pm – 4:50pm - Room MS110

INSTRUCTOR: Ray Rector

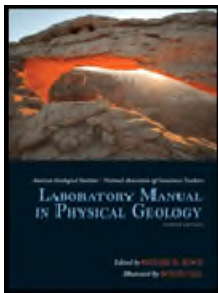
E-MAIL CONTACT: geoprof@geoscirocks.com

OFFICE HOURS: By appointment only

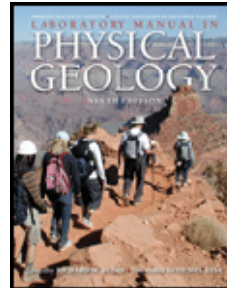
CLASSROOM WEB SITE: <http://www.geoscirocks.com/> Click the “Mesa Geo101 Lab” link

OPTIONAL TEXTBOOK: Laboratory Manual in Physical Geology - 8th or 9th Edition

Editors: AGI and NAGT; 8th Edition: ISBN10: 0136007716; 9th Edition: ISBN10: 0321689577



[8th Edition Cover](#)



[9th Edition Cover](#)

FREE TEXTBOOK NOTE: a free copy of the laboratory manual will be available for use for every student during lab time. However, note that these loaner copies cannot be taken out of the lab room.

COURSE DESCRIPTION: This laboratory course covers mineral and rock identification, landforms, topographic/geologic map interpretation, and geologic structures. The course is designed to supplement Geology 100 with laboratory experience. (FT). Associate Degree Credit & transfer to CSU and/or private colleges and universities. UC Transfer Course List. CAN GEOL 2 = GEOL 100 + GEOL 101 (City, Mesa, Miramar).

STUDENT LEARNING OUTCOMES: Upon completion of this course:

- 1) Students will display the ability to use proportional reasoning and graphical analysis to establish and analyze relationships between measured quantities. (Critical Thinking)
- 2) Students will display the ability to clearly communicate scientific principles, experimental results, and their implications. (Communication)
- 3) Students will display the ability to apply conceptual and mathematical tools to correctly predict the future state of physical systems. (Problem Solving)

STUDENT LEARNING OBJECTIVES: Upon completion of this course, students should be able to:

- 1) Appreciate the methods and limitations of scientific investigations of the Earth;
- 2) Distinguish between science and pseudo science;
- 3) Identify, name, and classify the most common minerals and rock types.

- 4) Apply stratigraphic principles to determine the age sequence of a set of rocks layers;
- 5) Read and interpret a topographic map for location, point-to-point direction, topographic relief, and slope, including recognizing topographic features such as peaks, basins, ridges and valleys;
- 6) Describe and classify the various types of folds and faults, and explain their origin in terms of crustal forces and plate tectonic processes;
- 7) Locate, describe and classify the global-scale crustal features of Earth, and explain the origin of those structures in terms of plate tectonic principles and processes;
- 8) List and describe the major types of geologic hazards, and explain both their origin and means of hazard mitigation.

ACCOMMODATION OF DISABILITY: A student with a verified disability may be entitled to appropriate academic accommodations, including the assistance of a note-taker in the classroom, and/or extended time for taking exams. Students with disabilities who may need academic accommodations should notify their professor immediately. For further information, please contact the Disability Support Program and Services (DSPS) Office.

CLASS ENROLLMENT NOTES: The instructor reserves the right to drop any pre-registered student that did not attend the first day of classes, so to make room for registering waitlist students. It is the student's responsibility to add, drop, or withdraw from classes before the deadlines stated in the class schedule. Petitions to add, drop, or withdraw after the deadline will not be approved without written proof of circumstances beyond the student's control, which made her/him unable to meet the deadline. Lack of money to pay fees is not considered an extenuating circumstance. Students anticipating difficulty in paying fees before the deadline should check with the Financial Aid Office about sources of funds for which they may be eligible.

Please Note These Dates The last day to drop this course and NOT receive a "W" is June 21, 2019. The last day to change from a letter grade to pass/no pass is June 30th. The very **last day to withdraw** from this course (last day to withdraw with a "W") is Thursday **July 11th**. If you fail to withdraw by 7/11/19 and you stop participating in class, then a final grade must be assigned to you. It is the student's responsibility to drop all classes in which he/she is no longer participating. Registered students who do not attend lab class over a period of 4 consecutive lab meeting days will be dropped from this course for lack of participation. Students, who remain enrolled in a class beyond the published withdrawal deadline, as stated above, and listed in the class schedule, will receive an evaluative letter grade in this class.

STATEMENT OF RETENTION: Students, please discuss your plans to withdraw from class with your instructors. They may have options for you that may allow you to continue in class.

INSTRUCTOR'S ATTENDANCE AND ENROLLMENT POLICY: Attendance is critical to teaching and learning in this lab class, and it is mandatory. You will most likely fall behind in acquiring course content, vocabulary, concepts, and skills if you do not attend class regularly. I realize that situations can arise that are beyond your control, which could interfere with attending this class. Attendance is taken every class meeting by means of a sign-up sheet that will be passed around at the beginning of each class. You are required to attend the entire scheduled lab meeting, unless I excuse you early. Note that it is your responsibility to 1) sign in, and 2) attend the entire scheduled lab meeting, in order to receive lab attendance credit for that class meeting.

It will be up to you for staying up with lab assignments and exams. Make sure and consult the schedule, lab manual, class notes, classroom website, and fellow classmates about the material that was missed during absences. There is no make-up or rescheduling of either labs or lab exams unless the student provides proof of some compelling reason for the make-up. It is the student's

responsibility to contact me to forewarn me of any problem in either, attending the regular-scheduled labs and exams, or completing the lab write-ups by the due date. Business, pleasure, or being generally ill, is not a compelling reason - being horribly sick, or having a death in the family is.

CLASSROOM BEHAVIOR AND STUDENT CODE OF CONDUCT: Students are expected to respect and obey standards of student conduct while in class and on campus. The student Code of Conduct, disciplinary procedure, and student due process (Policy 3100) can be found at the Office of the Vice President of Student Services. Charges of misconduct and disciplinary sanctions may be imposed upon students who violate these standards of conduct or provisions of college regulations. As your instructor, I have the following expectations of your behavior in this class:

- 1) Promote a positive learning environment by exhibiting mutual respect and consideration of the feelings, ideas, and contributions of others.
- 2) Demonstrate a genuine desire to learn, interact, and improve.
- 3) Demonstrate respect for furniture, tools, equipment, and supplies in the classroom.
- 4) Clean up after yourself.
- 5) No eating in class – drinks are OK, but must be stored in sealable containers.
- 6) All cell phones, pagers, and audio players must remain turned off, or in silent mode. Active use of a cell phone or audio player in the classroom during class time is prohibited.
- 7) This class will be conducted in accordance with the college code of student conduct and basic standards of academic honesty. Cheating, plagiarism, or other forms of academic dishonesty are totally unacceptable and will not be tolerated. Violations of standards of academic honesty will be reported to the school dean for appropriate action. A full explanation of my plagiarism policy is found on the classroom website.

GRADING/EVALUATION

- I. 16 Laboratory Assignments – 30 points each
- II. Mid-term and Final Exams - 150 points each
- III. Late lab assignments are not accepted – no exceptions.
- IV. Missed labs due to absence receive zero points. No post-lab make-ups allowed.
- V. **One** of the 16 laboratory assignment grades (**lowest grade**) will be **thrown out**.
- VII. Total points used to calculate grade = 750 points

Grading Scale:	100% – 90% = A
	89% -- 80% = B
	79% -- 70% = C
	69% -- 55% = D

REQUIRED LAB MATERIALS: The following are required lab supplies (by second class meeting) that you will need for all labs during the semester: geology lab text manual; , #2 pencils with erasers, calculator, and a clipboard (recommended) for field trips. Please, use only a pencil in lab!

Laboratory Worksheets: Students are **required** to make a printed hardcopy of each week's lab worksheet, and bring that with you to the lab.

Download worksheets at: www.geoscirocks.com/index_mesa.html

Laboratory Manuals: The instructor provides borrow copies of the laboratory manual to be used by the student while in the lab room. These lab copies are not to be taken home, and are there as a courtesy to the student. Please take care of lab manual copies when you borrow one. Thank you.

LAB PROCEDURES:

I. Before the Lab: You must be prepared prior to coming to each geology lab.

- 1) Print Out and Read (several times) the lab exercise worksheet, and the corresponding chapter in the lab text manual.
- 2) Do the Pre-lab exercises (if applicable) before you come to class. Pre-labs are checked off by the instructor at the beginning of the lab meeting for credit.
- 3) I strongly encourage you to wear closed-toed shoes to the mineral and rock labs.

II. During the Lab: A brief lecture about the lab by the instructor will help to explain some of the activities that you will complete in the lab. Additionally, make note of the following 6 points:

- 1) Be prepared by reading the lab and becoming familiar with it before we start.
- 2) Do not disrupt other lab groups by excessive off-topic talking, socializing, etc.
- 3) You may work with lab partners in groups of up to 3 or 4 (not any larger groups, please).
- 4) You must have your own lab notebook and worksheet, no sharing.
- 5) You may not split labs among lab partners and recombine the parts later. In other words, you must complete the entire lab as a group.
- 6) Please turn off your cell phone unless you are expecting an emergency.

III. At the End of the Lab: When your group has completed the lab exercise, turn in your completed, properly COLLATED and STAPLED lab WITH your *written reflection*. Points will be deducted for being disruptive, coming to lab late, or incomplete and/or unsatisfactory work.

REQUIRED GEOLOGY LABORATORY HAND-IN WORK

Students should obtain a 3-ring binder notebook to compile your laboratory coursework for exam study and safe-keeping, which will include the following work for each week's lab:

1) Your completed lab worksheets for that week's exercise. (27 points possible)

2) A written summary/reflection (120 word minimum) of the lab activity, explaining its purpose, the methods used, the results obtained, and a brief personal reflection of what you enjoyed and learned about doing this lab (3 points possible). Answer the following 3-point question reflection set for EVERY single lab meeting, including the fieldtrips:

- 1) *What did you actually discover and learn during this lab?*
- 2) *What was best about this lab? Most enjoyable?*
- 3) *What was most challenging? Difficult to grasp about this lab?*

Mesa Geology 101 Laboratory Schedule – Summer 2019

Date	Class Meeting Lecture and Discussion Topics	<u>Location and Time</u>
Mon 6/17	LAB 1 - Scientific Method – <i>Observe, Measure, Test</i>	MS110 @ 2:00pm
Tues 6/18	LAB 2 – Isostasy & Tectonics – Plates, Boundaries, and <i>Plate Motion</i>	MS110 @ 2:00pm
Wed 6/19	LAB 3 - Minerals I - <i>Classification, Properties, & ID</i>	MS110 @ 2:00pm
Mon 6/24	LAB 4 - Minerals II - <i>Common Rock Forming Minerals</i>	MS110 @ 2:00pm
Tues 6/25	LAB 5 – Igneous Rocks – <i>Volcanic and Plutonic Rocks</i>	MS110 @ 2:00pm
Wed 6/26	LAB 6 - Sedimentary Rocks – <i>Siliciclastic, Biological, Chemical</i>	MS110 @ 2:00pm
Mon 7/1	LAB 7 - Metamorphic Rocks - <i>Foliated and Nonfoliated</i>	MS110 @ 2:00pm
Tues 7/2	LAB 8 - Midterm Exam Prep Lab - <i>Tectonics,, Mineral and Rock ID</i>	MS110 @ 2:00pm
Wed 7/3	Midterm Exam - Tectonics, Topo Maps, and Mineral & Rock ID	MS110 @ 2:00pm
Mon 7/8	LAB 9 - Geologic Dating I - Stratigraphic Principals	MS110 @ 2:00pm
Tues 7/9	LAB 10 - Geologic Dating II - Fossils and Absolute Dating	MS110 @ 2:00pm
Wed 7/10	LAB 11 – Earthquakes and Earthquake Hazards	MS110 @ 2:00pm
Mon 7/15	LAB 12 – Topographic Maps I - Basic Concepts, Skills, and Uses	MS110 @ 2:00pm
Tues 7/16	LAB 13 – Topographic Maps II - Basic Concepts, Skills, and Uses	MS110 @ 2:00pm
Wed 7/17	LAB 14 - Structural Geology - - Basic Concepts, Rules, and ID	MS110 @ 2:00pm
Mon 7/22	LAB 15 – Geologic Maps - Basic Concepts and Skills	MS110 @ 2:00pm
Tues 7/23	LAB 16 - Final Exam Prep Lab - <i>Topo Maps, Mineral and Rock ID</i>	MS110 @ 2:00pm
Wed 7/24	Final Exam – Geo-Dating, Earthquakes, Structure, Topo & Geology Maps	MS110 @ 2:00pm