

Earth and Space Systems Laboratory

Geol 251, sections 001 and 002, Fall 2013

Professor: Dr. Gwen M. Daley	Meets: MW 11:00-12:15 (sect. 001) or 12:30-1:45 (sect. 002)
Office: Sims 213F	Room: Sims 201
Phone: 323-4973	Office Hours: T 9:30-11:30 and by appointment
E-mail: daleyg@winthrop.edu	Co-Requisite: Geol 250 (<i>Earth and Space Systems</i>)
Credit Hours: 1	Turnitin Class ID#: 6553771/ Password: rock

Course Goals: To understand the range of processes responsible for the composition and morphology of planet Earth and how scientific methodologies are used to study the interactions within and between the lithosphere, atmosphere, biosphere and hydrosphere.

Date	Lab Topic	
8/21	Introduction	
8/26	Weights and measures	
8/28	Movement in the sky	Quiz One: Metric conversions
9/2	Precession of the equinoxes	
9/4	Earth, Sun and Moon	
9/9	Seasons	Quiz Two: Phases of the Moon
9/11	Open Lab	Lab Notebooks Due at 9:30 AM (bring to Geol 250 exam)
9/16	Atmosphere I	
9/18	Atmosphere II	
9/23	Weather Cycler	Quiz Three: Earth's Atmosphere
9/25	Streams	
9/30	Groundwater	
10/2	Open Lab	Lab Notebooks Due at 9:30 AM (bring to Geol 250 exam)
10/7	Minerals I	
10/9	Minerals II	
10/14	Fall Break – No Classes	
10/16	Igneous rocks	Quiz Four: Mineral identification
10/21	Weathering	Quiz Five: Igneous rock identification
10/23	Sedimentary rocks	
10/28	No class meeting - GSA	
10/30	No class meeting - GSA	
11/4	Metamorphic rocks	Quiz Six: Sedimentary rock identification
11/6	Open Lab	Lab Notebooks Due at 9:30 AM (bring to Geol 250 exam)
11/11	Earthquakes	Quiz Seven: Metamorphic rock identification
11/13	Plate Tectonics I	
11/18	Plate Tectonics II	
11/20	Geologic Time I	
11/25	Geologic Time II	
11/27	Thanksgiving – No Classes	
12/2	Open Lab	Lab Notebooks Due at 9:30 AM (bring to Geol 250 class meeting)

Subjects and schedule subject to change

Attendance: Class attendance is mandatory and necessary. You must be ready to start the laboratory activities at the scheduled beginning of lab time. If you arrive late to lab, or are not prepared, you may not be allowed to participate in the laboratory activities. Please note that we will do some lab prep in Geol 250, so if you do not attend the Geol 250 meeting, you may not be allowed to participate in the Geol 251 lab activity on that same day. You also must complete the lab activities during the scheduled lab meeting to be awarded credit for that lab activity. If you know in advance that you will not be able to attend a lab, please e-mail the professor to arrange for a make-up lab activity. The "Open Lab" dates are reserved primarily for make-up labs, but you will only be allowed to make up the missing lab if you make arrangements to do so.

Student Learning Activities Performance Measures: Grades in this class will be assigned based on the results of the following:

Labs (25)	2% each	50%
Lab Write-ups	2% each	20%
Quizzes (6)	5% each	30%
Total:		100%

Grades will be calculated on a straight scale:

A 90-100	C 70-76.99
B+ 87-89.99	D 60-69
B 80-86.99	F <60
C+ 77-79.99	

This scale may be adjusted downward as determined by the instructor, but the points needed for each grade will never be higher than indicated above (e.g., a student with more than 90 points will always receive a grade of A).

Lab Notebook: You will be required to maintain a lab notebook (a standard 1 inch or thicker 3-ring binder that is used only for Geol 251). The lab notebook must be labeled on the front AND spine with your name. All of your lab exercises, handouts and graded quizzes must be bound in this notebook and turned in on the dates indicated on the schedule. Loose papers (e.g., those placed in a binder folder) will not be considered for grading.

Lab Write-ups: You will be required to submit a write-up for one lab each week (note: If there is only one lab during week, your write-up must be on that lab, otherwise, you may choose which lab you would like to write up). A template for the lab write-ups is available in the "Registered Students Only" section of the Geol 251 website. An electronic copy of the lab write-up for each week is due to Turnitin before noon on Friday. **No late work will be accepted.** Extensions on lab write-ups may be requested up to Thursday at midnight. If no extension is requested, the write-up will not be considered for a grade without written proof of emergency. To request an extension, please submit a request via e-mail, including when you will be able to submit your write-up. Extensions will always be given if requested before midnight on Thursday, but will not be given after that time without written proof of an emergency.

Quizzes: Each quiz will be based on material covered in previous labs as indicated on the schedule. Missed quizzes cannot be made up without either written proof of an emergency or prior arrangement (i.e., you e-mail the professor and arrange for an alternative time). Assume that the quiz will be given at the beginning of the lab meeting unless otherwise indicated by the professor. If you arrive late to lab, you will not be allowed to take the quiz; you will receive a grade of zero for that quiz. The lowest of the 7 quiz grades will be dropped.

General Education Requirements: Geol 251 and the co-requisite Geol 250 together fulfill four hours of general education requirement for natural sciences. Listed below are the seven fundamental student learning outcomes for natural science courses as well as examples of how they will be fulfilled in Geol 250 and 251.

After completing Geol 250/251 should be:

1. Conversant with a few fundamental concepts from among the three main areas of natural science, including earth, life, and physical sciences (e.g., cosmology, meteorology, hydrology, plate tectonics, physical and historical geology, assessed through exams, homework assignments, the astronomical observation project, Geol 251 laboratory exercises and quizzes)
2. Able to apply the scientific methodologies of inquiry (e.g., the astronomical observation project, Geol 251 laboratory exercises)
3. Able to discuss the strengths and limitations of science (e.g., discussion of scientific methodology, definition of the natural world, some Geol 251 lab exercises, also assessed with exam questions)
4. Able to demonstrate an understanding of the history of scientific discovery (e.g., the development of plate tectonics, discovery of geologic time, assessed through exams and laboratory exercises)
5. Able to discuss the social and ethical contexts within which science operates (e.g., plate tectonics paradigm shift, ethical dilemmas in the international diamond trade, assessed through exam questions).
6. Able to communicate about scientific subjects including (lab courses only) the defense of conclusions based on one's own observations (e.g., the astronomical observation project, Geol 251 laboratory exercises, Geol 251 laboratory write-ups)
7. Able to discuss the application of scientific knowledge to the social sciences and to non-scientific disciplines (e.g., determining how knowledge gained in Geol 251 laboratory exercise can be applied to fulfill South Carolina Department of Education K-8 science standards, assessed through Geol 251 laboratory write-ups)

University Level Competencies: Students in Geol 250/251 will fulfill Winthrop ULC #1: Winthrop graduates think critically and solve problems. Geol 250/251 students will have ample opportunities to reason logically, evaluate and use evidence, and solve problems related to the Earth and space sciences. They will be assessed on their ability to reach well-reasoned conclusions based on scientific evidence.

Classroom Decorum: As a courtesy to other students, please be aware of how your behavior affects the learning environment. No food of any kind is allowed in Sims 201 at any time. Also, please turn off all cell phones and other electronic devices unless they are being used for the laboratory activities.

Student Code of Conduct: Your grade will be based on work you have done. Any attempt to submit anyone else's work (including but not limited to other students, books, websites, etc.) as your own is plagiarism, and thus cheating. Substantially identical work submitted by more than one student will all be assigned a grade of zero and further action may be taken. Unethical behavior such as cheating will result in a grade of "F" for the course and other unpleasant action may also be taken. If you copy a lab from another student that you failed to complete during lab time (either because you ran out of time or because you failed to attend) and submit the copied material for grading, you will be awarded a grade of "F" for the course. There will be no exceptions and no second chances. Please see your student handbook for more details.

Class E-mail: I will send out class e-mail messages using Wingspan's "e-mail registered student" function, so potentially important e-mail messages will be sent to whatever e-mail you supplied to the registrar. Please check that account regularly for information about this course.

Students with Disabilities: Winthrop University is dedicated to providing access to education. If you have a disability and need classroom accommodations, please contact Gena Smith, Coordinator, Services for Students with Disabilities, at 323-3290, as soon as possible. Once you have your professor notification, please tell me so that we can work out how the accommodations will work in the laboratory environment.