



GLG 205: ENVIRONMENTAL GEOLOGY (4 credits) - Fall 2016

Instructor: Laurel Mutti

CONTACT INFORMATION

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Office hours: Tuesday 10:30 a.m. - 12:00 p.m., Wednesday 12:30-2:30 p.m., and Friday 10:30 - 11:30 a.m. or by appointment (in SCB 142 unless posted otherwise)

CLASS MEETINGS

Lecture: Tuesday and Friday 12:30 - 1:45 p.m., SCB 117

Lab: Friday 2:00 - 3:50 p.m., SCB 117

COURSE MATERIALS

Textbook: Environmental Geology by Carla W. Montgomery, 10th Edition (2014, McGraw Hill)

- This textbook is available in an online edition and used copies may be available from previous semesters.
- Alternatively, you may choose to save some money by ordering the 9th edition or the international edition, but if you do so, it is your responsibility to check with a classmate for any differences in content or page numbers and to make sure you have studied the correct material.
- One copy is also on reserve under my name at the Sojourner Truth Library.

Other resources:

- We will frequently use online resources, including Google Maps.
- You should expect to check campus email and Blackboard regularly for course materials and updates, so regular Internet access is a must.
- You will need tools such as a ruler, a calculator, and colored pencils for some assignments.

COURSE CONTENT AND STUDENT LEARNING OUTCOMES

Description from the course catalog: The geological system as a framework for understanding environmental problems; man and his interaction with geological systems. Conservation, utilization, and management of natural resources. Field trips.

Students who successfully complete this course will:

- Appreciate and describe the fundamental dynamic processes and systems that continually shape our planet's interior and surface: plate tectonics, the rock cycle, the hydrologic cycle, and the climate system.
- Evaluate the role of fundamental geologic processes in the formation and occurrence of geologic materials and natural resources (rocks, minerals, soils, water resources, energy resources).
- Observe, measure, and record physical properties of rocks and minerals, and identify common rocks and minerals using diagnostic physical properties.
- Relate the occurrence of geologic hazards, including earthquakes, volcanoes, floods, and

landslides, to geologic processes.

- Read, interpret, and construct topographic maps and topographic profiles.
- Observe and describe relationships between topography and geology, and their influence on changing landscapes, volcanic hazards, stream processes, flood hazards, groundwater flow, landslides/mass wasting, and glacial movement.
- Investigate human interaction with geologic materials, processes and systems, including natural resource consumption, pollution and waste disposal, engineering problems and solutions related to geologic hazards, land use, and climate impacts.
- Demonstrate skill in the application of scientific techniques and methods, including the collection, analysis, and interpretation of data, and communication of results through clear, precise writing and thoughtful participation in discussion.
- Apply quantitative techniques to find and present results, including numerical calculations, reading and construction of graphs, and interpretation and measurement from maps.
- Apply critical thinking in the evaluation of information sources, analysis of causal relationships, and integration of related information.

As we explore geology together, I hope that you will find it a thought-provoking, relevant and exciting subject; that you will appreciate new ways of looking at the world around you; and that you will develop confidence as you hone skills of observation and analysis.

GRADING

The following components make up your grade:

Midterm Exams: (2 x 15%)	30%
Final Exam:	25%
Lab/Homework Exercises:	30%
Field Trip Report:	5%
Hometown Geology Project:	8%
Discussions/Class Participation:	2%
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Total:	100%

If you have **questions or concerns about your grade on an assignment or exam**, it is your responsibility to contact me to discuss it within one week of the date that I hand it back in class. After that time I will not consider any individual grade adjustments.

At the end of the semester, I might consider slight adjustments to this grading scheme or a small curve on the overall course grade (rather than curving individual assignments), but only if these will both be fair to and benefit the class as a whole.

Opportunities for **extra credit** may arise throughout the semester (e.g. on your exams or related to campus events) and will be available to the entire class. I will not design additional assignments for individual students to make up for poor or missing work.

Your **class participation** grade reflects your contributions to a thoughtful, engaged, energetic and collaborative class dynamic, such as by asking and answering questions, sharing relevant news articles or other links with the class, and showing initiative in group work.

LAB WORK AND HOMEWORK

The laboratory will be conducted in an informal manner. It will provide opportunities for hands-on work with samples and maps, field excursions, problem-solving in a group setting, and discussion. You will generally work in pairs or groups during the lab session, finishing assignments at home when necessary, and turn in your work individually. I may assign some work to be turned in by pairs or groups. Laboratory assignments will generally be due at the beginning of the following lab section, unless otherwise specified. A few exercises may need to be completed during class time; an unexcused absence would result in a grade of zero for that component.

Your lab/homework assignment grade may also include occasional short assignments given outside of lab time. These will generally be designed to help you prepare for a class discussion, trip, or other activity. Two separate graded projects are the field trip report based on our visit to the New Paltz wastewater treatment plant and your hometown geology project.

LATE WORK AND EXTENSIONS

I will accept late work, with a grade penalty, on a case-by-case basis at my discretion. I am happy to consider requests for extensions or other accommodations without penalty, provided they are discussed in advance (at least two days before the due date) and accompanied by an explanation of the reasons for the request. It is far easier to negotiate a fair and workable alternative timeline before a missed deadline than afterwards! I will also waive late penalties in cases of excused absence due to illness or emergency, as long I am informed of the situation in a timely manner.

Otherwise, assignments should be turned in to me on the due date by or at the beginning of class, preferably in person. (Next best option = in my mailbox; last resort = under my office door; let me know where and when to expect to find your work if you will not be handing it to me directly.) You may also send PDFs by email; other file formats may not open or display correctly on my computer and/or become too large for the email system to handle (most images). If you know that you will not be on campus on the due date, it is your responsibility to get your work to me before you leave and to inform me.

If you are struggling with an assignment and considering taking your chances on a late penalty, or not turning it in at all, please ask for help first! It is in your interest, mine, and that of the entire class for everyone to be on the same page and for everyone's work to be turned in, graded, and returned in a consistent manner. Because of this I avoid giving multiple overlapping extensions.

I cannot accept late work if I have already graded the assignment and handed it back to the rest of the class.

ATTENDANCE

I expect you to be present for class and laboratory sessions. If you must miss class due to illness or another emergency, please provide me with a doctor's note or similar documentation. You will be responsible for making up any material that you miss, so I encourage you to get to know your classmates so that you can exchange notes in case of absence. More than two unexcused absences affect your class participation/discussion grade.

You are free to leave lab early if you have completed your work, but I encourage you to make full use of lab time when I and your classmates are available for consultation and collaboration.

The off-campus field trips are mandatory (to the New Paltz wastewater treatment plant and to High Falls). Once the date has been set for the former, we will go, rain or (hopefully!) shine or (hopefully not!) snow. If you must miss the trip, you are still responsible for getting notes from a classmate and completing the field trip report. The High Falls trip will not involve a field trip report, but you will have a short assignment to complete, worth one lab assignment, and will turn in your field notes.

COURSE SCHEDULE

Please refer to the calendar on the following page for the coverage of topics in lecture and lab, corresponding textbook chapters, exam dates and due dates for major assignments. You should **expect this schedule to change some** over the course of the semester.

Important notes:

- This course schedule is tentative. We may spend more or less time on certain topics, based on your interests, current events, campus events, etc. Any major changes will be announced in class and posted to Blackboard.
- About the **field trip dates**:
 - You will be writing a report on the trip to the New Paltz wastewater treatment plant. If the date for that trip changes, the due date for the report will be adjusted too, within the constraints of giving you 2 weeks to write the report and also not making the report due on the same day as Midterm 2.
 - The campus field trip is weather-dependent; it will be confirmed during the week of the trip. If the forecast looks good, we will seize the moment!
 - If the date for a Friday trip changes, it will be switched with a different lab activity.
 - The Saturday, Nov. 5 field trip to High Falls will run rain or shine. Please clear your schedules so you will be able to participate.
 - **Field trips are a required part of this course.** Missing a trip is equivalent to earning a zero on a lab; logistically, it will not be possible for you to make up a trip on your own time for full credit. If you do miss a trip, you are still responsible for getting notes so that you can successfully answer exam questions and (if applicable) complete the wastewater treatment report.
- The last date to withdraw from a course without any penalty is November 4. The last date to select the satisfactory/unsatisfactory grade option is November 11.
- Other fall semester dates:
 - course withdrawal period = September 12 - November 4; SEIs online = November 30 - December 14; last day of classes = December 12; exam week = December 15-22
 - holidays: Labor Day break = September 5; classes remain in session for Rosh Hashana = October 3-4 and Yom Kippur = October 12; Fall break = October 10-11; classes remain in session for Black Solidarity Day = November 7; Thanksgiving break = November 23-25

COURSE SCHEDULE - Expect updates and revisions throughout the semester!

Week	Topics	Lab	Chapters
Aug. 30, Sep. 2	Intro; Planet & Population; Minerals	Minerals	1, 2
Sep. 6, 9	Minerals and Rocks	Minerals; Rocks	2
Sep. 13, 16	Plate Tectonics; Earthquakes	Rocks, cont.	3, 4
Sep. 20, 23	Volcanoes; Hydrologic Cycle HGP Check-in #1 due Friday	Earthquakes	5, 6 (11)
Sep. 27, 30	Streams and Flooding; Coastal Processes	Volcanoes	6, 7
Oct. 4, 7	Midterm 1 (Ch 1-6); Coastal Processes	Field trip: Campus*	7
Oct. 11, 14	<i>Fall break;</i> Mass Movements	Streams and Floods	8
Oct. 18, 21	Climate System & Climate Change	Field Trip: Wastewater Treatment	10; 16: lab
Oct. 25, 28	Ice & Glaciers, Wind & Deserts	Coastal Processes	9
Nov. 1, 4	Water Resources & Groundwater; Weathering, Erosion, Soil Field Trip Report due Friday	Climate	11, 12
Nov. 5	Saturday Field Trip: High Falls		
Nov. 8, 11	Mineral & Rock Resources; Energy Use	Groundwater	13, 14
Nov. 15, 18	Midterm 2 (Ch 7-13); Fossil Fuels	NYC Water Supply	14
Nov. 22, 25	Fossil Fuels; Alternative Energy Sources; HGP Check-in #2 due Tuesday	Pollution (Group Presentations)	14, 15
Nov. 29, Dec. 2	Waste Disposal; Water and Air Pollution; Environmental Law; <i>Thanksgiving break</i>	<i>No lab - Happy Thanksgiving!</i>	16, 17, 18; 19, 20
Dec. 6, 9	Pollution, cont; Wrap up and review Hometown Geol. Proj. due Friday	Energy and Climate	
Dec. 12 (M)	HGP reflections due		
Dec. 16 (Friday)	Final Exam (cumulative) 12:30-2:30 p.m.		

SUNY NEW PALTZ POLICY STATEMENTS AND RESOURCES

- **Academic integrity:** Students are expected to maintain the highest standards of honesty in their college work. Cheating, forgery, and plagiarism are serious offenses, and students found guilty of any form of academic dishonesty are subject to disciplinary action. Consequences may include failing the assignment/exam up to failing the course.

I expect you to understand and adhere to the SUNY New Paltz policy on academic integrity and to take the initiative in asking me if you need clarification. Please review the policy at http://www.newpaltz.edu/ugc/policies/policies_integrity.html: it provides definitions and examples of plagiarism and other offenses, outlines the process that a faculty member will follow if a student is found to be engaging in any form of academic dishonesty, and directs you to the Sojourner Truth Library's resource page <http://lib.newpaltz.edu/assistance/plag.html>, which offers some excellent resources to help with avoiding plagiarism.

I very much encourage you to work together in class, especially during the laboratory sessions, and to study together. However, the work you turn in must be in your own words and reflect your own effort. I do not expect anyone to cheat, but I take seriously my responsibilities to everyone working hard to earn their grades honestly.

- **Reasonable accommodations of individuals with disabilities statement:** Any students needing classroom and/or testing accommodations related to a disability should contact the Disability Resource Center (Student Union Building, Room 210, 845-257-3020, <http://www.newpaltz.edu/drc>) as close as possible to the beginning of the semester. The DRC will then provide students' instructors an Accommodation Memo verifying the need for accommodations. Specific questions about services and accommodations may be directed to Deanna Knapp, Assistant Director (knappd@newpaltz.edu).
- **Veteran and Military Services statement:** New Paltz's Office of Veteran and Military Services (OVMS) is committed to serving the needs of veterans, service members and their dependents during their transition from military life to student life. Student veterans, service members or their dependents who need assistance while attending SUNY New Paltz may refer to <http://www.newpaltz.edu/veterans>; call 845-257-3120, -3124 or -3074; or stop by the Student Union, Room 100 South.
- **Computer and network policies statement:** Users of New Paltz's computer resources and network facilities are required to comply with the institutional policies outlined in the Acceptable Uses and Privacy Policy (<https://sites.newpaltz.edu/csc/policies/acceptable-uses-and-privacy-policy/>).
- **Academic support and tutoring:** If you find yourself wanting coaching beyond what I can give you, be aware that the Center for Student Resources and Academic Support (http://www.newpaltz.edu/tutoring_center/) provides workshops and assistance for individuals and small groups through its Tutoring Center and Writing Center, all free of charge to students.

- **Student Evaluation of Instruction:** You are responsible for completing the Student Evaluation of Instruction (SEI) for this course and for all your courses with an enrollment of five or more students. I value your feedback and use it to improve my teaching and planning. (Truly - I make changes to this course every semester and I've incorporated many student suggestions!) Please complete the form during the open period online at the end of the semester (November 30- December 14, 2016). Thank you!