

Geology 101
An Introduction to Physical Geology
Lecture: Blended online and class room learning
Classroom: 714 HW
Mondays and Thursdays 9:45 to 11:10*
***see schedule for meeting dates**

Fall 2011

Instructor: Randye Rutberg
Office location: Hunter North room 1047 (10th floor)
Email: rrutberg@hunter.cuny.edu. Keep in mind: (1) You must include the course name and number in your subject line (2) You must include your entire name in your email (3) You must email me from a Hunter account (4) I try to answer all emails within 24 hours. Allow for a 48 hour delay on the weekends.
Office hours: Mondays 11:30 a.m. to 1pm and by appointment.

Brief description/purpose of course: This course will be of interest to any student desiring to learn more about the Earth as well as to those contemplating a major in Environmental Studies. This course describes the Earth and the forces that shape it. We will begin with a discussion of the formation of the Earth. Next, plate tectonics, earth materials and geologic time will be discussed. The goals of the course include introducing students to geology, "systems thinking", the methods of scientific inquiry, and also to engender an appreciation for the Earth and an awareness that the Earth must be stewarded wisely. This course is a hybrid course, meaning the lecture portion will be taught partially online using Blackboard(BB) and partially in a traditional class room setting. The laboratory sections will always meet in the classroom. The online learning portion of the course is intended to provide you with structured materials including lectures and exercises that are designed to help you learn and enjoy the subject matter. This course fulfills the Stage 2 group E General Education Requirement (GER).

Required textbook(s): A textbook and laboratory manual are required for this course. You can choose from the following three options. The books are bundled so that you get the best value.

Essentials of Geology 3ed + Free Essentials eBook + Hunter 255 Custom Lab Manual:
978-0-393-13162-8; \$98.00 net

Essentials of Geology 3ed 3-punch hole + Free Essentials eBook + Hunter 255 Custom Lab Manual:
978-0-393-13163-5; \$73.00 net

Essentials of Geology 3ed eBook only + Hunter 255 Custom Lab Manual:
978-0-393-13164-2; \$52.49 net

Course objectives: Upon completion of this course students will understand the scientific method, the formation and evolution of the Earth, plate tectonics, the rock cycle and the formation and distribution of natural resources.

Course evaluation/grading: The lecture portion of the course will contribute 50% to the course grade. Students will be required to complete a series of weekly readings and exercises to be submitted through the Blackboard website. These assignments will count for 50% of the lecture grade. There will be two mid-terms and a final exam. The lower of the two mid-terms will be dropped. I do not give make up exams, except in the most extenuating of circumstances. Each exam will count for 25% of the lecture grade. Attendance in the non-virtual lecture is mandatory. You will be penalized by 1/3 of a grade for each absence. We will be meeting four times during the semester as listed on the schedule below.

The grade of **IN** (incomplete) will only be given in the case that you missed a portion of the work that you can make up on your own time. It will not be possible to complete laboratory work after the term ends, only the lecture portion of the work. A contract for an Incomplete must be signed prior to submission of this grade.

Classroom policies: You are expected to have read the reading listed for each face-to-face class day *before class on that date*. There is no texting permitted in the classroom. Laptops are only permitted in the front row. You are also responsible for doing all online assignments and listening/watching online lectures in a timely fashion, i.e. within the week or unit they are assigned. The online-day readings should be read in conjunction with watching the online lectures. Please remember that access to the internet occasionally fails to work for many reasons beyond your or my control. *The professor reserves the right to alter or add topics and assignments as needed.*

Hunter College statement on Academic Integrity: Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures. Plagiarism, dishonesty, or cheating in any portion of the work required for this course will be punished to the full extent allowed according to Hunter College regulations.

Laboratory:

Laboratory Grading: The laboratory will count for 50% of the course grade. The laboratory will be graded as follows: Your lab reports will count for 45%, laboratory exams 45%, and participation 10%. Consideration will be given for effort and class participation. Points will be deducted for tardiness. The lecture grade and the lab grade will be added to determine your grade for the course. Each student will be allowed two unexcused absence. One third of a letter grade will be deducted from your final grade for each additional laboratory absence.

Laboratory Preparation: It is imperative that you read the laboratory manual before coming to class. The laboratories are complex, and if you do not read them before class you will have difficulty turning them in on time.

Lab manual preparation: The lab book is the most important record a scientist can keep. In it they keep a record of their experiments, observations, results, successes and failures. In this class you are required to keep a laboratory notebook as a record of your laboratory work. This book will serve as an important record of your experiments and observations. It will also serve the practical purpose of keeping all of your assignments in one place, so that you can use it as a reference and as a study tool. You are required to follow the following directions to prepare and keep your notebook: At the beginning of each new lab, you must come to class with the introduction already written. This is to make sure you are familiar with the laboratory material and have thought about the purpose and methods of the lab. This will enhance your enjoyment of the lab and help you use the laboratory period efficiently.

- 1) Number all the pages in the lab manual and label the first three pages "Table of Contents".
- 2) As you work in the lab notebook date each page with the current date and fill in the "Table of Contents". All page numbers and dates should be on the upper left of the left-hand pages and the upper right of the right-hand pages.
- 3) All work must be done in pen. If you need to change an answer etc. cross out the original with a single line, and clearly make the desired change. The purpose of keeping a lab notebook is to give you experience in keeping a permanent record that would allow you, or anyone reading your notebook, to reconstruct your experiment(s) and obtain similar results. Keeping such a record is one of the most important aspects of doing science. You may keep notes that your TA will give you in the beginning of each laboratory in this notebook, or you may choose to keep these in a separate book.
- 4) Each laboratory will include the following sections: an introduction, procedure, materials used (where relevant), charts and tables that you will fill in on the appropriate pages of your lab manual and attach to your notebook, answers to the questions posed in the laboratory manual, and a conclusion. You must include the relevant figures, charts, graphs etc. that a given question/answer refers to. Any charts, tables, maps etc. from the lab manual are to be stapled or taped into your lab notebook so that both sides of a page are easily readable (if necessary) and so that no paper extends beyond the bounds of the notebook. You must attach all relevant maps, charts etc. This means that if you refer to any diagrams, maps, charts etc. they must be included in your notebook. Remember to reference the page and figure number that to which your answer/conclusions. You will be shown an example of a laboratory notebook during your first laboratory or second meeting.
- 5) Answer all questions in full sentences. **DO NOT RECOPY THE QUESTION IN YOUR NOTEBOOK.** Rather, answer the question so that the question is implicit in the answer. For instance. If the question is: "What color is the rock on table A" your answer might be "The color of the rock on table A is gray." An unacceptable answer would be "gray." Use proper grammar and spelling. If you aren't sure of the spelling use a dictionary. A very convenient on line dictionary is at: www.m-w.com
- 6) It is your responsibility to make your notebook clear and legible. Your TA's must grade your notebooks efficiently and if they cannot find your answers easily points will be deducted.

Lab Homework: Some of the laboratories will be written up at home. As outlined in the syllabus you will be required to complete approximately one laboratory every one to two weeks, and since the laboratory will count for 50% of your total course grade it is important for you to do the assigned work. Moreover, the laboratories are designed to complement the class material and help reinforce what you learn in class.

The introductions and conclusions of your labs must be in your own words. You may work with the other students at your laboratory table, but each student must turn in his/her own notebook. I do not regard homework as something to be furiously scribbled down during class while other things are going on. Therefore, at the beginning of each class in which a notebook is to be collected your books will be checked to see that you have completed the laboratory before coming to class. The books will be collected for grading at the end of class. Labs are due at the time the new laboratory begins. Your instructor will provide you with specific dates. Late labs (i.e. those not finished at the time class begins) will not be accepted. Your laboratory notebooks must be neat and complete. The presentation of your work is very important and will influence your grade. If you do the most professional job that you can you will learn more, have an excellent study tool, and a notebook to bring to me if you ever want a recommendation for a job or graduate school. It is to your advantage to make your answers and work very clear so that your work can be graded quickly and accurately. Your instructor will not have time to search for your answers. The grading of the laboratories will be as follows: 5=excellent, 4=good, 3=fair, 2=poor, 1=terrible, 0=not handed in. You will automatically lose points if your laboratory is sloppy, or done in pencil (unless specified by the instructor) and if your pages are not numbered and dated. Make-up labs will not be given, except under extenuating circumstances. If you fail to hand in a laboratory because you did not attend lab, you will receive a "0". If you have extenuating circumstances, contact me (or your laboratory instructor) before the class is to meet or soon afterwards, but expect the mandatory attendance and no late labs policies to be enforced.

Schedule of topics and readings: Below is a schedule of class meetings, topics, reading assignments and laboratories. Please note that the readings and assignments are due on the dates indicated and are to be submitted via BB. A detailed schedule for readings, activities and assignments is given on the course BB page. This page is organized by date. Each class meeting date given on the syllabus has an associated folder that contains readings, additional materials and an assignment. It is imperative that you go through each folder and complete the work as scheduled on the syllabus so that you do not fall behind in the course. This course is carefully structured so that you learn the material efficiently. "BB class" means that all work for this date is to be done online and that the class will NOT meet in 714HW.

Please note that depending on which day your laboratory meets the dates may not exactly match. However, all sections will move at the same pace. Lab sections will always meet in the laboratory room, 1022 Hunter North. Please note that the readings and assignments are due on the dates indicated and are to be submitted via BB. The professor reserves the right to change the schedule and/or assignments as necessary.

Date	Notes	Material	Reading	Assignments	Laboratory
August 29	Class Meeting Room 714 Hunter West	Introduction to Geology	Chapter 1		Introduction to book, materials, methods
September 1	Class Meeting Room 714 Hunter West	Cosmology and the Birth of the Earth/Impact Events	Chapter 1		Lab 1
September 5	No Classes				
September 8	BB class	Cosmology and the Birth of the	Chapter 1	Chapter 1 Assignment	Lab 1

		Earth/Impact Events			
September 12	BB class	The Way the Earth Works: Plate Tectonics	Chapter 2		Lab 1
September 15	BB class	The Way the Earth Works: Plate Tectonics	Chapter 2	Ch. 2 Assignment	Lab 2 Plate Tectonics
September 19	BB class	Patterns in Nature: Minerals	Chapter 3		Lab 2 Plate Tectonics
September 22	Class Meeting Room 714 Hunter West	Patterns in Nature: Minerals	Chapter 3	Ch. 3 Assignment	Lab 3 Minerals
September 26	In Class Exam	Exam 1			Lab 3 Minerals
September 29	No Classes				
October 3	BB class	Up from the Inferno	Chapter 4	Ch.4 Assignment	Lab 3 Minerals
October 6	BB class	Up from the Inferno	Chapter 4	Ch.4 Assignment	Lab 3 Minerals
October 10	No Classes				
October 13	BB class	The Wrath of Volcan	Chapter 5		Mineral Practical
October 17	BB class	The Wrath of Volcan	Chapter 5	Ch.5 Assignment	Lab 5 Igneous
October 20	BB class	Sedimentary Rocks	Chapter 6		Lab 5 Igneous
October 24	BB class	Sedimentary Rocks	Chapter 6	Ch.6 Assignment	Lab 6 Sedimentary
October 27	BB class	Metamorphism	Chapter 7		Lab 6 Sedimentary
October 31	BB class	Metamorphism	Chapter 7 The Rock Cycle Interlude C	Ch 7 Assignment	Lab 6 Sedimentary
November 3	BB class	A violent Pulse	Chapter 8	Rock quiz	Lab 7 Metamorphic
November 7	BB class	A violent pulse	Chapter 8		Lab 7 Metamorphic
November 10	BB class	Crustal Deformation	Chapter 9	Ch.8 Assignment	Central Park
November 14	Class Meeting Room 714 Hunter West	Crustal Deformation	Chapter 9	Ch. 9 Assignment	Rock Practical
November 21	BB class	Exam II via Blackboard			Laboratory 8 Dating

November 24	BB class	Deep Time	Chapter 10 Interlude E		Laboratory 8 Dating
November 28	No Classes				
December 1	BB class	Deep Time	Chapter 10 Interlude E	Ch. 10 Assignment	Laboratory 8 Dating
December 5	BB class	A Biography of the Earth	Chapter 11		Laboratory 10 Structure
December 8	BB class	A Biography of the Earth	Chapter 11	Ch. 11 Assignment	Laboratory 10 Structure
December 12	In Class Meeting	Riches in Rock	Chapter 12		Review and wrap up
December 22	Final Exam	BB or in class To be determined			