

Syllabus*
Geology 101
An Introduction to Physical Geology
Mondays and Thursdays 9:45-11:00 a.m.
Spring 2011
Professor Randy L. Rutberg
Office: 1047 Hunter North
Phone: 212 772 5326
Email: rrutberg@hunter.cuny.edu (preferred means of contact)
Office Hours: Mondays 11:15 -12:15 pm and by appointment

Course Overview: This course will describe 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.

This class will be a "blended course." This means that there will be some virtual class meetings and some meetings in the lecture hall. The details will be provided on the syllabus. The web based classes will consist of self guided learning using the textbook, online quizzes and Google Earth. The non-virtual lectures will be composed of a mix of multi-media displays. Videos, virtual field trips, animations and PowerPoint presentations will be used.

* The final lecture schedule will provided by the first day of class.

Academic Honesty

"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 the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures."

Textbooks: The following books are required. Please note that these items can be purchased at the Hunter Bookstore or at Shakespeare Books. If you purchase the book from another source it will not include material critical to this course, i.e. access to the online tools and quizzes. You can choose between a traditional textbook that comes with an ebook or just the ebook option. The ebook is cheaper, but you will have access to it for only one year. This may be fine with some of you, but others may wish to have a hard copy for reference.

Stephen Marshak: *Essentials of Geology 3e* , 2009 Norton,
ISBN: 978-0-393-93238-6

Stephn Marshak: *Essentials of Geology 3e* Ebook Folder, 2009 Norton ISBN: 978-0-393-11469-0

Lab Manual: Laboratory Manual in Physical Geology, 7th ed., Richard M. Busch, Editor, prepared for Hunter College (ISBN 978-053-623-2748)

Other Materials: You must purchase a bound black & white or green & white bound composition notebook. It should be lined or have a grid. This notebook will be your lab notebook, i.e. a permanent record of your observations and class work. Bring your laboratory notebook and a ruler, and other tools as specified in the lab for that week to each laboratory meeting. It may be necessary to purchase a few additional materials as the semester progresses. You will be informed by your lab instructor in advance. You will also need to bring your lab manual to each laboratory meeting.

Attendance: will not be taken during lecture, but the exams will include material that will be exclusively covered in the lecture (50%). Therefore, if you miss class and fail to get the notes from another student your test grade will be negatively impacted. I strongly suggest attending all the lectures, as this will be the easiest and most efficient way to learn the material. Attendance will be taken in the labs and will be included in your lab grade. Assignments will be associated with each of the virtual class meetings. These assignments will have firm due dates and will count for 30% of your course grade.

Class Meetings: The lectures will be given Monday and Thursday from 9:45am to 11am, unless specified on the syllabus as "Virtual". Virtual lectures will be live or recorded powerpoint presentations that you can log into the virtual lecture at : <http://huntercollege.adobeconnect.com/rrutberg/>. These lectures are best attended at the time given, but if you can not make it or would like to review the material, I will record them and provide you with access to them. The laboratory sections will be given at the times specified in the college's schedule of courses. Each laboratory will begin with a 5 – 15 minute lecture; hence it is important that you be on time. Your lab instructor will take attendance. Your attendance and timeliness will be factored into your grade.

Exams: The exams will be based on the text and on the material covered in class. At least forty percent of the exam material will be drawn directly from the lecture. Hence, reading the book and failing to attend class will most likely result in a grade of F. The exam dates are given on the calendar portion of the syllabus. You must bring at least one #2 pencil and eraser to the exams and they will be multiple choice tests. The answer sheets must be filled out so that you write and bubble in your name last name first. You must not fill in any other fields except the answers themselves. If you fail to bubble in your name or bubble in additional information points will be deducted from your score. Exam II will be given via Blackboard.

Grading: The laboratory section of the course will count for 50% of your total grade. The lecture material will count for 50% of the total grade. You will have three exams (two mid-terms and a final). There will be NO make-up exams. The lowest grade of the two mid-term exams (or 1 missed exam) will be dropped. The midterm, the final and the cumulative grade for the homework will each contribute 33.3% to your lecture 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. 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.

Homework: The laboratory exercises will be one component of the homework for the course. 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.

The second component of the homework will be exercises/quizzes associated with all of the chapters covered in the lecture. You will be expected to read the relevant chapters listed on the syllabus for each virtual and traditional class meeting. You will also be required to complete exercises posted on Blackboard. You will be given at least a 24 hour window in which to complete the assignment but the due dates(on syllabus) are firm so that the course material is completed in a logical order. These assignments are designed

to help you learn the key pieces of information in each chapter. They will also prepare you for the exams. You can contact me with questions about the readings/assignments via email.

Blog:

This class will maintain a blog of recent articles having to do with Earth Science. Students are encouraged to post and comment on articles. The blog will be located on our Blackboard site. The blog greatly enriches the class material and experience and I encourage all students to post articles and read the blog.

Virtual Office:

I will also have a virtual office or chat room set up on the days that we have virtual meetings. I will be available for my office hours virtually. The link is:

<http://huntercollege.adobeconnect.com/rtrutberg/>. You can use this as an opportunity to ask questions and get in depth explanations as well.

Study Habits:

- a) As a general rule of thumb for a college course you should plan to study two hours outside of class for each hour spent in class.
- b) Do not expect to understand everything that I say the moment I say it, but do keep trying to understand it. Geology is like a jigsaw puzzle, as each new piece is added the whole picture will become clear.
- c) The following are useful tips to do well in this or any class:
 - 1) Attend class & take detailed notes.
 - 2) Read the assigned material in the text **before** coming to class and do the pre-lecture quizzes.
 - 3) Re-write your notes as soon as possible after class. This will allow you to fill in the details still fresh in your memory, and prepare questions for the next time the class meets.
 - 4) Test yourself by answering the questions in the book and on the web site.
 - 5) Reinforce your knowledge by using the study tools on the wileyplus website.
 - 6) Memorize new geological terms
 - 7) Carefully study the diagrams and charts in the book and in the lectures.

Office Hours:

- a) Walk-in hours (subject to change) are given above; all other times by appointment only. If you come to my office at any other time I may not be able to see you: my job involves many aspects in addition to teaching.
- b) Please prepare your questions ahead of time.
- c) If you arrive at my office and the door is closed, please knock and wait. If the door is open but I am talking to someone else, please wait in the hall, **NOT IN THE OFFICE**.
- d) I encourage all students to make use of my office hours. If you have a few questions, e.g. about points in a lecture or problems in the book, feel free to come and discuss them.

Examinations (for the lecture part of the course):

- a) If the school is unexpectedly closed, e.g. because of snow, on the day of a scheduled examination other than the final, that exam will be given during the next regular class meeting. If the school is unexpectedly closed on the day of the final examination you should do what I will do: listen to the radio and/or contact the school for information.
- b) The grading on examinations is: 90-100 = A; 80-89 = B; 70-79 = C; 60-69 = D; <59 = F.
- c) Examinations (except the final) are always 65minutes and must be turned in promptly or you will automatically lose 10 points.
- d) I do not give make-up examinations, even in cases of other examinations on the same day, illness, or family emergencies. The final examination is an exception; in some cases a make-up can be arranged by you through the administration and is given on a weekend, for a fee, some six to eight weeks into the following semester. I do not regard having other finals on the same day as a valid reason for missing that exam.
- e) If you miss an exam other than the final it will not count against you. However, two missed exams is another matter.
- f) If you miss two exams prior to the final and still want a grade for the course you must come to see me before the end of the end of the course, and even then I make no promises.

The Final Grade

- a) If you miss the final and have a D or F average in the course at that point (without dropping any grade!) you fail the course. The reason you missed is irrelevant.
- b) Only eligible students who have completed ALL of the course requirements may elect the grade of CR/NC. (Please consult the undergraduate catalog for detailed rules and regulations regarding CR/NC eligibility.) In short, that means that, prior to the date of the final exam, you must have taken all exams, all quizzes, turned in all homework assignments, all lab exercises, and taken all lab quizzes, etc. You must also satisfy attendance requirements for both lecture and lab as stated in this syllabus and take the final examination at the appointed time. Otherwise, the grade of WU (unofficial withdrawal) will apply. The CR/NC form must be submitted to me up until the beginning of the final exam.
- c) I will not agree to “a B if I get a B and a CR if I get a C.” If you want a B in this course, work toward that goal from day one!! If you want an A in this course, work toward that goal from day one!
- d) In cases of flagrant academic dishonesty I may not follow these procedures to compute your final grade. In particular, I may not drop your lowest examination score, I may record that score as a 0, and I may not agree to a CR-NCR option. I will report you to the appropriate dean for disciplinary action.

How to get into trouble in this course

- a) Arrive late or miss class on a regular basis.
- b) Pay a tutor to do the work for you
- c) Maintain the belief that I will grade you differently because of personal difficulties you are experiencing.
- d) Stop attending class without notifying the registrar. If you are not officially dropped from the course by the registrar you will be assigned a final grade of WU, which means

you failed for non-academic reasons. Every semester at least one student who hasn't been to class in 8 weeks arrives just before the final pleading with me not give this grade, claiming they were unaware of the rule (you are all now aware). They want a NC, or a chance to make up the work. They get neither.

- e) Do not hand in laboratories and/or skip an exam because you know one will be dropped. At the end of every semester students in deep trouble ask if there is anything they can do to raise their grade. When I look at my grade book these are students who have consistently failed to hand in homework over the semester, and/or have missed an exam. If you want a good grade in the class, consistently work towards that goal from the first day onwards.

Course Schedule:

Below is the tentative Course Schedule for Lectures, Readings, Assignments and Laboratories. The final schedule will be posted by the first day of class. Class will meet in the lecture hall unless noted to be "Virtual". Laboratories are assigned for a given week, though exact date may be different due to a given section's meeting days. All labs meet in the lab room, 1021 Hunter North. There are NO virtual labs.

How to follow the schedule:

You are expected to have read the reading listed for each face-to-face class day *before class on that date*. 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.*

Date	Notes	Material	Laboratory	Reading	Assignment
January 31		Introduction to Geology/ Case Study	Introduction to book, materials, methods	Chapter 1	
February 3		Cosmology and the Birth of the Earth/Impact Events	Lab 1	Chapter 1	
February 7		Cosmology and the Birth of the Earth/Impact Events	Lab 1	Chapter 1	Chapter 1 Assignment
February 10		The Way the Earth Works: Plate Tectonics	Lab 1	Chapter 2	
February 14		The Way the Earth Works: Plate Tectonics	Lab 1	Chapter 2	Ch. 2 Assignment
February 17		Patterns in Nature: Minerals	Lab 2 Plate Tectonics	Chapter 3	Ch 3. Assignment A
February 23	(Monday schedule)	Patterns in Nature: Minerals	Lab 3 Minerals	Chapter 3	Ch 3. Assignment B
February 24		Exam 1	Lab 3 Minerals	Chapter 4	
February 28		Up from the Inferno	Lab 3 Minerals	Chapter 4	Ch.4 Assignment
March 3		Up from the Inferno	Mineral Practical	Chapter 5	
March 7		The Wrath of Volcan	Lab 5 Igneous	Chapter 5	Ch.5 Assignment
March 10		The Wrath of Volcan			
March 14		Sedimentary Rocks	Lab 5 Igneous	Chapter 6	
Date	Notes	Material	Laboratory	Reading	Assignment
March 17		Sedimentary Rocks	Lab 5 Igneous	Chapter 6	Ch.6 Assignment

March 21		Metamorphism	Lab 5 Igneous	Chapter 7	
March 24		Metamorphism	Lab 6 Sedimentary	Chapter 7	Ch 7 Assignment
March 28		The Rock Cycle	Lab 6 Sedimentary	Interlude C	Rock quiz
March 31		A violent Pulse	Lab 6 Sedimentary	Chapter 8	
April 4		A violent pulse	Lab 6 Sedimentary	Chapter 8	Ch.8 Assignment
April 7		Crustal Deformation	Lab 7 Metamorphic	Chapter 9	
April 11		Crustal Deformation	Lab 7 Metamorphic	Chapter 9	Ch. 9 Assignment
April 14		Exam II via Blackboard	Central Park		
April 28		Memories of Past Life	Central Park	Interlude E	
May 2		Deep Time	Lab 4 The Rock Cycle	Chapter 10	Ch. 10 Assignment
May 5		A Biography of the Earth	Rock Practical	Chapter 11	
May 9		A Biography of the Earth	Laboratory 8 Dating	Chapter 11	Ch. 11 Assignment
May 12		Riches in Rock	Laboratory 8 Dating	Chapter 12	
May 16		Riches in Rock	Laboratory 10 Structure	Chapter 12	Ch. 12 Assignment