

GEOL 231 - Geomorphology
Fall 2009
Professor Randye L. Rutberg
Monday and Thursday, 11:10 a.m. to 1:00 p.m.

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Read this entire document thoroughly. It sets the goals, expectations, grading procedures, rules and schedule for this class. You are responsible for this information

Course Overview: This course will investigate the geologic forces that shape the surface of the Earth. In the laboratory students will learn to analyze features of the landscape and deduce the processes that produced them. We will use traditional laboratories as well as Google Earth to learn about a variety of surficial processes.

The lectures will be composed of an exciting mix of multi-media displays. Videos, virtual field trips, clickers and PowerPoint presentations will be used.

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."

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.

Course Policies:

Attendance: will be taken during lecture. Exams will emphasize lecture material but students are responsible for the readings as well. 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.

Class Meetings: The lectures and laboratories will be given Monday and Thursday from 11:10 a.m. - 1p.m. Generally, we will have one hour of lab and one hour of lecture. As the term progresses, we may dedicate the full period to lab exercises.

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) and several homework assignments (see chart on last page of syllabus) and readings. The laboratory grade will be based on your lab reports.

Textbook: *Earth, Portrait of a Planet*, 3rd ed., by Stephen Marshak ISBN: 978-0-393-18306-1. The text can be purchased as a traditional textbook or as an online version (half price). I advise you to seriously consider your learning style along with the price of the book as you make your decision about purchasing an online or hard copy. Some students learn well online, others learn well from a traditional text.

Lab Manual: *Custom Lab Manual for Geomorphology*, ISBN9780558265311

Other Materials: You must purchase a bound black and white or green and 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 (you should have a separate notebook for lecture notes). Bring your laboratory notebook and any other tools 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 in advance. You will also need to bring your lab manual to each laboratory meeting.

Professor Rutberg's Office Hours: Thursday 1:15 to 2:15 p.m. and by appointment

Web Site: <http://bb.hunter.cuny.edu>

The website will have an up-to-date version of the syllabus, helpful notes and lecture notes where appropriate. It will also have a useful blog, Scholar list and additional readings. I strongly suggest that you check it at least twice per week.

In addition to Blackboard we have another website that is linked to the text:

<http://www.wwnorton.com/college/geo/earth3/>

This site will provide diagnostic quizzes and many other study and visualization aids.

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. 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, 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. 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. 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 other portion of the homework will be the online quizzes. The due date for each of these quizzes is given in the syllabus. The quizzes are designed to be taken before you come to class, hence you must turn them in on time to receive credit

Please note that you can view your quiz grades in the grade book portion of the Norton website.

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 65 minutes 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) I will automatically agree to the CR-NCR option only if you earn grades at least 40 on at least 1 of the first two examinations (count a missed exam as a 0). If you do not meet this criterion I strongly suggest you come to speak with me during my office hours before the end of the term. I do not believe that writing little or no more than your name on an examination form constitutes taking that exam. Students on probation are not eligible for this option.
- c) If you choose the CR-NCR option then a grade of $\geq 70 = \text{CR}$ and a grade of $<70 = \text{NCR}$
- d) 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 towards that goal from day one!! If you want an A in this course, work towards that goal from day one!
- e) 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:

The following is a schedule of chapters and labs to be covered during the semester. It is very important that you read the chapters and the laboratory introductions **before** coming to class. In some cases, the labs will inform you of additional materials you may need to bring. Dates may change as the course progresses, but the syllabus will be updated accordingly.

Monday, August 31	An introduction to the course and syllabus.
Thursday September 3	Chapter 3, Drifting Continents and Spreading Seas
Thursday, September 10	Chapter 3, Drifting Continents and Spreading Seas Laboratory 1 - Map Projections, Map Reading and Interpretation
Monday, September 14	Chapter 4, The Way the Earth Works: Plate Tectonics Laboratory 1- Map Projections, Map Reading and Interpretation
Thursday, September 17	Chapter 4, The Way the Earth Works: Plate Tectonics Laboratory 1: Map Projections, Map Reading and Interpretation
Monday, September. 21	Interlude B, Rock Groups Laboratory 2, Contours and Topographic Maps
Thursday, September 24	Chapter 11, Crag, Cracks and Crumples: Crustal Deformation and Mountain Building Laboratory 2 - Contours and Topographic Maps
Monday, September 28	No Classes
Tuesday, September 29	Chapter 11, Crag, Cracks and Crumples: Crustal Deformation and Mountain Building Laboratory 2 - Contours and Topographic Maps
Thursday, October 1	Chapter 11, Crag, Cracks and Crumples: Crustal Deformation and Mountain Building Laboratory 2 - Contours and Topographic Maps
Monday, October 5	Interlude F, Ever-Changing Landscapes and the Hydrologic Cycle Laboratory 4, Stream Processes, Landscapes, Mass Wastage and Flood Hazards
Thursday, October 8	Interlude F, Ever-Changing Landscapes and the Hydrologic Cycle Laboratory 4, Stream Processes, Landscapes, Mass Wastage and Flood Hazards
Monday, October 12	No Classes
Wednesday, October 14	Exam 1 (chapters covered to date) Classes follow Monday schedule Laboratory 4 - Stream Processes, Landscapes, Mass Wastage and Flood Hazards

Thursday, October 15	Chapter 17, Streams and Floods: The Geology of Running Water Laboratory 4, Stream Processes, Landscapes, Mass Wastage and Flood Hazards
Monday, October 19	Chapter 17, Streams and Floods: The Geology of Running Water Laboratory 5 - Topographic Analysis: Fluvial Geomorphology
Thursday, October 22	Chapter 17, Streams and Floods: The Geology of Running Water Laboratory 5 - Topographic Analysis: Fluvial Geomorphology
Monday, October 26	Chapter 18, Restless Realm: Oceans and Coasts Laboratory 7 - Coastal Processes, Landforms, Hazards and Risks
Thursday, October 29	Chapter 18, Restless Realm: Oceans and Coasts Laboratory 7 - Coastal Processes, Landforms, Hazards and Risks
Monday, November 2	Chapter 21, Dry Regions: The Geology of Deserts Laboratory 7 - Coastal Processes, Landforms, Hazards and Risks
Thursday, November 5	Chapter 21, Dry Regions: The Geology of Deserts Laboratory 8 - Topographic Analysis: Coastal and Arid Geomorphology
Monday, November 9	Chapter 21, Dry Regions: The Geology of Deserts Laboratory 8 - Topographic Analysis: Coastal and Arid Geomorphology
Thursday, November 12	Exam 2 (material covered since exam 2) Laboratory 8 - Topographic Analysis: Coastal and Arid Geomorphology
Monday, November 16	Chapter 22, Amazing Ice: Glaciers and Ice Ages Laboratory 6 - Topographic Analysis, Glacial Geomorphology
Thursday, November 19	Chapters 22, Amazing Ice: Glaciers and Ice Ages Laboratory 6 - Topographic Analysis, Glacial Geomorphology
Monday, November 23	Chapter 22, Amazing Ice: Glaciers and Ice Ages Laboratory 6 - Topographic Analysis, Glacial Geomorphology
Thursday, November 26	No Classes
Monday, November 30:	Chapter 19, A Hidden Reserve: Groundwater Laboratory 9 - Topographic Analysis: Karst Landscapes
Thursday, Dec 3	Chapter 19, A Hidden Reserve: Groundwater Laboratory 9 - Topographic Analysis: Karst Landscapes
Monday, Dec 7	Chapter 19, A Hidden Reserve: Groundwater Laboratory 9 - Topographic Analysis: Karst Landscapes
Thursday, Dec 10	Chapter 23, Global Change in the Earth System

Monday, Dec 21: Final Exam – 11:30 a.m. to 1:30 p.m.

Diagnostic quizzes: I strongly suggest that you take the diagnostic quizzes by the dates listed. This will help you identify your strengths and weaknesses and master the material. Submit the quizzes to me by following the instructions on the website (<http://www.wwnorton.com/college/geo/earth3/>). I will keep a record of your

scores. Your overall performance will be factored into your final grade. Keep in mind that these quizzes are intended to help you study. I will calculate your grade based on the number of quizzes that you complete and your scores. Again, the main value of the quizzes is to help you master the material. They will count for 10% of your lecture grade.

Pre-lecture quiz:	Due date
Chapter 3	9/10
Chapter 4	9/17
Chapter 11	10/1
Chapter 17	10/22
Chapter 18	10/29
Chapter 21	11/9
Chapter 22	11/19
Chapter 19	12/7
Chapter 23	12/10

In addition you will be required to do a handful of additional readings. These will count as "low impact assignments." I will keep track of the number you hand in and the quality and it will enhance or detract from your final grade. You will be required to turn in a paragraph summarizing the reading. The following is a preliminary list:

Additional Readings:

Excerpts from:

The Map that Changed the World, Simon Winchester

Krakatoa, Simon Winchester

The Mountains of St. Francis, Walter Alvarez

T-Rex and the Crater of Doom, Walter Alvarez

The Earth: An Intimate History, Richard Fortney

Annals of the Former World, John McPhee

Scientific American articles