GEOL 10000
Introduction to Geology
Classroom: 714 HW
Mondays and Thursdays 9:45 AM to 11:00 AM

Fall 2015

Instructor: Randye Rutberg
Office location: Hunter North room 1041 (10th floor)
Email (preferred means of contact): rrutberg@hunter.cuny.edu. In order for me to respond to your emails as efficiently as possible please adhere to the following instructions: (1) Include the course name and number in your subject line. (2) Include your entire name as it appears in CUNYfirst. (3) Email me from your @myhunter email account. (4) I try to answer all emails within 24 hours. Allow for a 48 hour delay on the weekends. Please be sure to write a complete email, including a salutation and a signature.
Office hours: Mondays and Thursdays 11:15 a.m. to 12:15 p.m. and by appointment.
Office phone: 212 772 5326

Brief description/purpose of course: This course will be of interest to any student who wants to learn more about the Earth as well as to those contemplating a major in Geography or Environmental Studies. The lecture meets twice per week for 1.25 hours. Lectures will cover the formation of the Earth, rocks and the rock cycle, plate tectonics, geophysical properties of the Earth, earthquakes, volcanism, the structure and formation of the sea floor and mountain building, all in the framework of vast geologic time.

This course fulfills the Stage 2 group E General Education Requirement (GER). Combined with GEOL 100, this course satisfies one of the core requirements for the "new" geography major. For psychology majors, the course, combined with GEOL 101, satisfies one of the laboratory science requirements. Under the Hunter Core Requirements this course satisfies D, Scientific World.

This course is a partial online (hybrid) course. The lecture portion will be partially online using Blackboard (BB) and an online homework system. Approximately one half of the scheduled meeting times will be virtual classes. The traditional lecture in the class room will be on Thursdays (or days scheduled as Thursdays at Hunter). Virtual classes are scheduled on most Mondays. The online learning portion of the course is intended to provide students with structured materials including podcasts, animations and exercises that are designed to enhance student learning. The traditional lecture portion of the class will enrich topics covered in the text book with additional examples and in depth discussions.

Required textbook(s): A textbook and associated online homework system, Smartwork, are required for this course. You can choose from the following two options. These options are only available at the Hunter College Bookstore or Shakespeare & Co. If you make your purchase through another vendor, Smartwork will not be included with the book and you will have to purchase it separately (http://books.wwnorton.com/books/978-0-393-92274-5/).

Marshak, *Essentials of Geology*, 4th edition + Free eBook and Online HW/Lab ISBN 978-0-393-91939-4
or
Marshak, *Essentials of Geology*, 4th edition eBook and Free Online HW/Lab ISBN 978-0-393-92255-4

Additional Assigned Reading: *Soundings: The Story of the Remarkable Woman Who Mapped the Ocean Floor*, by Hali Felt, ISBN 0805092153 (available from the bookstore, libraries or Amazon.com)

You will also need to purchase an **iclicker2** (available from the Hunter College Bookstore)

Course objectives:
-students will describe the scientific method
-students will describe the formation and evolution of the Earth
-students will define the fundamental concepts of plate tectonics
-students will identify the causes of volcanism
-students will describe igneous processes, rocks and structures
-students will define the three major rock categories
-students will discuss the rock cycle
-students will distinguish different types of sedimentary rocks
-students will explain and analyze sedimentary structures
-students will define and classify metamorphic rocks
-students will describe the basic geophysical properties of the Earth
-students will explain the causes of seismic events
-students will explain how earthquake epicenters are located using seismometers
-students will describe the geologic time scale and the concepts of relative and absolute dating
-students describe the formation and distribution of geologic resources
-students will describe and discuss key concepts of anthropogenic climate change
-students will analyze and discuss human impacts on planet Earth

Expected Student Outcomes:
At the end of the course the successful student will be able to:
-Describe the formation of the solar system and the Earth
-Discuss the theory of plate tectonics and how it relates to a wide variety of geologic phenomena
-Recognize the three major rock categories and how rocks are transformed via the Rock Cycle
-Recognize and describe geologic structures
-Use seismic data to locate the epicenter of an earthquake
-Describe the structure and geophysical properties of the Earth
-Demonstrate knowledge of geologic time and the history of planetary evolution
-Describe how geologic resources are formed and distributed
-Discuss the impact of human activity on the Earth's climate

Course evaluation/grading: 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 course grade. Late assignments will not be accepted. If you have extenuating circumstances that you feel justify the extension of a deadline, you must discuss the situation with me, in person, during office hours. One missed (or the lowest) assignment will be dropped. There will be two mid-terms and a final examination. The lower of the two mid-terms will be dropped. I do not give make up exams, except in the most extenuating of circumstances. The remaining mid-term will count for 20% of the lecture grade. The final exam will count for 20% of the course grade. Class participation via iclickers will count for 10% of the course grade.

Course Grading Summary:

Homework assignments:	50%
Mid-term:	20%
Final Exam:	20%
Iclicker/class participation:	20%

About examinations and grades

a) Grades follow Hunter's grading system: http://catalog.hunter.cuny.edu/content.php?catoid=15&navoid=1433
b) Examinations are 1 hour and 15 minutes for the mid-term and 2 hours for the final exam and must be turned in promptly. If you arrive late, you lose that time.
c) Make-up exams are ONLY available in extreme cases, and with medical (or other) forms that confirms the absence. If you miss an exam and have a D or F average in the course at that point, you fail the course irrespective of the reason you missed it.
d) I will automatically agree to the CR/NCR option only if the conditions stated in the CR/NCR form are satisfied: all course work has been completed and you earned grades such that you accumulate at least 50 points total in the course (this includes labs+exams, if you earned any). Students on probation are not eligible for this option. Students must make an appointment to discuss this option with me at least one week before the final exam.

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. Earphones are not to be worn in the classroom (either on ears or around neck). Laptops are only permitted in the front row. I strongly suggest that you do not use a lap top in class but rather take notes by hand. You are responsible for doing all online assignments in a timely fashion, i.e. within the week or unit they are assigned. 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.* Cell Phone Policy: Out of respect for preserving a positive learning environment, all cell phones, beepers, and other portable noise-making devices must be SILENCED for the duration of the class period.

Inclement Weather and other unknowns: If circumstances prevent me, the professor, from reaching campus on a class day I will notify the entire class using your hunter e-mail account. On snowy days, please check your e-mail an hour or so before our scheduled class time.

HELPFUL INFORMATION

My Teaching Philosophy: My goal in teaching is to help students learn the material and become responsible professionals. I also strive to share my enthusiasm for this subject and make this class an enjoyable one. My approach to teaching involves conveying key information and concepts as well as encouraging discourse in the class room. Student participation greatly enhances the classroom environment. I understand and respect individual differences in learning and do my best to promote learning in the classroom by working with individual differences rather than against them. At the same time, I wish to impart technical skills and a sense of responsibility by encouraging students to play the role of professionals in the classroom.

I expect students to put their best effort in this course. This involves participating in the in-class exercises, reading the assigned material, doing the homework, editing when necessary until they are clear and correct, and preparing for quizzes and exams.

Lecture: I will spend part of the lecture time explaining the key concepts of geology. You are expected to devote time outside the classroom to understand the concepts, review questions given at the end of chapters in the textbook, or questions that I may ask in class. I expect that lectures will give you a clear idea of what is expected in

quizzes and exams. (Note: as a general rule of thumb for a college level course, you are expected to spend three hours outside the classroom for each hour in the class room.)

Finally: It is important to start with a good study habit. Consistency is the key. Forming study groups is extremely helpful. Use my time and any resource available to you throughout the semester. Make progress steadily as the material in this course cannot be understood the night before the exam. Concentrate on understanding rather than 'regurgitating'. Put out your best effort everyday!

The following are useful tips to do well in this or any class:

- Attend class and take detailed notes.
- Read the assigned material in the text (or other) ***before*** coming to class.
- 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.
- Test yourself by answering the questions in the book and in class.
- Carefully study the diagrams and charts in the book and in the lectures.

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

ADA Policy: In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of AccessABILITY, located in Room E1214B, to secure necessary academic accommodations. For further information and assistance, please call: (212) 772- 4857 or (212) 650-3230.

Schedule of topics and readings: Below is a schedule of class meetings, topics and reading assignments. Please note that the readings and assignments are due on the dates indicated and are to be submitted via Smartwork. A detailed schedule for readings, activities and assignments is given on the course BB page. The BB page is organized by date. Each class meeting date given on the syllabus has an associated folder that contains readings, additional materials and in some cases 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. The professor reserves the right to change the schedule and/or assignments as necessary.

Lecture Schedule

*Additional Reading: one chapter per week of Soundings: The Story of the Remarkable Woman who mapped the Ocean Floor by Hali Felt.

Date	Meeting Type	Material	Reading	Assignments	Due (due 9:45 a.m on given date)
Thursday, August 27	In class meeting 714 HW	Introduction to Geology	Chapter 1	Introductory assignment	8/31
Monday, August 31	Virtual class –see BB folder for materials	Cosmology and the Birth of the Earth/Impact Events	Chapter 1	Chapter 1 Assignment	9/3
Thursday, September 3	In class meeting 714 HW	Cosmology and the Birth of the Earth/Impact Events	Chapter 1		
Monday, September 7	College Closed				
Thursday, September 10 (Monday schedule)	Virtual class –see BB folder for materials	Plate Tectonics	Chapter 2	Chapter 2 Assignment 1	9/17
Monday, September 14	No Classes scheduled				
Thursday, September 17	In class meeting 714 HW	Plate Tectonics	Chapter 2		
Monday, September 21	Virtual class –see BB folder for materials	Plate Tectonics	Chapter 2	Chapter 2 Assignment 2	9/24
Thursday, September 24	In class meeting 714 HW	Magma and Igneous Rocks:	Chapter 4		
Monday September 28	Virtual class –see BB folder for materials	Magma and Igneous Rocks:	Chapter 4	Chapter 4 Assignment	10/1
Thursday, October 1	**In class meeting 714 HW**	**EXAM – multiple choice**	**bring #2 pencil & eraser**		

Monday, October 5	Virtual class –see BB folder for materials	Volcanic Eruptions: The Wrath of Volcan	Chapter 5	Chapter 5 Assignment	10/8
Thursday, October 8	In class meeting 714 HW	Sedimentary Rocks	Chapter 6	Chapter 6 Sedimentary Rock Assignment	10/15
Monday, October 12	College closed				
Thursday, October 15	In class meeting 714 HW	Sedimentary Rocks	Chapter 6		
Monday, October 19	Virtual class –see BB folder for materials	Intro to Metamorphic Rocks		Chapter 7 assignments	Due 10./22
Thursday, October 22	In class meeting 714 HW	Metamorphic Rocks & Rock Cycle	Interlude C Chapter 7		
Thursday, October 29	In class meeting 714 HW	Earthquakes	Chapter 8		
Monday, November 2	Virtual class –see BB folder for materials	Earthquakes	Chapter 8	Ch. 8 Assignment	Due 11/5
Thursday, November 5	**In class meeting 714 HW**	**Exam 2**	**Chapters 5,6,7,8, Interlude C**	**bring #2 pencil & eraser**	
Monday, November 9	Virtual class –see BB folder for materials	Crustal Deformation & Geophysical Properties of the Earth, Interlude D	Chapter 9	Chapter 9 Assignment	Due 11/12
Thursday, November 12	In class meeting 714 HW	Crustal Deformation & Geophysical Properties of the Earth, Interlude D	Chapter 9		
Monday, November 16	Virtual class –see BB folder for materials	Deep Time	Chapter 10	Chapter 10 Assignment Due	Due 11/19
Thursday, November 19	In class meeting 714 HW	Deep Time	Chapter 10		
Monday, November 23	Virtual class –see BB folder	Biography of the Earth	Chapter 11	Chapter 11 Assignment	Due 11/30
Thursday, November 26	College Closed	Happy Thanksgiving			

Monday, November 30	Virtual class –see BB folder for materials	Riches in Rock, Energy and Mineral Resources	Chapter 12	Chapter 12 Assignment	Due 12/3
Thursday, December 3	In class meeting 714 HW	Riches in Rock, Energy and Mineral Resources	Chapter 12		
Monday, December 7	Virtual class –see BB folder for materials	Global Change	Chapter 19	Chapter 19 Assignment	Due 12/10
Thursday, December 10	In class meeting 714 HW	Global Change	Chapter 19		
Monday, December 14	In class meeting 714 HW	Review	Chapters 9,10,11,12,19 and Interlude D		
Thursday, December 17	**FINAL EXAM**	11:30am-1:30pm	Chapters 9,10,11,12,19 and Interlude D	**bring #2 pencil & eraser**	