

Class Meets: T/R, 9:30-10:50am, Science Building 276

Text: Essentials of Geology, Lutgens & Tarbuck, 2003, 9th edition or 10th edition

Instructor: William (Bill) Niemann, P.G., Ph.D.

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Office Hours for 110 Students:

- T/R: 11:00-11:30am (after class),
- M/R: 2:00-4:00pm
- Other times: by chance or appointment
- Not a good time: before class

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Course Description

- General Geology: 3 credit hours, 150 minutes, per week.
- A beginning level geology course which surveys elements of earth materials, processes, structures, and history.
- The course is designed primarily for the non-science major.
- Co-requisite (depending on major): 210L (Earth Materials Lab).

Course Learning Objectives

The goals of this course are for each student to:

- Develop a basic understanding of the various types of geologic processes and the earth materials that they produce and modify through time.
- Become familiar with the main physical and biological events that have been interpreted to have occurred during earth history, and the ever-changing nature of the planet.
- Develop an awareness of the extent to which our modern industrial society relies on geologic resources to maintain current standards of living.
- Acquire an appreciation for the dual role of geologists in our society; this involves the maintenance of the resource base on which society depends, and the monitoring and limitation of the impact of resource extraction and consumption on the environment.

Relationship of Course to Departmental Goals

As part of its mission as a liberal arts institution, Marshall University has an obligation to provide students with coursework and degree programs that cover natural sciences. As such, this course satisfies the requirement for a 3-hour class in the natural sciences. The importance of the natural sciences to students pursuing degrees in both scientific and non-scientific disciplines can be appreciated by recognizing that geology is in many ways a cornerstone of our society. Our way of life depends on geologic resources, and our ability to sustain mankind

depends on a thorough understanding of how our activities impact the environment around us. The water, soil, air upon which we depend is primarily the product of ongoing geologic processes.

My Teaching Philosophy

- A good instructor doesn't so much deliver course content to students as provide the best opportunity for them to learn it themselves. For the student this means reading and studying material outside of class, listening and taking notes during lectures, and participating faithfully in the interactive exercises used in class such as discussion, quizzes etc. Following this philosophy, I consider myself a *facilitator* who will record exam and course grades based on your attainment of the course objectives, not a professor who simply "gives" grades to students.
- In this course you will be challenged to see the relevance of geology to your life. You may be surprised to find how much you depend on geologic processes and materials and, conversely, how they can threaten your property, health and even your life.
- My prediction: If you are not looking forward to this course, I am confident that by the end of the semester you will at least admit that it was more interesting than what you had anticipated, and may even say it was enjoyable and stimulating. A few of you may even decide to major in geology based on your experience in this course!

Assessment of Learning

- Exams. Four equally-weighted, one-hour, in-class exams will be given. The fourth exam will not be comprehensive but will be given during finals week. Eighty percent (80%) of your grade will be based on either three (3 x 26.7%) or four (4 x 20%) of these exams depending on your attendance (see below).
- Quizzes and Homework. Twenty percent (20%) of your grade will be based on quizzes and take-home assignments. Approximately 12-15 quizzes and/or assignments (about one per week), will be assigned and graded. A subset of these--approximately 8-10 selected at random--will be recorded as part of your grade. For most in-class quizzes, the class will be divided into groups of four or five students each to discuss and answer the quiz questions. The group will then turn in one copy of the quiz for grading and all group members will receive the same grade for that quiz.

Grading Policy

The following scale will be used for mid-term and final grades. Note that numerical scores and not letter grades are assigned for all individual exams, quizzes and homework assignments.

<u>Final Average (%)</u>	<u>Grade</u>	<u>Final Average (%)</u>	<u>Grade</u>	<u>Final Average (%)</u>	<u>Grade</u>
90-100	A	80-89	B	70-79	C
60-69	D	0-59	F		

Grading Policy (cont.)

- ***Note that the some or all of the above grade boundaries may be adjusted downward based on overall class performance. If such as an adjustment is made, it will benefit students “on the bubble.” In no case will the boundaries be adjusted upward.*** Also to benefit students, extra credit points will be added to students' point totals after grade boundaries are drawn. In this way extra credit is used to reward students who earn extra points but not to punish those students who don't.
- ***Students with two or less unexcused absences (see attendance policy below) will be allowed to drop the lowest of the four exam scores.*** For students allowed to drop the lowest exam score, each of the three remaining exams will count as 26.7% of the final grade ($3 \times 26.7\% = 80\%$). For students not allowed to drop the lowest exam, each of the four exams will count 20% of the final grade ($4 \times 20\% = 80\%$). ***Students meeting the above attendance requirement and having earned an “A” or “B” grade for the course ($\geq 90\%$ or $\geq 80\%$) based on quizzes and the first three exam scores, plus extra credit from field trips and movies/videos (see below), may elect not to sit for the 4th exam (in effect dropping the 4th exam).*** All other students must sit for and receive a passing grade ($\geq 50\%$) on the 4th exam to receive a passing grade for the course.

Attendance Policy

- A daily record of attendance will be kept by circulating a sign-in list at the beginning of each class. It is the responsibility of each student to respond to sign the list, and if late to notify the instructor at the end of the lecture. Failure to do so may result in an official absence for that lecture. Arriving late or leaving lecture early may reduce or void credit for attendance for that day.
- Absences may be excused for serious medical or legal reasons, military obligation, or university activities excused by the academic deans (see pages 128-130 of current 2007-2008 MU Undergraduate Catalog) or other valid reasons to be determined by the instructor in consultation with the student.
- ***An excused absence means that the student must consult with the instructor within 48 hours of the missed class session, and that any missed material be completed by a date assigned by the instructor. Failure by the student to comply with these policies will result in an unexcused absence for the date(s) in question and a zero for any missed assignment(s). In the case of an excused absence the instructor may opt to assign a “no-grade,” without penalty to the student, for material that cannot be conveniently made up.***
- Since students may earn the opportunity to drop the lowest exam score, there will be no makeup exams without a legitimate reason.
- Note that extreme weather could result in closure of the university and cancellation of class (see pages 95-96 of the 2007-2008 MU Undergraduate Catalog). In some cases, university offices could remain open but classes would be cancelled. If the weather looks bad, listen for announcements on local radio and TV.

Extra Credit

- To allow motivated students a chance to improve their course grade, multiple opportunities will be available to earn additional points outside of normal class time. ***Extra credit will be awarded only for the organized field trips and movies/videos, or other organized group activities approved by the instructor.*** Extra credit activities typically occupy approximately 2 hours each and will be announced as far in advance as possible, usually 1-2 weeks ahead. In past semesters field trips have been scheduled for weekday afternoons and movie/videos on weekday or Sunday evenings.
- Field trips and movies/videos will generally be worth a maximum of 10 and 5 exam points, respectively. The actual points earned for each activity will be based on an open-book quiz or other means of assessment. ***Students may earn up to 15 extra credit points from these activities or 20 points if they attend at least one field trip.*** A student earning 15 extra credit points from field trips and movies/videos will raise their total percentage points toward the final grade by 3% or 4% (see example below).
- In order to accommodate the varying schedules of approximately 200+ students in multiple introductory geology sections each semester, multiple field trips and movies/videos will be scheduled so that students who may not be able to attend one activity can attend a different activity. Given the number of activities available, all students who want to should be able to earn the maximum number of extra credit points.
- In addition to the above, a total of up to 10 extra credit points (2-3% towards final grade) will be awarded for correct answers on the entrance exam, to be given during the first or second class meeting, and an exit exam, to be given on the last class meeting. Extra credit for the exit exam will be based on improvement relative to the entrance exam.
- Example calculation of extra credit and application to final grade: Hal Herd attended two extra credit activities. His quiz scores for one field trip and one movie/video (7/10 and 5/10), have earned him 12 extra credit points. Since Hal's class attendance is good (see attendance policy), he is allowed to drop the lowest of his four exam scores, so that 80% of his total score is calculated as the average of three exams, and the remaining 20% is based on Hal's scores from the graded group quizzes. In Hal's case, he has earned 76.0% of the total points from tests and quizzes, which guarantee him a grade for the course of no worse than "C" (see "Grading Policy"). We now take Hal's 16 extra credit points and, in effect, add them to one of his exams by dividing by three ($12/3 = 4$) and multiplying by 0.80 ($4 \times 0.80 = 3.2$), which gives Hal an additional 3.2%, or 79.2% of the total. Finally, we add the results from Hal's entrance and exit exams, on which he scored 40% and 90%, respectively, good for 9 extra credit points $[(4 + (9-4))]$. Again, we divide by three and multiply by 0.8 $[(9/3) \times 0.80 = 2.4]$, then add the 2.4 points to Hal's total ($79.2 + 2.4 = 81.6\%$). Hal's final percentage now guarantees him a grade for the course of no worse than "B." Way to go, Hal, and thanks for playing! Note that without the extra credit, Hal's overall average would have been 76% and he would have earned a "C" for the class. Even with the extra credit but with poor attendance, Hal's overall average would have been less than 81.6% because his extra credit points would be divided by 4 instead of 3. In this case he could have ended up with a "C" for the class. ***One of the lessons here is that extra credit points are worth more when coupled with good attendance.***

Academic Dishonesty

Neither Marshall University nor this instructor tolerates academic dishonesty including cheating, falsification, plagiarism, bribes, favors and complicity. Students who choose to violate MU's policies on academic dishonesty risk dismissal from the University. Pages 106-109 of the 2007-2008 MU Undergraduate Catalog addresses the definitions and procedures specified in cases where academic dishonesty is in question. With the exception of basic-function calculators, use of any electronic devices during an exam will be considered evidence of cheating.

Special Needs Students

Marshall University is committed to equal opportunity in education for all students, including those with physical, learning and psychological disabilities. University policy states that it is the responsibility of students with disabilities to contact the Office of Disabled Student Services (DSS) in Prichard Hall 117, phone 304 696-2271 to provide documentation of their disability. Following this, the DSS Coordinator will send a letter to each of the student's instructors outlining the academic accommodation he/she will need to ensure equality in classroom experiences, outside assignment, testing and grading. The instructor and student will meet to discuss how the accommodation(s) requested will be provided. For more information, please visit <http://www.marshall.edu/disabled> or contact Disabled Student Services Office at Prichard Hall 11, phone 304-696-2271.

Technology Requirements

Students in this class will be required to access class materials via Dr. Niemann's web page on the Marshall University web site (<http://www.science.marshall.edu/niemann/>). Important class information may also be communicated to students via their MU e-mail (i.e., userid@marshall.edu) accounts. Students should check their MU e-mail regularly for any class related messages. Basic-function calculators should be brought to class regularly and to all exams.

Electronic Devices

Use of cell phones, PDA's, CD/MP3 players, iPods, etc. in class is not allowed. During class such devices must be kept out of sight in a pocket, backpack, etc. Cell phones must be set to silent mode. Repeated violations of this policy may result in a student being asked to leave class. With the exception of basic-function calculators, use of any electronic devices during an exam will be considered evidence of cheating.

GLY 110-202 – Spring 2009 -- Course Schedule

<u>Week</u>	<u>Dates</u>	<u>Topic</u>	<u>Reading</u>
1	Jan 13/15	Introduction / Major Themes	Syllabus Chapter 1: 1-31 (9 th) Chapter 1: 1-33 (10 th)
2	Jan 20/22	Major Themes / Plate Tectonics	Chapter 15: 334-365 (9 th) Chapter 15: 342-371 (10 th)
3	Jan 27/29	Minerals	Chapter 2: 33-55 (9 th) Chapter 2: 34-55 (10 th)
4	Feb 3/5	Igneous Rocks / Review EXAM 1	Chapter 3: 56-62 (9 th) Chapter 3: 58-64 (10 th) Chapters 1, 15, 2
5	Feb 10/12	Igneous Rocks (cont.)	Chapter 3: 62-79 (9 th) Chapter 3: 65-79 (10 th)
6	Feb 17/19	Volcanic Rocks	Chapter 4: 80-88, 104-113 (9 th) Chapter 4: 103-111 (10 th)
7	Feb 24/26	Weathering & Soils	Chapter 5: 114-127 (9 th) Chapter 5: 112-125 (10 th)
8	Mar 3/5	Review EXAM 2	Chapters 3, 4, 5
9	Mar 10/12	Sedimentary Rocks	Chapter 6: 137-161(9 th) Chapter 6: 136-161 (10 th)

10	Mar 17/19	Geologic Time	Chapter 18: 414-439 (9 th) Chapter 18: 416-441 (10 th)
	Mar 24/26	Spring break	Have a good break!
11	Mar 31 / Apr 2	Earthquakes & Earth's Interior	Chapter 14: 308-333 (9 th) Chapter 18: 318-341 (10 th)
12	Apr 7/9	Review / EXAM 3	Chapters 6, 18, 14
13	Apr 14/16	Water on Earth	Chapter 9/10: 200-241 (9 th) Chapter 9/10: 198-243 (10 th)
14	Apr 21/23	Earth History	Chapter 19: 440-461 (9 th) Chapter 19: 442-473 (10 th)
15	Apr 28/30	Earth History / Review	Chapters 9, 10, 19
	Tuesday, May 5 9:00-10:00am	EXAM 4	Chapters 9, 10, 19

Useful Websites: **Information about Careers in Geology/Geoscience**

www.aqiweb.org www.usgs.gov www.geosociety.org