

Class Meets: M, 6:30-9:00pm, 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:

- M: 5:00-6:00pm
- T: 2:00-4:00pm
- W: 9:00-11:00am, 4:00-5:00pm
- Other times: by chance or appointment
- Not a good time: immediately 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 and Incentives

- **Exams.** Two equally-weighted, in-class exams will be given, one at midterm and the other during finals week. Sixty percent (60%) of your grade will be based on these two exams. If your attendance is perfect throughout the semester (no unexcused absences), the higher of the two exam scores will count for 40% of your grade and the lower for 20%. If you have only one unexcused absence, the higher exam will count for 35% of your grade and the lower for 25%. If you have more than one unexcused absence, both exams will count for 30% of your grade. **See attendance policy below.**
- **Quizzes and Homework.** Forty percent (40%) of your grade will be based on approximately 35 quizzes. Approximately 20 of these will be in-class quizzes. 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. Additional quizzes, approximately 15, will be assigned as homework to be completed independently by each student. Homework is due to the instructor by e-mail (preferable) or hardy copy by 5pm of the Friday prior to the next class meeting. Late work will not be accepted.

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.***

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. **Notice of an excused absence must be received by the instructor through the office of the Dean of Student Affairs** (see pages 124-126 of 2009-2010 MU Undergraduate Catalog). The current Dean of Students is Steve Hensley, located on the second floor of the Memorial Student Center (2W38), 304-696-6423 or hensley@marshall.edu.
- ***In the case of an excused absence, any material missed can be completed, without penalty, by a later date assigned by the instructor. Failure by the student to complete the material by the assigned date will result in a zero for the assignment in question. The instructor may instead opt to assign a “no-grade,” without penalty to the student, for missed material as a result of the absence.***
- 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 92-93 of the 2009-2010 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.*** Each extra credit point is worth $\frac{1}{2}$ point added to the student's highest exam. A student earning 15 extra credit points from field trips and movies/videos will raise their total percentage points toward the final grade from 2 to 3% (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 (1.5 to 2% 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. Each extra credit point is worth $\frac{1}{2}$ point added to the student's highest exam. Since Hal's class attendance is perfect (see attendance policy), his highest exam score is worth 40% of his total grade. In Hal's case, he has earned 76.0% of the total points from exams and quizzes, which guarantee him a grade for the course of no worse than "C" (see "Grading Policy"). We now take Hal's 12 extra credit points and, in effect, add $\frac{1}{2}$ of them to the higher of his exams ($6 \times 0.4 = 2.4$), which gives Hal an additional 2.4%, or 78.4% 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 10 extra credit points [$(4 + (10-4))$]. Again, we add $\frac{1}{2}$ to his highest exam ($5 \times 0.4 = 2.0$) and add the additional total points to Hal's total ($78.4 + 2.0 = 80.4\%$). 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! Even with the extra credit but with poor attendance, Hal's overall average would have been 79.3% because his higher exam score would not have been weighted ($11 \times 0.3 = 3.3$, instead of $11 \times 0.4 = 4.4$). In this case he would receive 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 102-106 of the 2009-2010 MU Undergraduate Catalog addresses the definitions and procedures specified in cases where academic dishonesty is in question.

Special Needs Students

Students who require an alternative learning environment (e.g., additional time for exams), and can document such need, will be accommodated. Such students should inform the instructor of their needs no later than the first week of the semester so that arrangements can be made in advance.

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 strictly prohibited. During class such devices must be kept out of sight in a pocket, backpack, etc. ***Cell phones must be set to silent mode. 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 2010 -- Course Schedule

<u>Week</u>	<u>Dates</u>	<u>Topic</u>	<u>Reading</u>
1	Jan 11	Introduction / Major Themes	Syllabus
2	Jan 18	MLK Day No Class	Chapter 1: 1-31 (9 th) Chapter 1: 1-33 (10 th)
3	Jan 25	Plate Tectonics	Chapter 15: 334-365 (9 th) Chapter 15: 342-371 (10 th)
4	Feb 1	Minerals	Chapter 2: 33-55 (9 th) Chapter 2: 34-55 (10 th)
5	Feb 8	Igneous Rocks	Chapter 3: 56-62 (9 th) Chapter 3: 58-64 (10 th)
6	Feb 15	Igneous Rocks (cont.)	Chapter 3: 62-79 (9 th) Chapter 3: 65-79 (10 th)
7	Feb 22	Volcanic Rocks	Chapter 4: 80-88, 104-113 (9 th) Chapter 4: 103-111 (10 th)
8	Mar 1	Weathering & Soils	Chapter 5: 114-127 (9 th) Chapter 5: 112-125 (10 th)
9	Mar 8	EXAM 1	Chapters 1, 15, 2-5

10	Mar 15 (Mar 19 = last day to drop a course)	Sedimentary Rocks	Chapter 6: 137-161 (9 th) Chapter 6: 136-161 (10 th)
	Mar 22	Spring Break No Class	Enjoy your break!
11	Mar 29	Geologic Time	Chapter 18: 414-439 (9 th) Chapter 18: 416-441 (10 th)
12	Apr 5	Earthquakes & Earth's Interior	Chapter 14: 308-333 (9 th) Chapter 14: 318-341 (10 th)
13	Apr 12	Water on Earth	Chapter 9: 200-241 (9 th) Chapter 9: 198-243 (10 th)
14	Apr 19	Groundwater	Chapter 10: TBA
15	Apr 26	Earth History	Chapter 19: 440-461 (9 th) Chapter 19: 442-473 (10 th)
	May 3	EXAM 2	Chapters 6, 18, 14, 9-10, 19

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

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