

Class Meets: TR, 9:30-10:50am, Science Building 276

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

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

Office: 171 Science Building, Phone: 696-6721 (W), 736-2002 (H)

Office Hours for 110 Students:

- TR, 9:00-9:30am (before class)
- TR, 11:00-11:30am (after class)
- M, 2:00-3:00pm
- W, 3:30-4:30pm
- By appointment

e-mail: niemann@marshall.edu ; web: <http://www.science.marshall.edu/niemann/>

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. Eighty percent (80%) of your grade will be based on three (3 x 26.7%) or four (4 x 20%) equally-weighted, one-hour, in-class exams, scheduled approximately every four (4) weeks throughout the course (see course schedule below). The fourth exam will not be comprehensive but will be given during finals week.
- Quizzes and Homework. Twenty percent (20%) of your grade will be based on approximately 10 quizzes and take-home assignments. Approximately 15-20 quizzes, one or two per class session, will be assigned and graded, but usually only one quiz per week-- selected at random--will be recorded as part of your grade, totaling ~10 graded quizzes and take-home assignments. For most in-class quizzes, the class will be divided into groups of four or five students each to discuss the quiz questions.

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>
90-100	A
80-89	B
70-79	C
60-69	D

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 the roll call or 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 127-129 of current 2005-2007 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—longer may be allowed depending on the seriousness of the circumstances, and that any material missed can be completed, without penalty, by a 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. In the case of an excused absence the instructor may instead opt to assign a no-grade,” without penalty to the student, for missed material as a result of the absence.*** 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 91-93 of the 2005-2007 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. In past semesters field trips have been scheduled on Monday or Friday afternoons and movie/videos on Thursday and 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 performance on an open-book quiz or other means of assessment 1-2 weeks after the activity. ***Students may earn up to 15 extra credit points from these activities, equivalent to the maximum credit possible for one field trip plus one movie/video or three movies/videos.*** 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.
- In addition, 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 4 and 9, 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 !

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 105-109 of the 2005-2007 MU Undergraduate Catalog addresses the definitions and procedures specified in cases where academic dishonesty is in question.

Learning Disabled 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 2007 -- Course Schedule

<u>Dates</u>	<u>Topic</u>	<u>Reading</u>
January 9 / 11	Introduction / Major Themes	Syllabus Chapter 1: 1-31
January 16 / 18	Major Themes / Plate Tectonics	Chapter 15: 334-365
January 23 / 25	Minerals	Chapter 2: 33-55
January 30 / February 1	Igneous Rocks Review	Chapter 3: 56-62 Chapters 1, 15, 2 (review)
February 6 / 8	EXAM 1 Igneous Rocks (cont.)	Chapters 1, 15, 2 Chapter 3: 62-79
February 13 / 15	Volcanic Rocks	Chapter 4: 80-88, 104-113
February 20 / 22	Weathering & Soils	Chapter 5: 114-127
February 27 / March 1	Sedimentary Rocks	Chapter 6: 137-161
March 6 /8	Review EXAM 2	Chapters 3-6 (review)
March 13 /15	Geologic Time	Chapter 18: 414-439

March 20 / 22	Spring Break	Have a good break!
March 27 / 29	Earthquakes & Earth's Interior	Chapter 14: 301-333
April 3 / April 5	Review EXAM 3	Chapters 18, 14 (review)
April 10 / 12	Hydrosphere: Running Water	Chapter 9: 200-221
April 17 / 19	Earth History	Chapter 19: 440-461
April 24 April 26	Earth History Review	Chapter 19: 440-461 Chapters 9, 19 (review)
Tuesday, May 1 8:00am	EXAM 4	

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

www.aqiweb.org

www.usgs.gov

www.geosociety.org