

Class Meets: MWF, 9:00-9:50am, Science Building 276

Text: Physical Geology, Plummer & Carlson 12th edition, or Plummer, Carlson & McGeary, 11th edition

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

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Office Hours for 200 Students:

- M/W/F, 10:00-11:00am (after class)
- M/R 2:00-4:00pm
- By appointment

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Course Description

- Physical Geology: 3 credit hours, 150 minutes, per week.
- An elementary but comprehensive course in physical geology designed primarily for science majors.
- Co-requisite (depending on major): 210L (Earth Materials Lab).

Course Learning Objectives

The goals of this course are for each student to:

- Develop an understanding of the earth's origin, composition, structures, tectonics and processes.
- 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

This course primarily serves science majors who need or desire a comprehensive course in physical geology. It is the appropriate beginning class for students planning a major in geology. The course secondarily serves non-science majors who need 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, one-hour, in-class exams, scheduled approximately every five (5) weeks throughout the course (see course schedule below). The third 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 quizzes and take-home assignments. Not all quizzes will be graded. For most in-class quizzes, the class will be divided into groups of three or four 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> |
|--------------------------|--------------|
| 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.***
- ***Students with three or less unexcused absences (see attendance policy below) will be rewarded by having their lowest exam score weighted as half that of the other two exams.*** For these students the two highest exams will be worth 32% of the final grade, and the lowest exam worth 16% of the final grade ($[2 \times 32\%] + [1 \times 16\%] = 80\%$). For all other students, each of the three exams will count as 26.7% of the final grade ($3 \times 26.7\% = 80\%$).

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 128-130 of the 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 valid excuse, as explained above.***
- 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. In past semesters field trips have been scheduled on weekday afternoons and movie/videos on weekday or Sunday evenings.

Extra Credit (cont.)

- 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 a maximum of 10 extra credit points from these activities, or 15 points if one of the activities is a 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 a maximum of about 5% (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 (a maximum of about 3% towards final grade) will be awarded for the entrance and exit exams, the former to be given during the first or second class meeting, and the latter to be given during one of the final regular class meetings. Extra credit will be awarded for all correct answers on the entrance exam and on the exit exam for improvement relative to the entrance exam.
- Extra credit points are equivalent to exam points and are, in effect, added to the total of a student's exam scores.
- 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 5/5), have earned him 12 extra credit points. We also 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))]. Since Hal's class attendance is good (see attendance policy), he is allowed to weight the lowest of his exam scores as half of the other two. The extra credit is added to the total of the two higher exam scores. In Hal's case, he has scored 70, 80 and 90 on the three exams, so we add the extra credit (12 + 9 = 21) to the total of the two highest exam scores (80 + 90 + 21 = 191). Now we calculate Hal's exam average as $[(191 + 0.50 \cdot 70) / 2.5] = 90.4\%$. The exams are 80% of the final grade and the quiz average is 20% of the final grade. Assuming Hal's quiz average is 87%, his final grade is calculated as $[(0.80 \cdot 90.4) + (0.2 \cdot 87)] = 89.7\%$. This rounds up to 90% and earns Hal an "A" grade for the course. Way to go, Hal, and thanks for playing ! Note that without the extra credit, Hal's overall average would have been 83% and he would have earned a "B" for the class. Even with the extra credit but with poor attendance, Hal's overall average would have been 87% and he would have earned a "B" 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 address 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.

Policy for Students with Disabilities

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 200-201 – Spring 2009 -- Course Schedule

| <u>Dates</u> | <u>Topic</u> | <u>Reading</u> |
|--------------------------------------|-----------------------------|-------------------------------|
| January 12/14/16 | Introduction / Major Themes | Syllabus Chapter 1 (all) |
| January 19/21/23 | MLK Day /Plate Tectonics | Chapter 19 (all) |
| January 26/28/30 | Minerals | Chapter 2 (all) |
| February 2 /4/6 | Igneous Rocks | Chapter 3 (all) |
| February 9 /11/13 | Review / EXAM 1 | Chapters 1, 2, 3, 19 (review) |
| February 16/18/20 | Volcanic Rocks | Chapter 4 (all) |
| February 23/25/27 | Weathering & Soils | Chapter 5 (all) |
| March 2/4/6 | Sedimentary Rocks | Chapter 6 (all) |
| March 9/11/13 | Metamorphic Rocks | Chapter 7 (all) |
| March 16/18/20* *last day to drop | Review / EXAM 2 | Chapters 4-7 (review) |
| March 23/25/27 | SPRING BREAK | Have a good break! |
| March 30 April 1/3 | Geologic Time | Chapter 8 (all) |

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|---|-----------------------------------|---|
| April 6/8*/10 *Assessment Day—No class | Earthquakes | Chapter 16 (all) |
| April 13/15/17 | Streams | Chapter 10 (all) |
| April 20/22/24 | Groundwater / Glaciers | Chapter 11: 282-297 Chapter 12: 309-317, 327-335 |
| April 27/29 May 1 | Mass Wasting / Review | Chapter 9 (all) Chapters 8-12, 16 (review) |
| Friday, May 8 9:00 am | EXAM 3 | |

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

www.agiweb.org

www.usgs.gov

www.geosociety.org