

Syllabus - Geology 101

spring, 2010

Instructor: Nels Forsman, Leonard Hall 322B, ph. 777-4349 (email: nels_forsman@und.nodak.edu)

Lecture: 10:00 - 10:50 MWF, Leonard 100

Textbook: Lutgens & Tarbuck, 2009, Essentials of Geology, 10th edition.

HomePage: <http://www.und.nodak.edu/instruct/nforsman/geol101>

Course Objectives:

Upon completion of this course, you should have accomplished the following objectives:

1. Gain an understanding of Earth— its materials, processes, systems, and history.
2. Understand how conclusions are reached in science and that science correctly explains Earth's age, origin and history.
3. Appreciate the relevance of geologic knowledge to ourselves and our societies.
4. Be able to communicate our geologic knowledge to others

Grading:

Semester exams, three, totaling 40% of the grade; (lowest exam counts 8%, other two exams count 16% each).

Comprehensive final exam = 20% of the grade.

Course objectives paper = 15% of the grade (Students must reveal that they understand science correctly explains Earth's age, origin and history. That course objective is the most important part of this University Essential Studies science course)

Homework, quizzes and adherence to course policies = 20% of the grade

Attendance, participation, and compliance with the Knowledge Survey* process = 5% of the grade
So, 8 + 16 + 16 + 20 + 15 + 20 + 5 = 100

UND provides the following explanation of letter grades:

A = marked excellence, B = superior, C = average, D = passing but low, F = failure

Order of Topics:

Course Introduction

Earth as a Planet

Minerals

Igneous Rocks

Volcanism

Weathering and Soil

Exam #1 — Wednesday, February 10

Sedimentary Rocks

Metamorphic Rocks

Geologic Time

Fossils

Mass Wasting

Streams

Exam #2 — Friday, March 12

Groundwater

Glaciers

Shorelines

Exam #3 — Wednesday, April 14

Assigned Reading:

Chapter 1

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

Chapter 18

Chapter 18, 19

Chapter 8

Chapter 9

Chapter 10

Chapter 11

Chapter 13

Earth Structures/Deformation
Earthquakes
Plate Tectonics
Resources

Chapter 17
Chapter 14
Chapter 15, 16
no chapter

Final Exam (comprehensive) — 8:00 a.m., Friday, May 14, room 100 Leonard Hall

Course Policies/Characteristics.

1. You must have the correct textbook. Bring that textbook to class every day.
2. Deadlines are important. Late work will receive **no credit** unless **prior** arrangements made.
3. Lecture attendance is important. Traditionally, students who miss lectures do not do well on exams in this course. **You** are responsible for obtaining the information presented during classtime, regardless of your reason for missing class.
4. You are required to be present for exams. No makeup exams will be given.
5. You are encouraged to form study groups with your classmates.
6. All work turned in must be original: feel free to work together to understand homework assignments, but **always turn in independent results**. Do not copy from each other, and do not copy from the text or from the internet. Learn the material, then turn away from your classmate and close the book as you compose your answer. Any exceptions will be judged as cheating. Make yourself familiar with the UND Code of Student Life.
7. **Do not turn in paper with frayed edges**. If you use spiral notebook paper, trim it before turning it in. Also, **staple pages**-- do not use "dog-ears". ***Buy a stapler***.
8. All writing you turn in for this course **must** be written as if educating a layperson reader. This may seem a chore, but it will help your learning.
9. Keep track of all your scores. Do not ask me to figure out your grade standing for you. I'll be glad to show you how to do it yourself.
10. This course receives Essential Studies credit in Mathematics, Science, and Technology. Please review UND's Essential Studies goals online at <http://online.und.edu/webapps/portal/frameset.jsp>
There will be assignments checking to see if you've done your part to meet the Essential Studies goals addressed by this course. Please be reminded that all writing you do in this course will be expected to meet a certain standard of competency and quality. If you have particular problems with writing, you are encouraged to seek assistance from the Writing Center, room 12 Merrifield Hall, phone 777-2795.
11. There will be no "extra credit" to make up for earlier performance. "Extra" credit can be acquired only for "extra".
12. Each exam is semi-comprehensive. And the final exam is fully comprehensive. This means that tests may contain information from throughout the semester. Therefore recognize that long term retention comes from genuine understanding and an ability to visualize, as well as an ability to teach others. For best learning, try to engage the long-term memory "portion" of your brain. i.e., replace "memorization" with "visualization". Do a lot of writing, sketching, and talking about the information in this course. Writing as if to a layperson, especially, is a great way to consolidate information, to organize your memory for long-term storage and retrieval, to become an "owner" of information.

Additional Study tips:

You will learn many new terms and concepts in this course. Geology is a very visual science, so it helps if you can make your brain "see" what the geologic term is referring to. For instance, when learning the meaning of the word "tarn", it helps if you can "see" a tarn in your mind's eye. And this next tip is especially important: Always then connect the features (things) you are "seeing" with the processes that formed them. Remember this phrase: "*always connect feature with process*". In this way, you can become an owner of knowledge,

not just a memorizer of facts. Try always to see connections. Don't simply memorize things just before exams.

It is a good idea to keep a list of new terms, and add to this list throughout the semester. You can go to each term or phrase in the list one at a time, and check yourself for level of understanding. Can you "see" the feature? Can you connect that feature with the process that formed it? Can you teach someone else about it?

My posted office hours this semester are 11:00-12:00 MWF. I am normally available at other times as well. I am also normally quick to respond to email. All students are welcome! to seek assistance from me, whether it be to check your notes, to clarify concepts, to suggest study aids, or to assist with homework. If you need help, please come and get it!

*The Knowledge Survey:

- Provides helpful feedback to instructors about the conduct of their course.
- Provides to students a complete disclosure of course contents and expectations.
- Provides a study guide for students.
- Is a good thing, with no real negatives for anyone.

To comply with the Knowledge Survey process, which is conducted on-line, you must first register at:

<http://www.ks.und.edu/register.php>

The instructions there are very clear, so just do what it says. And **remember the personal password** you choose; you'll need it to take all the surveys this semester.

After registering, you will take Round 1 of the knowledge surveys, spaced throughout the semester, by going to:

<http://www.ks.und.edu>

Note that each knowledge survey will have a narrow time window for completion. Once the deadline for taking a given survey has passed, that survey can no longer be taken. The times and deadlines for surveys will be announced in class, and posted on the course homepage.

The knowledge surveys are not graded; that is, the answers you give do not affect your grade in any way. The Round 1 surveys are simply a "before" look at your understanding of topics in the course. Each knowledge survey discloses all of the topics that will be covered prior to the next exam. And the questions are worded in a way that reveals the instructor's expectation of your understanding. **So these surveys are very good study guides for exams.** You should use these study guides frequently and repeatedly; they are a roadmap of the course, and will greatly assist you in learning the course material.

At the end of the semester, your "before" results will be compared with an "after" look; that is, just prior to the final examination, you will complete Round 2 of the knowledge survey, which repeats the questions from all the Round 1 surveys, but this time you'll be answering those questions after having had the course.

This process helps inform instructors about how to adjust their coverage of topics. Results from student knowledge surveys may reveal that certain topics require little class time, or that other topics may require expanded treatment in class. So these surveys help instructors fine-tune their courses for student needs. The surveys are quite easy to take, typically requiring less than 15 minutes of a student's time for each survey. And students can take them wherever they have access to the internet.

It is crucial that each student actually read and carefully consider each knowledge survey question before selecting an answer choice for that question. The process is otherwise of very little benefit to either the student or the department.