

**PHYSICAL/INTRODUCTORY GEOLOGY
GLY 101-002 Spring 2010**

Instructor: Mr. R. D. Shew
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Office Hours: M-W 9:30 – 10:30
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Class Times: TTH 9:30 – 10:45

Textbook: **Essentials of Geology
Lutgens and Tarbuck, 10th edition, Pearson/Prentice Hall**
Websites and Handouts will be given during the Course as well as other reference materials



Objectives:

Our study of Geology is primarily the study of the solid Earth and the processes active on and within the Earth. However, the Earth is a system. Therefore we will take a broad view of the earth that encompasses the interaction of the solid earth with the biosphere, hydrosphere, and the atmosphere. We will study the formation and changes that have occurred over geologic time but we will also discuss the current issues, processes, and geohazards that have and are affecting the Earth today such as energy, resources, sea level, water, earthquakes, tsunamis, climate, and more . Further, one of the primary goals of the Earth Sciences is to be predictive. Therefore, among other important studies, we will investigate some of the issues of today and ?tomorrow such as resource distribution and abundance, global system changes (climate change, etc.), and issues for a “Sustainable Society”. In summary, our goals in this course are to:

- 1) Introduce basic geologic principles
How does the earth work? What is it composed of? What changes have occurred over geologic time and **Can We “Predict”** what will occur in the future (Will an asteroid hit, Will the Earth get hotter, Will we run out of resources)?
- 2) Describe geohazards (earth processes that are harmful to humans and their property). Examples include volcanoes, earthquakes, hurricanes, flooding, subsidence, etc.
- 3) Understand how humans interact with and impact these natural processes. And of course understand the interactions of the lithosphere, hydrosphere, biosphere, and atmosphere in order to know where the best waves are, where to go fishing, where to go to see the best scenery, how the natural wonders of the world formed and change, what controls the weather, issues associated with using fossil fuels, etc.?
- 4) Develop concepts and gain knowledge that will allow us to make better decisions as well as to be better critical thinkers for local and/or national policies that involve the earth and environment, whether they are biologic, geologic or environmental decisions. For instance: Should we 1) renourish beaches, 2) develop the North Slope for energy, 3) live near Mt. Etna, the San Andreas Fault, on a beach, or in a floodplain or should restrictions be required, 4) allow development in Areas of Environmental Concern, 5) utilize resources and the environment like they are endless supplies to be exploited or maybe they are, 6) be worried about the global changes that are occurring, or are they natural processes?, and finally 7) should we or shouldn't we be knowledgeable about the earth and its workings in order to better understand current issues and potential future problems?

In order to apply Geology to the issues of the real world, there are fundamental concepts and jargon, yes jargon, that must be mastered. Every major has jargon. Don't think of these as foreign concepts, ask

questions and keep an open mind. And importantly attend class, take notes, read the text, study the figures, and ask questions if you have them and you will have success in this course. If I call on you in class, be prepared to give an opinion and if you have an assignment, be ready with some answers/ideas. Communication skills (oral and written) are still the most important tools that you will have/develop that will lead to success. I hope that some of the study skills, testing, and writing that you use in this course will help you in future courses – whether they are Earth Science courses or whatever your field of study.

And very importantly, **Earth Science is truly the integrative science** incorporating aspects of Biology, Chemistry, Environmental, Physics, Math, and the social sciences as we must consider the economy and impacts on people.

Attendance:

All classes are important, however, I do not take “OFFICIAL ROLL”. I believe that regular class attendance is really the only way to “master” the material. If you attend class, pay attention, and take notes during the classes your success is almost assured. I do ask questions and give assignments in class and I am going to give short tests (see below in Grades) as well so these are kind of an “UNOFFICIAL ROLL”. Consequently, I strongly recommend that you attend class regularly. If you miss class because of an emergency or sickness (and you have a note from your Mom or a Doctor, preferably both) I will try to provide any outside help necessary. **Otherwise, DO NOT ask for notes from me or for make-up material.** Good Surf, Bad Weather, Good Weather, and/or Partying are not legitimate excuses, nor is spring fever.

Grading:

There will be short quizzes/test every week or two to make sure that you are keeping up with the material. These will include pictures, short answer and even essay questions but these will take only 15 – 20 minutes or so of the class period. I am doing this to allow you to keep up with the class better and to reduce the dependence of your grade on just big tests. **There will be a Mid-Term and Final at the assigned dates. There will be NO MAKE-UP TESTS unless you have a really good excused absence as defined above. I will allow you to miss two of the quizzes/test/assignments without penalty or you can take them all and I will drop the lowest two grades. However, this means I will NOT give make ups for the quizzes/test/assignments – So don't ask.**

Labs are very important in geology. They provide hands on application and working with the materials of the geologists. In addition the lab is 25% of your total grade for this geology course; therefore you should probably attend the lab. And since the materials of lab are supplemental to the lecture, the lab will help with lecture and vice versa.

Grades –

Tests/Quizzes/Assignments	- 35%
Mid-Term	- 30%
Final Exam	- 35% (~ ¼ of exam is cumulative)

Academic Honor Code:

It is UNC-W's stated policy that 'no form of academic dishonesty will be tolerated by its students or faculty'. I take this very seriously and it applies to plagiarism, copying, and all forms of cheating. Complete details of the code are in the current Student Handbook.

UNCW practices a zero-tolerance policy for violence and harassment of any kind. For emergencies contact UNCW CARE at 962-2273, Campus Police at 962-3184, or Wilmington Police at 911. For University or community resources visit <http://uncw.edu/wrc/crisis.htm>.”

Etiquette:

NO cell phones (that includes texting) or players are acceptable (turn them off before class), These will not be allowed during lecture or testing. In addition, laptops are fine but not for checking email or running other programs/chatting during the lecture. These activities disturb those around you - and me. Questions are great, please ask me as others are probably asking or thinking the same thing; however, a running dialogue with your neighbor is not acceptable.

Geology 101 Tentative Lecture Schedule

Tentative Schedule		
The topic order is subject to change based on current events and also on how excited we get about a topic.		
Dates	TOPIC	Chapter
1/7	Introduction / Scientific Method	1
1/12	Geologic Time, Plate Tectonics	1, 18, 15
1/14	Plate Tectonics	15
1/19	Plate Tectonics, Rock Cycle, Minerals	15, 2
1/21	Minerals and Mineral Resources	2
1/26	Igneous Rocks and Processes	3
1/28	Igneous Rocks and Volcanoes	3, 4
2/2	Volcanoes, Weathering, Sediments	4, 5
2/4	Sediments	5, 6
2/9	Sediments, Sedimentary Rocks	5, 6
2/11	Metamorphic Rocks	7
2/16	North Carolina Geology	Handouts
2/18	Sediments, Sedimentary Rocks and Environments, Geologic Time	5, 6, 18
2/23	Geologic Time/Mass Extinctions	18, 19, Handouts
2/25	Structures: Mountains, Folds, Faults, and More	18
3/2	Earthquakes and Maps	18, 14
3/4	Mid-Term	Exam
3/6 – 3/14	Spring Break	Relax
3/16	Earthquakes	14
3/18	Hydrologic Cycle, Streams	9
3/23	Stream Processes and Floods; Water Quality Issues	9
3/25	Groundwater	10
3/30	Intro to Coasts and Issues	13
4/1	Easter Break	No Class
4/6	Coastal Processes and Issues	13
4/8	Coastal Issues and Hurricanes	13
4/13	Energy Resources	Handouts
4/15	Energy and Climate Issues	Handouts
4/20	Climate and Issues	Handouts
4/23	Oceanography and Review	16
4/27	Reading Day	Study
5/4 8 – 11 a.m.	Final Exam – Everything since the mid-term plus a cumulative question or two	WOOHOO!