

Geol 110: General Geology
Section 203
Spring, 2007

Credit hours: 3 units

Pre-requisites: none

Instructor: Aley El-Din El-Shazly

Office: 131 Science Building

Lectures: T: 6:30 – 9:00 p.m., Biotechnology Center 101.

Co-requisites: GLY 201L (depending on major)

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Office hours: M, W, F: 9:00 - 11 a.m., M: 11:00 – 12, F: 11 – 1; 3 - 5, T,R: 1 - 3 or by appointment. You could always send me e-mail, and I will get back to you as soon as possible. I also have an open door policy, if you cannot make it to my office hours, and I'm in my office between 9:00 and 3:00 p.m., it doesn't hurt to check with me; ... if I'm free, I'll be more than happy to help you. I strongly encourage you to come and talk to me if you have any problems with the class, so that we can solve them early on! Some office hours may be cancelled on short notice due to travel/ research.

General Course objectives: To develop (1) an understanding of various geologic processes as formation of rocks and minerals, deformation, mountain building, landscape formation, ... etc., (2) a brief understanding of the main events that influenced the history of the Earth and its life forms, and (3) an appreciation for Geology and its impact on society. Labs (GLY 210) are recommended, and will help you develop the skills necessary for identifying common rocks, minerals, and fossils in hand specimen, reading topographic maps, and reinforcing some of the concepts introduced in lecture.

Textbook: "Essentials of Geology" by Lutgens & Tarbuck, 2006 (9th edition).

Attendance: Because this class meets only once a week, attendance is mandatory. I will monitor attendance regularly during the semester. You will also have weekly quizzes, which, along with homeworks and class participation (i.e. how well you interact with me in class), will account for 25% of your grade! If you have a legitimate excuse for missing my classes, you should try to let me know so that we can work things out! Once in class, mature behavior is expected. Cell phones must be turned off, and their use is prohibited in class, tests, and exams. Disruption of class/ lab activities will not be tolerated.

Makeup policy for missed assignments/ quizzes: Although you will find me to be quite flexible, makeup for missed assignments/ quizzes will only be allowed if the student has a legitimate excuse, and at the discretion of this instructor.

Grading: 3 Tests **40%**, Final Exam: **35%**, Quizzes, homeworks, attendance, **25%**. All tests and exams will be multiple choice and/or TF. The final exam will be comprehensive. Note that an entrance assessment exam will be given on the first day of class, and an **exit assessment** exam will be given immediately following your final exam. Your score on the latter exam will constitute **10% extra credit to your final exam score!** The homeworks will be a mixture of short answer, essay and analytical type questions. The essay questions are designed to show your level of understanding and knowledge, as well as how well you can *organize your thoughts and express yourself in writing*. Late submission of your homeworks will incur a penalty of 5% for every day of tardiness. **No work will be accepted for grading once the graded homework is handed back to your colleagues. ALL homeworks will be posted and announced on Web-CT VISTA, and/ or via e-mail, so check these regularly!**

Grade assignment: A: > 90%; B: 80 – 89.9%; C: 70 – 79.9%; D: 60 – 69.9%; F: < 60%.

In general, I do not like to curve, but I do reserve the right to change the grading scale only to help out the majority of the students in the class (hopefully, I will not need to do that).

Computer Requirements: All students should have (and check regularly) their e-mail account (either their .marshall.edu one, or the one in VISTA). Although no component of this class is dependent on computers, their use is strongly encouraged, and will may find the CD attached to your textbook quite helpful.

The use of “VISTA”: I will use this platform for communicating with you all throughout the semester. I will be posting some exercises, comments on graded material, some spreadsheets/ study guides to help you prepare for mid-terms and finals, .. etc. It is your responsibility to check your e-mail as well as this site regularly. The program is available from the University’s homepage. Check with the computer center for details on using it.

Extra Credit Opportunities/ Field trips: In addition to the exit assessment exam, there may be some extra credit opportunities in the form of attending movies and optional afternoon field trips within the local Huntington area that will be announced at least a week in advance. Each of these activities carries 5 -10 points to be added to your homeworks/ quizzes. Each student is allowed a **maximum of 3 extra credit** opportunities.

Study tips: You should take notes during class. Please feel free to ask questions at any time. The course is generally easy, but we will be covering **a lot** of material, **so you can't afford to fall behind**. Do the **readings** promptly **after** each lecture (the reading list is given to you on the next page), and familiarize yourself with new terms. **Notes** that may be helpful for studying are kept on line, so you could print them out if need be. However, *these notes are in no way a substitute for the reading assignments!* You will find that in many cases, my notes are only a simple outline of my lecture! My web page at <http://www.science.marshall.edu/elshazly/> also has some helpful pictures of features that we will be discussing during the semester. **For tests**, your best bet is to answer the questions at the end of each chapter in your textbook + check any Physical Geology textbook from the library that has multiple choice type questions at the end of each chapter, + the practice quizzes on the CD. Feel free to ask me any questions, especially via e-mail.

Academic Integrity: Academic dishonesty as defined in the undergraduate catalogue on page 101 will not be tolerated. Violations of the honor code may result in the assignment of an “F grade” for the class, and further disciplinary action as defined in the catalogue.

Final Thoughts: Please keep in mind that I am **committed** to making this course a positive experience for everyone, so don’t hesitate to ask me questions, or approach me with problems that you are facing in this class. Feel free to stop by my office to discuss your progress in class or go over one of your quizzes or exam scripts with me (including your final!). *I could also arrange for review sessions in the evenings whenever they are needed.*

Students with disabilities:

Students with a particular learning disability should contact the Disabled Student Services Office (113 Prichard Hall) or the H.E.L.P. office (Myers Hall), both on campus. Every effort will be made by this instructor to accommodate their needs.

Syllabus

GLY 110: General Geology

Wk #	Topic	Reading
1, 2	Introduction: What is Geology? Different subdisciplines and applications; scientific method of thinking; uniformitarianism vs. catastrophism; Geologic Time; Structure and Composition of the Earth; The Rock Cycle.	p. 1-16, 19 -24; 327 – 330; 416 – 420, 426 – 435.
3, 4	Plate Tectonics: Continental drift hypothesis; Plate Tectonics: lithosphere, asthenosphere, types of plate boundaries; Evidence of Plate Tectonics; Driving force of plate motion; The Wilson Cycle.	p. 24 - 28; Chapter 15.
5	Minerals: Atoms and Elements, Chemical bonding, Types of bonds; Minerals: Definition, Physical properties; Rock-forming minerals and silicate structures; Formation.	Ch 2
6	Test # 1: ~ TBA one week before	
6, 7	Igneous processes and Volcanoes: Magmas and Lavas: Igneous structures; Volcanoes; Types of volcanic eruptions and related features; Mineralogy of Igneous rocks, Melting and crystallization: Bowen's reaction series; Igneous textures; Classification of igneous rocks; Tectonic distribution of igneous rocks.	Ch 3 & 4
8	Weathering and Soil: Types of weathering: mechanical weathering, chemical weathering; Products of weathering; Rates of weathering, ; Soils: Soil profile, Soil formation, Soil erosion and desertification.	Ch 5
8, 9	Sedimentation and Sedimentary Rocks: Formation of Sedimentary rocks; Types of sediments: Detrital, Chemical, Biological; Deposition: sedimentary environments; Lithification and diagenesis; Textures of sedimentary rocks; Sedimentary minerals; Classification of sedimentary rocks; Sedimentary structures; Sedimentation and plate tectonics.	Ch 6
10	Test # 2: ~ TBA one week before	
10	Metamorphism and Metamorphic Rocks: Introduction, Factors controlling metamorphism, Range of metamorphism, Metamorphic textures, Metamorphic minerals, Classification of metamorphic rocks; Types of Metamorphism, Metamorphic facies, Metamorphism and tectonics.	Ch 7
11	Deformation, Geologic structures: Primary and secondary structures, Stress and Strain, Folds: types of folds, Faults: types of faults, Unconformities, Mountain Building.	Ch 17
12	Earthquakes: Definitions, Causes, Seismographs, Types of seismic waves, Intensity, Magnitude, Locating epicenters, Earthquake zones, Depths of foci, Prediction.	Ch 14
13	Mass Wasting: Falls, Landslides, Slumps, Causes of mass movements, Minimizing and controlling the damage resulting from mass movements.	Ch 8

13, 14	The action of Rivers: River processes, Types of river load, Longitudinal profile of a river, Erosional and depositional features of rivers, Drainage patterns.	Ch 9
14	Test # 3: (TBA one week before)	
15	Groundwater	Ch 10
16 -	Earth History: Precambrian	412 - 417
16	Earth History: Paleozoic	417 - 422
16	Earth History: Mesozoic	422 - 427
16	Earth History: Cenozoic	428 - 434

Final Exam: T. May 1, 6:30 – 8:30 p.m.

The schedule is based on weekly lectures (150 minutes each). The instructor reserves the right to change the schedule according to class progress. Except for the final exam, dates of all other tests are tentative. The instructor will let you know a week in advance of every test.