

GEO – 102: PRINCIPLES OF GEOLOGY

Course Syllabus

Fall 2007

INSTRUCTOR: e-mail: ewpeter@ilstu.edu
Dr. Eric W. Peterson LECTURE: MWF, 1:00 – 1:50 PM in CVA 151
439 Felmley Hall Annex OFFICE HOURS: 9:00 – 10:00 AM MF or by appointment
Phone: 438-7865 office LAB SECTIONS: Sections 16-25 T or Th in FHS-110

TEXTS:

The Good Earth: Introduction to Earth Science, 2008, McConnell et al., McGraw Hill.
Website: <http://highered.mcgraw-hill.com/classware/infoCenter.do?isbn=0073018473>

Principles of Geology: A Lab Manual 2nd edition, 2005, William E. Shields – This manual will be made available for purchase in the laboratory. You will need to purchase a new copy.

COURSE Website: <http://lilt.ilstu.edu/ewpeter/GEO102.htm>

COURSE CONTENT AND OBJECTIVES

Geology 102 is an introductory course in the scientific study of the earth designed for both science – and non-science-oriented students. The goals of the course are to familiarize students with the major principles of the science of Geology, to explain and understand the major aspects of the operations of earth's surface and internal systems and associated geological processes, and to present the role of geology in society and geologic constraints on the utilization of the Earth. At the end of the course, I want students to be able to

- interpret tectonic settings based upon information regarding seismicity, volcanic activity, and physiography (Section 1);
- evaluate the mineral and energy resources of an area using information pertaining to tectonics, rock type, and Earth's history (Section 2);
- predict weather given appropriate meteorological data (Section 3);
- analyze sediment and hydrologic data to determine whether there are erosion-deposition processes occurring in a system (Section 4);
- evaluate the validity and soundness of geology presented in the "popular press." (Cumulative)

COURSE POLICIES

Class attendance – Students are responsible for all material covered in class, and thus your attendance is expected at all lectures and laboratory sessions. Your attendance is important to your success in this course. By missing class, you may miss concepts and explanations that are not always supplemented by the book. Multiple absences will affect your final grade. An exception to this policy is participation in religious, athletic, band, or other legitimate ISU sponsored activities. In these instances, you need to provide written proof to me at least one week prior to the anticipated absence. Students without a valid reason for not attending a scheduled class will receive a grade of zero for any exam, quiz, or assignment for the day.

Academic Honesty: Any form of academic dishonesty (i.e. cheating on exams, cutting and pasting written text from web pages into assignments, etc.) will result in a zero for that exam or assignment, as well as possible disciplinary action. See your student handbook for University guidelines.

GRADING

Exams (55%)

There will be four, one-hour in-class exams and a final exam (see schedule for dates and times). The four one-hour exams will consist of multiple choice, short answer, and short essay drawn from material discussed in lecture and assigned in readings. The exams will consist of two parts, one part individual (70% of total score) and a group portion (30% of total score). The group portion will be open notes and discussion with the exception that you are not allowed to ask the TAs or myself. No make-up exams will be given for unexcused absences and you will receive a 0 for the exam.

The final exam will include all the material covered during the semester. The final will be optional, but it may be used to replace your lowest one-hour exam scores. Thus, it may serve as the make-up exam for students who have missed an hour exam in which they have an excused absence previously approved by me. If your final exam score is your lowest test score, it will not be used in your grade calculation.

Homework/Quizzes/Participation (15%)

Homework and/or quizzes will be assigned. The homework will either be discussed or collected in lecture. Quizzes will be unannounced and will be short, e.g. one to two question(s). Make-up quizzes will not be given. There will be group participation exercises included during the lecture, my intent is to have students better understand the principles and the processes through the group exercises.

Lab Grade (30%)

The lab grade will be based on weekly assignments (10%), lab quizzes (20%), a [geology journal](#) (35%) and two exams (35%). Lab attendance is mandatory; make-up labs will not be given. For exceptions, see class attendance above

Grading is done via a broken curve. That is, instead of following a normal curve with predetermined grade cut-offs, I look for natural breaks in the final grade distribution. These breaks become the dividing lines between letter grades, but shall under no circumstances result in grade cut-offs higher than the classical 90-80-70-60 levels. The established grade cut-offs are the FINAL WORD and “borderline” grades cannot be changed, so please do not argue about grades unless you detect an error in my calculations of your final score. If you have questions concerning your score in any of the hour exams or in laboratory, resolve them by the last day of regular class.

EXTRA CREDIT: There are only two opportunities for extra credit available in the class: 1) Participation in the field trip – see below (+5% to any exam) and 2) [writing a lecture or laboratory lesson plan](#) (up to +5% to any exam).

OTHER COURSE ACTIVITIES

FIELD TRIP: A field trip will be offered for interested students on Saturday October 6. Your participation on the trip is not mandatory; however, it may be your one and only opportunity for extra credit in the semester. The focus of the trip will be on the Geology and Geologic history of the Illinois River Valley in the La Salle-Peru area. Students can sign up during the weeks prior to the scheduled date of the one-day Saturday trip.

COURSE SCHEDULE

On the next page is a breakdown of the course over the semester. This schedule is tentative and may be modified, but NO changes will be made to the test dates. Any changes will be announced in class and via the web page.

GEO 102 Principles of Geology Fall 2005 Course Schedule

<u>Date</u>	<u>Topic</u>	<u>Assigned Readings</u>	<u>Homework Questions*</u>
8/20 (M)	Introduction; Scientific Method	Chapter 1	Review Compression Surveys (CS) 1.2 to 1.3b
8/22 (W)	Plate Tectonics—Volcanic Systems	Chapter 4	CS 4.2, 4.3, review CS 4.4 Course Checklist
8/24 (F)	Plate Tectonics	Chapter 4	CS 4.5
8/27 (M)	Plate Tectonics		
8/29 (W)	Seismic Activity	Chapter 5	CS 5.2, 5.3, 5.4, 5.5
8/31(F)	Minerals	Chapter 7	CS 7.2, 7.3, 5.4, 5.5
9/2 (M)	Labor Day – NO CLASS		
9/5 (W)	Igneous Rocks	Chapter 7	CS 7.4
9/7 (F)	Igneous Activity	Chapter 6	CS 6.2, 6.3, 6.4
9/10 (M)	Igneous Activity	Chapter 6	CS 6.5, 6.6
9/12 (W)	Igneous Activity	Chapter 6	
9/14 (F)	EXAM 1 – BE ONE TIME. You have only until 1:20 to do the first section.		
9/17 (M)	Weathering	Chapter 9	CS 9.2, 9.3, 9.4, 9.5, 9.6
9/19 (W)	Sedimentary Rocks	Chapter 7	CS 7.5
9/21(F)	Metamorphic Rocks	Chapter 7	CS 7.6, 7.7
9/24 (M)	Metamorphic Rocks		
9/26 (W)	Structural Geology	No Reading	
9/28 (F)	Structural Geology	No Reading	
10/1 (M)	Mountain Building	Chapter 6	CS 6.7, 6.8
10/3 (W)	Slope Systems	Chapter 10	CS 10.1, 10.2, 10.3
10/5 (F)	Energy Resources	No Reading	
10/8 (M)	Mineral Resources	No Reading	
10/10 (W)	Resources	No Reading	
10/12 (F)	EXAM 2 – BE ONE TIME. You have only until 1:20 to do the first section.		
10/15 (M)	Hydrologic Cycle	11.2	CS 11.2
10/17 (W)	Streams and Floods	Chapter 11	CS 11.3, 11.4, 11.5
10/19 (F)	Streams and Floods	Chapter 11	CS 11.6, 11.7
10/22 (M)	Ground water	Chapter 12	CS 12.2, 12.3
10/24 (W)	Ground water	Chapter 12	CS 12.5, 12.6
10/26 (F)	Oceans	Chapter 13	CS 13.2, 13.3, 13.4
10/29 (M)	No Class		
10/31 (W)	No Class		
11/2 (F)	Oceans		
11/5 (M)	EXAM 3 – BE ONE TIME. You have only until 1:20 to do the first section.		
11/7 (W)	The Atmosphere	Chapter 14	CS 14.2, 14.3, 14.4
11/9 (F)	The Atmosphere	Chapter 14	CS 14.5, 14.6, 14.7
11/12 (M)	Weather Systems	Chapter 15	CS 15.2, 15.3, 15.4
11/14 (W)	Weather Systems	Chapter 15	CS 15.5, 15.6, 15.7
11/16 (F)	Earth's Climate	Chapter 16	CS 16.2, 16.3
11/19 to 11/25	Fall Break – No Class		
11/26 (M)	Glaciers	16.4	CS 16.4a
11/28 (W)	Deserts	16.4	CS 16.4b
11/30 (F)	Earth's Climate	Chapter 16	CS 16.5, 16.6
12/3 (M)	Global Change	Chapter 17	CS 17.2, 17.3, 17.4
12/5 (W)	Global Change	Chapter 17	CS 17.5
12/7 (F)	EXAM 4 – BE ONE TIME. You have only until 1:20 to do the first section.		
12/10 (M)	Final Exam @ 1:00 PM		

* The assigned homework will be either discussed and/or collected on the date listed.

LABORATORY SCHEDULE (FH 110)

Class Week of	Topic
8/20	Geologic Time – Fossil Correlation – Read Chapter 8 in text
8/27	Minerals
9/3	Igneous Rocks
9/10	Sedimentary Rocks
9/17	Metamorphic Rocks
9/24	Sea Level Change
10/1	Lab Exam 1
10/8	Topographic Maps (1)
10/15	Topographic Maps (2)
10/22	Geologic Maps
10/29	No Labs
11/5	Hydrologic Cycle
11/12	Streams
11/19	Thanksgiving Break
11/26	Ground water
12/3	Lab Exam 2

How to Succeed in GEO-102

- Complete all weekly assigned readings and homework.
- Review the questions at the end of each of those assigned chapters (see assigned readings).
- Visit the books website and take the chapter review quizzes.
- Attend all lecture meetings
- Prepare well in advance for, and do well on your lecture exams
- Attend all lab meetings, complete all lab problems, do well on all lab quizzes and exams, make up any and all missed lab assignments, quizzes or exams no later than a week after having missed a given assignment, quiz or exam.
- Enjoy, have fun, and ask questions.