

ENVIRONMENTAL GEOLOGY, 51-150 (4 credits)

Fall 2010

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Office Hours:

Mon: 10:20-12:30

Wed: 10:20-12:30

Fri: 10:20-12:30

Or by appointment

LECTURE: 9:10-10:10 a.m MWF in Halsey 106

LAB INSTRUCTORS: Maureen Muldoon (Secs 01, 04, 05)
Christie Demosthenous (Secs 06, 07, 08)
Joseph Peterson (Secs 02, 03)

All labs begin the 2nd week of classes (week of Sept 13th) in room 103 Harrington. See lab syllabus (in manual and on D2L) for more information.

REQUIRED MATERIALS:

•*Environmental Geology*, James S. Reichard.

The textbook website (http://highered.mcgraw-hill.com/sites/0073046809/student_view0/index.html) includes on-line practice quizzes and optional lab exercises.

•An *eInstruction Classroom Response Pad* (aka 'clicker') is required for this course and may be purchased from the bookstore. In order to enroll your clicker, you'll need internet access, a clicker, our class key, and an activation card/enrollment code. I will hand out individual activation cards in lecture – they allow you to enroll for free, so don't enroll without them. Detailed instructions on how to register your clicker will be posted in the Course Information section of the D2L site.

•*Environmental Geology Laboratory Manual (Fall 2010 edition)*, by C.W. Fetter. No used or shared manuals allowed.

ABOUT THIS COURSE:

What is Environmental Geology?

Geology is the science of the Earth including study of the processes related to its composition, structure, and history. It's *not* naming rocks. The study of the Earth is a pretty broad topic and geology draws on our knowledge of physics, chemistry, mathematics, and biology to help us understand Earth processes. Geologists perform a wide variety of tasks such as finding resources, helping clean up environmental messes, mapping geologic hazards, and researching basic Earth processes to gain a better understanding of how the planet works. Environmental Geology is basically applied geology and it focuses on the interaction of geology and humans.

Environmental Geology is a survey course that counts as a Laboratory Science general education course. The course can be divided into four main sections (as is your book) 1) fundamentals, 2) Earth processes and natural hazards, 3) Earth resources, and 4) health of our environment.

Course Objectives

At the end of this course you should

- have an appreciation of the unique features of our planet and an understanding of Earth's place in space and time,
- understand how earth processes constantly reshape the face of our planet,
- know how geologic processes create natural hazards for humans and the means by which we can minimize those hazards,
- appreciate that life (including human life) relies on Earth resources for survival and understand how our resource use impacts the planet.

So how will all this knowledge of Earth processes help you later in life? Maybe I'm biased, but I think it's a good idea to know the basics about where you live. In your house (apartment) it is useful to know where the circuit breakers and water shut-off valve are located in case something happens and you need to deal with it. Similarly, it's good to know how earth processes work so that you, as an individual, and as a citizen make reasonable choices about resource use and land-use. Secondly, geology is fun (OK, I am biased) and as you travel around this planet and see different landscapes you'll have a greater appreciation of how they got here.

But equally important to any geologic information that you take away with you is the ability to ask questions, observe patterns, evaluate data, distinguish between observations and interpretations, catalog new information and put it together into a coherent whole – basically figure out how and why something works. This is the underlying basis of any science. Even if you have no intention of being a scientist, these skills are useful and transferable.

EXPECTATIONS:

Workload:

The National Survey of Student Engagement (NSSE) suggests that there is a disconnect between faculty and student expectations in terms of time spent outside the classroom. Most faculty recommend that students spend one to two hours of studying and preparation for *each hour* spent in class. During the next 14 weeks we will cover parts of 14 chapters in your text. This is a great deal of material and you will need to spend several hours studying per week in order to earn an average or better grade. Do not deceive yourself with the expectation that “100 level courses are supposed be easier than upper-level courses”. The 100-level designation for this course merely indicates that the student is expected to have minimal prior experience in the subject area – not that there will be any less work involved. In fact, this is a 4-credit course and so it will necessarily require more effort than a standard 3-credit course.

Attendance:

Lab: Attendance of is required. If you miss your regular lab for any reason, arrange to attend another lab section that same week. See lab syllabus for a schedule of lab sections.

Lecture: Lectures are dedicated to the discussion of key concepts covered in the readings and clarification of these concepts and will include in-class exercises, clicker questions, and occasional quizzes. Your success in the course will be greatly enhanced if you attend every class session.

Excused Absences (<http://www.uwosh.edu/stuaff/studenthandbook/ClassAttend.htm>)

Students are excused from class for university events (e.g. athletics, debate trips, and certain music trips) and circumstances beyond the student's control such as extended illness, medical emergency, and family emergency. Students may not be penalized for these excused absences *as long as appropriate documentation is provided to the instructor in a timely manner.*

My expectations for you:

- to be prepared for both lecture and lab (do the reading prior to class, print off the relevant materials)
- to actively participate in lecture and lab
- to take responsibility for your own learning (seek help if you are having a hard time)
- to be familiar with the course policies in both the lecture and lab syllabus
- to be respectful of all persons in this classroom (arriving late, leaving early, or talking during class is distracting and discourteous)

What you can expect from me:

- to be enthusiastic and knowledgeable about the course material
- to present course material in an organized way
- to start and end lectures on time
- to set high standards for the class and help you meet those standards
- to treat you with fairness and respect

RESOURCES:

Desire2Learn (D2L) Site: I have developed a D2L site for this course. You must login to the D2L system using the same username and password that you use to access your UW-Oshkosh email account. Within the Environmental Geology course, there is a navigation bar above the announcement area that contains the following tabs: Course Home, Content, Links, Grades, and Schedule.

For each chapter, I will post a lecture outline and PowerPoint in the CONTENT area. Students have found it useful to print out the notes (several slides per page) prior to class and make additional notes on them during lecture. I will post a study guide as we finish each chapter. The LINKS area contains many of the web references that I use in lecture. I will post your lecture exam scores in the GRADES area. The SCHEDULE tab will contain details of lecture reading assignments and other pertinent information.

Tutoring: The Geology Department offers tutoring to all students enrolled in our introductory courses. Geology majors are available to help you with any questions concerning the lecture or lab material for this course. A tutoring schedule is posted on the D2L site.

GRADING BASIS:

Exams (400 pts):

There will be four multiple choice exams, each worth 100 points. Lecture exams will be objective, computer-scored exams. No make-up exams will be given unless the student has contacted me *prior* to the exam and has an *excused absence* that caused them to miss the scheduled exam. You **must** bring your student ID and a number 2 pencil to each lecture exam. An optional review session will be held before most exams.

Note: These dates should **not** be considered final and are subject to change.

Exam 1	Friday, October 1	(Chapters 1, 2, 3 & start Ch4)
Exam 2	Monday, October 25	(Chapters 4, 5, and 6)
Exam 3	Friday, November 19	(Chapters 8, 10, 11, and 15)
Exam 4	Wednesday, December 15	(Chapters 12, 13, 14, 16)

In-Class Participation (50 pts):

There is a good deal of research that suggests that students learn better when they are actively engaged with the material (through discussion, in-class exercises, etc). This is difficult in a large lecture class, but one method of increasing student engagement has been the “wireless classroom”. We will be using the eInstruction classroom performance system (CPS) this semester. The system keeps track of student responses and I will use this information as part of your overall course grade. I expect to use the classroom performance system in a variety of ways including in-class quizzes, concept questions, and in-class reviews.

Lab (150 pts):

Lab attendance is required. Each week’s laboratory exercise is due at the end of your lab session. Four, non-comprehensive lab exams will be given (each worth 30 points of overall course grade). They will be a mixture of objective and short essay questions. Your score for laboratory will be the total of your scores on exams (120 points) plus an additional 30 points based on completeness of lab exercises.

GRADING SCALE:

There are 600 possible points in this course. Overall 75% of the points (450 possible) are earned from the lecture portion of the course and 25% of the points (150 possible) are earned in the lab portion of the course. Your final letter grade will be assigned according to the following scale. The scale is setup so that an average score receives a grade of C+/C. Students who earn above average scores will receive a C+ or better. Student who earn below average scores receive a grade of C or lower.

A	552 - 600	B-	474 - 491	D+	396 - 413
A-	534 - 551	C+	456 - 473	D	372 - 395
B+	516 - 533	C	432 - 455	D-	354 - 371
B	492 - 515	C-	414 - 431	F	<354

EXTRA CREDIT: There is no extra credit in this course. You should invest your energy in keeping up with the material and studying for the lecture and lab exams.

SPECIAL NEEDS: Any students who needs special accommodations for learning or who have special needs are invited to share these concerns or requests with the instructor as soon as possible.

ACADEMIC DISHONESTY:

Academic dishonesty/cheating, in any form, will not be tolerated. All work must be your own. Violations will result in a score of zero on the assignment and will be reported to the Dean of Students for further disciplinary action. See the *University of Wisconsin Oshkosh Student Discipline Code* <http://www.tts.uwosh.edu/dean/studentdisciplinecode.html> for definitions of academic misconduct and details about procedures, sanctions, and other relevant information.

TENTATIVE COURSE SCHEDULE:

This schedule may change slightly. The SCHEDULE tab in the D2L site contains detailed reading assignments for each day and will reflect any changes in the course schedule.

SUNDAY	MONDAY	WEDNESDAY	FRIDAY
September 5	6	8 Introduction	10 Ch1: Geology as Science
NO LAB			
September 12	13 Ch1: Earth Systems/population	15 Ch2: Earth from space	18 Ch3: Minerals
LAB: Minerals (A1)			
September 19	20 Ch3: Minerals/Rocks	22 Ch3: Rocks	24 Ch: Rocks
LAB: Rocks (A2)			
September 26	27 Geologic Time	29 Geologic Time/Rock Deformation	Oct 1 Lecture Exam 1
LAB: Exam 1 (Minerals & Rocks); Introduction to Water Quality & Fox River Sampling (E1)			
October 3	4 Ch2: Earth's Interior	6 Ch4: Plate Tectonics	8 Ch4: Plate tectonics
LAB: Water Chemistry (E2)			
October 10	11 Ch5: Earthquakes	13 Ch5: Earthquakes	15 Ch6: Volcanoes
LAB: Field Trip			
October 17	18 Ch6: Volcanoes	20 Ch6: Volcanoes	22 Review
LAB: Exam 2 (Water Quality & Field Trip); Construction of Contour Map (C1)			
October 24	25 Lecture Exam 2	27 Ch8: Streams & Flooding	29 Ch8: Streams & Flooding
LAB: Construction of Contour Map (C2)			
October 31	1 Ch8: Streams & Flooding	3 Ch10: Soil Resources	5 Ch10: Soil Resources
LAB: Environmental Geology Maps (C3)			
November 7	8 Ch11: Water Resources	10 Ch11: Water Resources	12 Ch11: Water Resources
LAB: Exam 3 (Maps C1, C2, C3); Sediment Identification and Properties (B1)			
November 14	15 Ch15: Pollution & Waste	17 Ch15: Pollution & Waste	19 Lecture Exam 3
LAB: Agricultural Soils (B2)			
November 21	22 Ch12: Mineral Resources	24 No Class	26 No Class
No Lab – Thanksgiving Break			
November 28	29 Ch12: Mineral Resources	Dec 1 Ch13: Fossil Fuel Resources	3 Ch13: Fossil Fuel Resources
LAB: Stream Processes (D1) & Aquifer Properties and Groundwater (D2)			
December 5	6 Ch14: Alternative Energy Resources	8 Ch15: Climate	10 Ch15: Glaciers
LAB: Exam 4 (Soils (B1, B2), Streams (D1) & Groundwater (D2))			
December 12	13 Ch15: Climate Change	15 Lecture Exam 4	17
NO LAB: Made up for by Field Trip			