

ENVIRONMENTAL GEOLOGY, 51-150 (4 credits)
Spring 2011 – Hybrid

CONTACT INFORMATION:

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Office Hours: I am typically on campus from ~9 am to 5:30 pm and often at my desk/computer. If you contact me during these times (phone or email), I will try to respond before I head home for the day. On evenings and over weekends, I do check my work email, but it might take longer to get a response. Typically, I will respond within 24 hrs unless I am out of town.

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.
- Environmental Geology Laboratory Manual (Spring 2011 edition)*, by C.W. Fetter. Purchase the one with a blue cover (rather than a green cover).
- Technology requirements: You will need to have access to Adobe Acrobat Reader (version 9 or higher) and MS Word.

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. 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.

Course Goals:

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? It's a good idea to know the basics about where you live – how earth processes work so that you, as an individual, and as a citizen, can make reasonable choices about resource use and land-use. Secondly, geology is fun 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.

Course Content and Delivery:

This is a hybrid version of Environmental Geology. The lecture portion will be delivered online through the course D2L site and we will meet for 2 hours each week for the laboratory portion of the course.

Lecture Material: We will cover approximately 14 chapters of the text book. I have divided the course into four modules:

- 1) Introduction and Fundamentals;
- 2) Earth's Interior and Associated Hazards;
- 3) Rivers, Soil and Water Resources and Water Pollution; and
- 4) Economic Resources and Climate & Climate Change.

Each module consists of three to four topics that correspond to chapters from your textbook.

For each topic, I will post an outline (in MS Word) of the topic along with one or more presentations (essentially narrated PowerPoints). Presentations can be viewed using Adobe Reader (version 9 or higher). It is your responsibility to read each chapter, view the online presentations, and complete any online assignments. There will be an online quiz that you will need to complete as we finish each topic. This course may differ from other online courses you have taken in that it is set up to follow a strict SCHEDULE with weekly "lectures" and laboratories (see the last page of this syllabus). Due dates for each topic will be posted when the topic becomes available in D2L. At the end of each module, there will be a closed book exam that covers the lecture material for that module. These four exams will be comprehensive but not cumulative, meaning you will need to understand material from preceding topics, but will not be asked specific questions about those topics.

Laboratory Section: The lab will meet weekly from 7 to 9 pm Wednesdays in Harrington 103. We will use these face-to-face meeting times to 1) complete laboratory exercises, 2) resolve questions concerning the lecture material, and 3) take exams on both the lab material and lecture material. Attendance of the laboratory section is mandatory. It will be very difficult to make up a lab that is missed. Emergencies can arise and if you miss a lab due to an excuse absence, we will find a way for you to make up that material. The university's student handbook (<http://www.uwosh.edu/stuaaff/studenthandbook/ClassAttend.htm>) notes that 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. In order for an absence to be considered excused, *appropriate documentation must be provided to the instructor in a timely manner.*

TIPS FOR SUCCESS:

Workload:

In order to succeed in a hybrid class, it is very important that you maintain a high level of self-motivation. During the next 14 weeks we will cover parts of 14 chapters in your text – this is a great deal of material. If you were taking this course in a traditional setting you would spend 5 hours in class, and a similar amount of time studying time outside of class. Expect to at least spend that much time (10 to 12 hours) each week on this course. You will need to check the course website often (daily is suggested), keep up with assignments and readings, and contact me whenever you have questions. The responsibility is on your shoulders (though I will do what I can to help) and tutoring is available if you find yourself struggling with the material.

Tutoring:

•The Geology Department offers tutoring to all students enrolled in our introductory courses. Starting Monday, Feb 14, geology majors will be available to help you with any questions concerning the lecture or lab material for this course. Tutors will be available in Harrington 114 at the following times:

Monday -- 5:00 - 7:00 p.m. - Nicole Duhamel

Tuesday -- 5:30 - 7:30 p.m. - David Mills

Wednesday -- 5:30 - 7:30 p.m. - Ben Rosandick

This is not individual tutoring as any introductory geology student can show up during these times and ask for help.

•The Center for Academic Resources has individual tutors who are available for this course. See the following link for a list of tutors: <http://www.uwosh.edu/car/tutorlist.html>

GRADING:

Exams (400 pts or 50% of total points):

There will be four closed-book, comprehensive lecture exams, each worth 100 points. Lecture exams will be objective, computer-scored exams. Exams will be taken during the weekly lab meeting with the exception of Exam 2 which be taken in the Testing Center of Polk Library.

Exam 1	Wednesday, February 23	(Chapters 1, 2, and 3)
Exam 2	March 18 -24	(Chapters 4, 5, and 6)
Exam 3	Wednesday, April 20	(Chapters 8, 10, 11, and 15)
Exam 4	Wednesday, May 11	(Chapters 12, 13, 14, 16)

Homework and Quizzes (200 pts or 25% of total points):

Several homework assignments that supplement the lecture topics will be assigned throughout the course. The exercises will be described individually in the course website.

There will be online quizzes for each topic. Quizzes will focus on the lecture notes and textbook chapters. These quizzes are meant to keep you on track and will be approximately 10-20 minutes in length. In addition, they provide you with practice for the multiple-choice lecture exams.

Lab (200 pts or 25% of total points):

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 40 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 (160 points) plus an additional 40 points based on completeness of lab exercises.

GRADING SCALE:

There are 800 possible points in this course. Overall 75% of the points (600 possible) are earned from the lecture portion of the course and 25% of the points (200 possible) are earned in the lab portion of the course. Your final letter grade will be assigned according to the following scale which assumes an average of ~70 on lecture exams. The scale is setup so that an average score receives a grade of 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. Grading scale may be modified if needed.

A	736 - 800	B-	632 -655	D+	528 - 551
A-	712 - 735	C+	608 - 631	D	496 - 527
B+	688 - 711	C	576 - 607	D-	472 - 495
B	656 - 687	C-	552 - 575	F	<472

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:

Module	Dates	Topic	Reading	Lab Exercise
Introduction & Fundamentals	Jan 31	Introduction	Syllabus	
	Jan 31-Feb 4	Geology as Science Earth Systems and Human Population	Ch1: pages 3-13 Ch1: pages 19-32	Feb 2: Minerals
	Feb 7-14	Minerals Rocks Weathering	Ch3: pages 66-72 Ch3: pages 73-74, 78-85 Ch3: pages 74-78	Feb 9: Rocks
	Feb 16-22	Earth from Space & Geologic Time	Ch2: (thru pg 53) Ch1: pages 14-18, ch3: 87	Feb 16: Sediments
	Feb 23	Lecture Exam 1 (chapters 1 to 3) and Lab Exam 1		
Earth's Interior Processes & Associated Hazards	Feb 25-Mar 4	Rock Deformation Earth's Interior Plate Tectonics	Ch4: pages 92-94 Ch4: pages 94-98 Ch4: pages 98-115	Mar 2: Contouring & Env Geo Maps
	Mar 7-Mar 9	Earthquakes	Ch5: pages 119-154	Mar 9: Topo Maps
	Mar 11-Mar 14	Volcanoes	Ch6: pages 157-189	
	Mar 16	Lab exam 2 (Maps) and Review for Lecture Exam 2		
	Mar 18-Mar 24	Lecture Exam 2 (Chapter 4 to 6) in Testing Center		
Rivers, Soil & Water Resources, Water Pollution	Mar 28-30	Soil Resources	Ch10: pages 291-322	Mar 30: Ag Soils
	April 1-4	Streams & Flooding	Ch 8: pages 223-254	
	April 6 -11	Water Resources	Ch11: pages 325-356	April 6: Streams/GW
	April 13	Lab Exam 3 and Review for Lecture Exam 3		
	April 13-15	Water Pollution	Ch15: pages 473-482	
	April 16	Saturday Field Trip (required)		
	April 20	Lecture Exam 3 (Chapters 8, 10, 11, and 15)		
Economic Resources, Climate & Climate Change	April 18-22	Mineral Resources	Ch12: pages 359-394	
	April 25-27	Fossil Fuels	Ch13: pages 397-432	April 27: Water Chem
	April 29-May2	Alternative Energy	Ch14: pages 435-461	
	May 4	Lab Exam 4 and Review for Lecture Exam 3		
	May 4-9	Climate Glaciers Climate Change	Ch16: pages 514-520, 524-532 Glaciers PowerPoint	
	May 11	Lecture Exam 4 (Chapters 12-16)		