

Geology 301: Environmental Geology
Spring 2014
TR 9:30 – 10:45 in UH 060 (Section 1)
TR 11:00 – 12:30 in UH 060 (Section 2)

Instructor: Dr. Prajukti (juk) Bhattacharyya

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Office hours: TTh 1:30 – 4:30, or by appointment. Please call or email me if you want to set up a meeting time.

Web site: I will post important course information, PowerPoint slides, homework assignments, etc. on D2L. Please check it often.

Textbook

There is no assigned textbook for this course. I will assign selected readings throughout the course

Course description

This course is an introduction to the environmental aspect of the geosciences. We will focus mainly on the impacts of natural environment on humans and vice versa.

Learning objectives

After completing this course, students will be able to:

- Apply the method of scientific inquiry for studying current environmental issues
- Diagram the interconnected nature of environmental, social, and economic issues pertinent to resource management and sustainability
- Use critical thinking skills to make personal decisions about resource consumption and environmentally responsible behavior
- Explain to a general audience how understanding geological processes and principles can help address environmental issues, especially those related to extraction and consumption of mineral and fossil fuel resources
- Work collaboratively with others by taking multiple points of view into account to address environmental impacts of resource consumption and natural hazards

Course policies

Cheating and plagiarism are not tolerated in this course. You plagiarize if you present someone else's ideas and works as your own without giving credit to the original source. Your work **MUST** be your own to receive credit in this course and this includes any homework, lab assignment and tests. **If you are caught cheating or plagiarizing you will receive a score of zero (0) for the entire assignment.** Please talk to me if you need further clarification on what constitutes cheating and/or plagiarism.

Please turn off your cell phones and behave in a non-disruptive manner during class
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Assignments and tests

Beginning the week January 19, I will start assigning homework or in-class activities every week. The in-class assignments are due by the end of the class. **You have to be present in class to receive credit for those.** The due date for homework assignments will be on the assignment sheet, or on D2L. Each weekly assignment is worth 5% of your total grade. These weekly assignments together make up **60% of your total grade.**

There will be three tests making up **30% of your total grade.** The dates of those tests are given on the last page of this syllabus. Those tests are non-cumulative. You can bring one 8.5 x 11 crib sheet for all three tests. The test format will be a combination of short answer types, multiple choice questions and true-false questions.

I will be out of town for a conference during the finals week. You will have a take-home assignment instead of a final. **The take-home assignment will be due in D2L dropbox by midnight on Thursday, May 15, and is worth 10% of your total grade.**

Make-ups:

You cannot make up ANY of the weekly assignments unless you provide written documentation for your absence. Acceptable excuses include medical emergency (with doctor's note), university activities (with documentation) and family emergency (with written and signed note).

You have to notify me by 5:00 PM on the day of a scheduled test, AND provide written documentation if you miss a test and want to make it up. Acceptable excuses include medical emergency (with doctor's note), university activities (with documentation) and family emergency (with written and signed note). You will receive a grade of zero (0) for an exam that is not made up.

For weekly assignments you lose 25% of your grade for turning in your assignment one day late. No assignment will be accepted after that.

Grade breakdown:

The breakdown of available points is as follows:

# Assignments and tests	Worth	Total grade
12 weekly in-class or homework assignments	600 points	60%
Three tests	300 points	30%
One take-home assignment	100 points	10%

Attendance

Attendance in class is mandatory, even though I will not take attendance. It is not part of your grade, but it is very difficult to receive a good grade in this course if you consistently miss class. The weekly quizzes and tests will be based on topics discussed in class and during the in-class activities.

You must be present in class to receive credit for in-class assignments.

Study groups and active class participation are strongly encouraged.

Assignment of final letter grades

Your letter grade will be calculated based on the percentage of the total possible points for the semester weighed as shown above.

Percentage	Letter grade	What it means
96% and above	A	<ul style="list-style-type: none">• Excellent quality work• You submitted ALL assignments and tests and got 92% or better
92-96%	A-	
88-92%	B+	<ul style="list-style-type: none">• Good comprehension of course material (superior)• You submitted ALL assignments and got 80% or better on all of them• You attended almost all classes and participated in in-class activities unless you had a really compelling reason
84-88%	B	
80-84%	B-	
76-80%	C+	<ul style="list-style-type: none">• Adequate and satisfactory comprehension of course material. A sincere effort made towards learning the material.• You submitted most/all assignments and got 68% or above on most of them• You attended almost all classes and participated in in-class activities unless you had a really compelling reason
72-76%	C	
68-72%	C-	
64-68%	D+	<ul style="list-style-type: none">• Unsatisfactory but indicates some minimal command of the course materials. No apparent effort made towards learning the course material.• You did not submit all assignments or got below 68% on the ones you turned in• You missed quite a few classes and/or did not participate in the in-class activities
60-64%	D	
56-60%	D-	
Below 56%	F	<ul style="list-style-type: none">• Unsatisfactory and unworthy of course credit

NOTE: to get a SATISFACTORY grade, you HAVE to receive the equivalent of a “C” or above in this course. Even though a letter grade of “C-” is considered a passing grade, it does not count as “satisfactory” and will go on your transcript as NC.

Your instructor and the university have a responsibility to promote academic honesty and integrity. You, as a student, are (1) responsible for the honest completion and representation of your work, (2) expected to present accurate citation of sources of information used in papers, reports, tests, etc., (3) expected to respect the academic endeavors of others. Students who violate these standards will be penalized under UWS Chapter 14.

The University of Wisconsin – Whitewater is dedicated to a safe, supportive and non-discriminatory learning environment. It is the responsibility of all undergraduate and graduate students to familiarize themselves with University policies regarding Special Accommodations, Academic Misconduct, Religious Beliefs Accommodations, Discrimination and Absence for University Sponsored Events (for details please refer to the Undergraduate and Graduate Timetables; the “Rights and Responsibilities” section of the Undergraduate Bulletin; the Academic Requirements and Policies and the Facilities and Services sections of the Graduate Bulletin; and the “Student Academic Disciplinary Procedures (UWS Chapter 14); and the “Student Nonacademic Disciplinary Procedures” (UWS Chapter 17).

The UW System standard for work required per credit is that students are expected to invest at least 3 hours of combined in-class and out-of-class work per week for each academic unit (credit) of coursework; thus, a 3-credit course will typically require a minimum of 9 hours of work per week (144 hrs./semester)

(Source: <http://acadaff.uww.edu/On-lineSyllabiMandinfo.html>)

STUDENTS WITH SPECIAL NEEDS SHOULD INFORM THE INSTRUCTOR

Tentative schedule (Subject to change depending on circumstances)

Wk	Topic	
1	Introduction: Why should we care?	What is environmental geology? Human population growth and its impacts on the environment
2	Plate tectonics and natural hazards	Earthquakes, volcanoes, landslides, tsunamis: causes
3	Plate tectonics and natural hazards contd.	Earthquakes, volcanoes, landslides, tsunamis: Effects
4	Plate tectonics and natural hazards contd.	Earthquakes, volcanoes, landslides, tsunamis: mitigation
Test I on Thursday, February 20		
6	Mineral resources	Population growth, economic realities, and mineral resources
7	Mineral resources contd.	Formation, use, and impacts of mining selected economic minerals
8	Mining in Wisconsin	Impacts of oxide mining vs. sulfide mining, sand and gravel mining
Test II on Thursday, March 20		
Spring Break March 24-28		
10	Energy resources and fossil fuels	Petroleum, coal, and natural gas: formation
11	Energy resources and fossil fuels contd.	Petroleum, coal, and fracking: impacts of mining and use
12	Carbon sequestration	Carbon sequestration in deep wells: feasibility and challenges
13	Geology and alternate energy	Geothermal energy
14	Geology and waste management	Electronic waste (E-waste) issues
Test III on Thursday, May 8		
Take-home assignment due by midnight on Thursday, May 15 in D2L dropbox		