AHS 109 Fall 2015
Intro to Environmental Geology Syllabus & Schedule

Class Lecture: Monday, Wednesday & Friday 9:00 am – 9:50 am **Class Labs:** on your own, in groups

Room: ISELF-110

Instructor: Dr. Kate Pound
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Phone: (320) 308-2014
Office: WSB-155

Office Hours: *To be announced*
or by appointment
(contact me after class or by email)

Tutor: Henry Stelten – hours will be posted in D2L and announced in class

AHS Office Manager: Ms. Christy Berndt, WSB 129

Textbook: Living With Earth – An Introduction to Environmental Geology, Travis Hudson, Pearson / Prentice-Hall, 2011, ISBN-13 : 978-0-13-142447-0

Course Catalog Description: Geology of the dynamic earth with an emphasis on interactions between humans and the geologic environment. Earth materials, earth resources, the properties of rocks and surficial deposits.

Course Context: This is a Lab course that fulfills Goal 3 (Natural Sciences) of the general education curriculum at St. Cloud State University. It is designed to introduce students to the field of **Environmental Geology**, the **Earth Science degree** options, and the **Environmental Geology Concentration**.

Course Philosophy: The aim of this class is to uncover the basic concepts of geology, i.e. the processes that have shaped, and continue to shape our earth, and which have a substantial impact on life in the modern world; it will focus largely on the fundamental principles associated with development of rock and landscape features and resources (water, minerals, petroleum) and human interaction with these natural processes. The course is structured to allow you to build an enduring understanding of earth processes, materials, and of the ways in which humans interact with the geological environment. You will also become familiar with a wide range of techniques, concepts, and terminology that geologists use in the field and lab, and that you will encounter as a global citizen, as you build skills that allow you to evaluate the geological environment. We will examine aspects of geology, and human interaction with geology in the Upper Midwest, the US, and the world-at-large.

Some of the 'ESSENTIAL QUESTIONS'': This course is structured around a series of 'Essential Questions' which include:

- What drives changes in our landscape? Is all land the same? Are all ocean basins the same?
- What makes rocks (or minerals) different from each other? Why are some minerals valuable?
- What controls the distribution (availability) of mineral resources? How long will those resources last?
- Will I have a supply of potable water? Where does groundwater come from, and how do I know if it is safe?
- How can we predict future earth events, based on the geological record of past earth events?
- Why do we have rivers? Are all rivers the same? Why are there floods? Can we predict floods?
- How has the landscape changed over the past 1,000 years? 100,000 years? 10 million years? 500 million years?
- Are beaches important? Why are they there? Why is some land unstable? Can I stabilize it?

Grading: The grading scheme (there is no 'curve') set up for this course gives everyone the opportunity to get an A. **You must pass the Lab part of the course (i.e. get 60% or more on the Lab Exercises) to pass the course.** Your final grade will be assigned as follows:

3 Exams (12.5%, 12.5%, 15%)	40%
Quizzes in Desire-To-Learn (D2L)	10%
Lab Assignments	40%
In-class Questions & In-class Reflection Questions	10%

Grades will be assigned as follows:

	A = 92.5 – 100 %	**A- = 90 – 92.4%**
B+ = 87.5 – 89.9%	**B = 82.5 – 87.4%**	**B- = 80 – 82.4%**
C+ = 77.5 – 79.9%	**C = 72.5 – 77.4%**	**C- = 70 – 72.4%**
D+ = 67.5 – 69.9%	**D = 62.5 – 67.4%**	**D- = 60 – 62.4%**

Use of D2L Brightspace: Course information, quizzes, reminders, and lecture slides are all posted on the D2L site. To log on to the D2L site you will need to activate and use your huskynet account (go to http://huskynet.stcloudstate.edu/default.asp) click on "activate your huskynet ID" and follow instructions). The URL for the D2L Brightspace site is: http://huskynet.stcloudstate.edu/instructional/d2l/default.asp.

Exams: There will be three exams (including the final) in this course. Two of these exams ('hour exams') are scheduled during the semester (see schedule), and the third (final) exam is scheduled during finals week, and is comprehensive. There are no 'make-up exams' or 'pre-exams' - students who miss the 'hour' exams without specific prior approval for a University-sanctioned activity will be required to do an essay make-up exam. The 'hour' exams will consist of multiple choice questions plus short-written answer questions. The exams will cover material presented in the textbook as well as material covered in class and lab. We will be using "IFAT" "Scratch Sheets" for the exams; use of these will be explained in class. The final exam will be on **Wednesday December 16th, 7:30 am – 9:45 am, ISELF 110**

Labs: Lab exercises will be handed out in class. They are not available in D2L. The Labs are usually (but not always) due a week after they are handed out. The due date is written on the Lab. Labs **MUST** be handed in on time; to receive credit, you must hand your lab in individually at the **start** of the class that is due. Lab exercises are considered individual work; this means that while we encourage you to discuss your work with your classmates, and work with the, the work that you hand in must be your own work (i.e. do not copy). **You must pass the Lab portion of the class in order to pass the class as a whole**. The Lab activities are based on in-class lectures, computer-based activities, the textbook, and other reading. There will be a tutor available to answer questions, and give you help you with the Labs. The Tutor's hours will be posted during the first week of class. **A failing grade in the Lab (i.e. <60%) will result in a failing grade for the class.** Any labs handed in late-but before the grading of that Lab has been completed will receive 50% of the grade earned. Labs handed in after grading of that Lab has been completed **WILL NOT BE GRADED**, and you will receive a zero for that lab. The three lowest Lab grades will be dropped from your Lab grade (this is to accommodate any family emergencies, sicknesses, forgotten labs, car trouble, dogs pooping on your lab etc. that result in Labs not being turned in).

THE SMART CLASSROOM

ISELF 110 is newly configured as a 'Supersmart' classroom (? because you are taking classes in it ?). The technology is brand new to the instructor – so please be patient if there are glitches – I will take time to get feedback and suggestions from you on how the screens get used.

In-Class Group and Individual Assignments/Questions: In most class meetings there will be some kind of group or individual question or set of short questions that pertains to the material that we are covering in class; you will need to hand in the answers to these question in class.; they constitute a total of 10% of your grade. More importantly, some of these questions – or very similar questions will be used on the exams. For these questions, each person must write his/her own name in answer sheets or cards that are handed out each class for in-class questions or activities. Adding the name of a person who is not in class is considered **cheating** (SCSU policy on cheating can be found in http://www.stcloudstate.edu/studenthandbook/policies/cheating.asp) and might result in a failing grade for the class for both persons, the one who does it and the one who is absent. **In-class questions can never be 'made up'.** The three lowest in-class question grades will be dropped from your Class Questions grade (this is to accommodate any family emergencies, sicknesses, car trouble, pet trouble etc. that result in a missed class).

Desire-To-Learn (D2L) Quizzes: There will be a total of 15 weekly online quizzes in D2L. Overall they constitute 10% of your grade in the class. These D2L quizzes will be available as shown on the schedule. They generally 'close' at noon on the day they are due. You can do each D2L quiz three times, so you get a chance to improve your grade if you want to. Your 12 highest D2L Quiz grades will be used to determine your overall D2L Quiz grade. *The first D2L Quiz will be available immediately after the first class, and is about the syllabus, and is EASY POINTS – so go and do it straight away*. The answers to the D2L Quiz Questions are visible in D2L after the quiz has closed. You can only view the questions and answers after the quiz has closed if you completed the quiz before its due date. D2L quizzes cannot be reopened for you if you miss the submission deadline. Up to three 'missed' quizzes will count as your 'dropped' quiz grades. If you miss any more than three quizzes, the grade for those missed quizzes will be zero (0).

Cheating and Plagiarism: Cheating and Plagiarism are not tolerated in any form, and will be dealt with according to SCSU guidelines (http://www.stcloudstate.edu/studenthandbook/policies/cheating.asp). ***Never, ever copy someone's lab, or hand in a class exercise card on behalf of someone who is absent from class.***

The Vocabulary of Geology: Learning about geology is a bit like learning a new language. There will be a lot of new terminology. I will minimize the use of excessive terminology, but you will need to learn how to communicate as a geologist. In exams or tests I will not emphasize the definition (rote memorization) of terms, but rather the nature of the processes that those terms are used for, and how geologic data are used. This is because you need to be able to use, understand, and apply these concepts, techniques and terms as informed citizens, so you can make decisions about some of the geologic problems society faces.

Classroom Etiquette: Be on time for class, do not leave before I have told you that class has ended. Late arrivals and early departures disturb other students – and the Professor. Please do not chat with people when I am talking (unless I have told you to discuss something). Be considerate of other students in the class. Please don't leave during class to go to the bathroom – you are adults and can plan your toileting needs. **Turn cell phones off for the class period; laptops can only be used if you are taking notes**. I encourage you to take notes in a notebook; it removes the distractions inherent in using a laptop, and it helps build note-taking skills. Please ask me questions – I like a dynamic classroom.

How to do well in this class: First of all, make sure you come to class – AND PARTICIPATE ! Ask questions. Second, do all the Labs. Third, do all the D2L quizzes, these will be good practice for the exams. Fourth, engage yourself in the in-class exercises – these will be very similar to exam questions, and finally, make sure you read the textbook. Ask the Instructor or Tutor if you have questions, they will be very happy to help you. A tutor will be available for 1-2 hours per week once the semester gets going. Further details will be posted in D2L and announced in class.

Extra Credit: There is one (and only one) extra credit option in this class. It involves participating in a research survey that investigates the effectiveness of the teaching methods used in the class, and their relation to your learning style; I will provide more information on this option in the second class. Make sure you are there.

TENTATIVE SCHEDULE WITH READINGS AND ASSIGNMENTS: AHS 109 FALL 2015

Date	Topic	Reading	To Be Done / Assignments
Mon Aug 25th Weds Aug 27th Fri Aug 29th	Introduction What are Earth Processes? How do Humans Monitor and Manage Earth Processes?	Chapter 1 p.1-19 Chapter 2 p.21-51 Chapter 15 p.467-491 Handouts	Reading D2L Quiz 1 Lab 1 – Two Parts
Lab 1	Lab 1: Geologic Processes		
Mon Aug 31st			
Weds Sept 2nd Fri Sept 4th	Plate Tectonics What Drives Earth processes?	Chapter 2 p.21-51 Chapter 3 p.3-79 Handouts	Reading D2L Quiz 2 Lab 2
Lab 2	Lab 2: Plate Tectonics		
Mon Sept 7th	**LABOR DAY – NO CLASSES**		
Weds Sept 9th Fri Sept 11th	What are Igneous Rocks? What is 'Volcanic Activity'?	Chapter 4 p.81-111 Handouts	Reading D2L Quiz 3 Lab 3
Lab 3	Lab 3: Volcanic Activity		
Mon Sept 14th Weds Sept 16th Fri Sept 18th	What are Minerals? What are Mineral Resources? How do we find and use them?	Chapter 4 p.81-111 Chapter 12 p.355-383 Handouts	Reading D2L Quiz 4 Lab 4
Lab 4	Lab 4: Minerals		
Mon Sept 21st Weds Sept 23rd Fri Sept 25th	What are Sediments? How do Sedimentary Rocks form? What is Fracking Sand? Gravel & Aggregate Resources	Chapter 7 p.189-221 Handouts	Reading D2L Quiz 5 Lab 5
Lab 5	Lab 5: Sediments, Sedimentary Rocks & Natural Resources		
Mon Sept 28th Weds Sept 30th	Water – Rivers & Floods Why are there rivers? How do Streams/Rivers work?	Chapter 7 p.189-221 Handouts	Reading Exam Review / Prep No Lab, No Quiz
Fri Oct 2nd	**EXAM 1**		
No Lab			
Mon Oct 5th Weds Oct 7th	Water – Rivers & Floods Why are there rivers? Can we predict floods?	Chapter 7 p.189-221 Handouts	Reading D2L Quiz 6 Lab 6
Lab 6	Lab 6: Flood prediction		
FALL BREAK Oct 8th – Oct 11th			
Mon Oct 12th Weds Oct 14th Fri Oct 16th	How do streams control Landscape development? What are Contour Lines? Topographic Maps?	Chapter 10 p.297-325 Handouts	Reading D2L Quiz 7 Lab 7
Lab 7	Lab 7: Contoured Data		

Mon Oct 19th Weds Oct 21st Fri Oct 23rd	What are Groundwater Resources? How does Groundwater move?	Chapter 10 p.297-325 Handouts	Reading D2L Quiz 8 Lab 8
Lab 8	Lab 8: Groundwater Movement & Pollution		

Mon Oct 26th Weds Oct 28th Fri Oct 30th	Why do we have Beaches? How do human activities impact coastlines?	Chapter 9 p. 257-295 Handouts	Reading D2L Quiz 9 Lab 9
Lab 9	Lab 9: Coastlines, Storms & Beach Processes		

Mon Nov 2nd Weds Nov 4th	Is the land surface stable? What can trigger it to move? How can we stabilize it?	Chapter 8 p.223-255 Handouts	Reading D2L Quiz 10 Lab 10
Fri Nov 6th	**EXAM 2**		
Lab 10	Lab 10: Unstable land		

Mon Nov 9th	What are Earthquakes? What happens during? How can we prepare for one?	Chapter 5 p.113-149 Handouts	Reading D2L Quiz 11 Lab 11
Weds Nov 11th	**VETERANS DAY – NO CLASSES**		
Fri Nov 13th	Earthquakes ctd.		
Lab 11	Lab 11: Earthquakes		

Mon Nov 16th Weds Nov 18th Fri Nov 20th	How do glaciers form? What evidence do they leave behind, after they have melted?	Handouts	Reading D2L Quiz 12 Lab 12
Lab 12	Lab 12: Glaciation		

Mon Nov 23rd Weds Nov 25th	What is Soil? What controls Soil development?	Chapter 11 p.327-353 Handouts	Reading D2L Quiz 13 Lab 13
Lab 13	Lab 13: Soil Erosion		

THANKSGIVING BREAK – Weds 25th 5pm – Friday 27th

Mon Nov 30th Weds Dec 2nd Fri Dec 4th	What controls climate? What is the geological history of climate change?	Chapter 14 p.427-465 Handouts	Reading D2L Quiz 14 Lab 14
Lab 14	Lab 14: Geological Record of Climate Change		

Mon Dec 7th Weds Dec 9th Fri Dec 11th	What energy resources does earth 'provide'? What impact does their exploitation have?	Chapter 13 p.385-425 Chapter 14 p.427-465	Reading D2L Quiz 15 Lab 15
Lab 15	Lab 15: Extra Credit Feedback		

FINAL EXAM: Wednesday December 16th 7:30 am – 9:45 am, ISELF 110