

Earth & the Environment

Syllabus



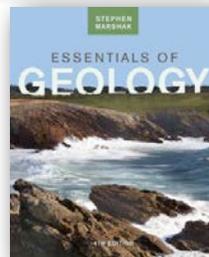
COURSE GOALS

To use observations, measurements, and the logic of science to gain an understanding of, and an appreciation for...

- the materials and landforms which make up the Earth, and
- the dynamic forces that constantly shape and change our evolving planet.

In essence, you will learn about geology and the Earth on which we live and hopefully leave this course as a better consumer of scientific knowledge with enhanced critical thinking and reasoning skills.

This syllabus is meant to provide an outline for the general flow of the course. At my discretion, I will add or omit topics and/or modify the timetable.



Instructor

M. Scott Wilkerson
Julian 217 x4666

mswilke@depauw.edu

<http://www.depauw.edu/academics/departments-programs/geosciences/>

Class

1:40-2:40 pm MWF-Julian 223

8:00-9:50 am Th (LAB A)-Julian 222

1:40-3:30 pm Th (LAB B)-Julian 222

Office Hours

2:45-3:45 pm MWF

other times: stop in or by appt.

Text

Essentials of Geology

Marshak, S., 2013, 4th ed., Norton
bundled w/ *Geotours Workbook*,
Wilkerson, Wilkerson, & Marshak,
2012, Norton

Lab Fee

A **\$15 lab fee** (lab manual/supplies) will be charged to your student account after the adjustment period.

Materials

Calculator, ruler, small stapler, & USB drive



DESCRIPTION

This course employs a variety of teaching approaches to maximize student learning of geoscience content in a classroom where different students optimally learn material in different ways. Specifically, of the 5 hrs/wk of class time that we are together, ~3 hrs/wk will involve lecture/discussion (aka “lectures”) and ~2 hrs/wk will involve hands-on active learning (aka “labs”).

I purposely provide my slides as PDFs on Moodle, so that students can print them out before class and annotate them with notes during class. That way, students aren’t scrambling to write down every single word on a slide, allowing them to focus on the content and to participate in the discussion. To facilitate discussion, students must R & R before class (no, this is not “rest & relaxation”, but rather “read & retain” the chapter text). The best discussions often arise from student questions about the material (and/or current events highlighted in the media). Our “lectures” will often include movie clips, animations, whiteboard

drawings, etc., and active learning Geotour assignments using Google Earth. The latter is especially important because students not only “see it, hear it”, but can “see it, hear it, and then practice it” as well.

Our active-learning sessions in “lab” will allow us to be hands-on with minerals, rocks, maps, etc. To be most effective, be sure to R & R the lab materials before each Thursday session. The classroom should be open from ~8:00 am-5:00 pm weekdays for independent study (except when classes are being conducted in the room). Assignments typically are due at the beginning of the next week’s lab unless specified otherwise.

GRADES

The basis for final grades is described in the table below. All materials to be turned in for a grade must be clearly written (or typed) and stapled. Late assignments will not be accepted and will receive a “0”. Make-up exams/quizzes will not be given unless there is a documented emergency or unless we have arranged a make-up exam in advance because of exceptional circumstances. Reading quizzes will be unannounced and will cover assigned readings for both “lecture” and “lab”. I will drop the 3 lowest reading quiz scores because there may be absences that are unavoidable and because “unannounced” quizzes can’t be made up without disadvantaging those who were present originally.

Q CERTIFICATION

Students must successfully satisfy both of the following criteria to receive Q certification:

1. Average 75% on the 3 Lab Quizzes & on the Geotour/Lab/Homework Assignments.
2. Receive a course grade of 70 (C-) or better

Percent of Final Grade		Grading Scale*	
Lecture Exam 1	20%	A	100-93%
Lecture Exam 2	20%	A-	92-90%
Lecture Exam 3	20%	B+	89-87%
Lab Quiz (minerals)	05%	B	86-83%
Lab Quiz (rocks)	05%	B-	82-80%
Lab Quiz (comprehensive)	10%	C+	79-77%
Geotour/Lab/Homework Assignments	10%	C	76-73%
Reading Quizzes	10%	C-	72-70%
		D+	69-67%
		D	66-63%
		D-	62-60%
		F	<60%
<i>*Numeric scores rounded up from 0.50. I reserve the right to adjust the grading scale up slightly (benefitting you!), if warranted by the class grade distribution.</i>			

KEYS TO SUCCESS IN THIS COURSE

1. **Read the Assigned Chapter** in a distraction-free environment and in advance of lecture over that material. As you're reading, carefully note any questions that you have.
2. **Take Good Notes.** Students with complete notes seem to do better in class. If possible, print out the lecture slides before class and annotate them from the lecture/discussion (including sketches from the whiteboard). Rewriting your notes will make them more legible and orderly, plus it will help you focus on areas that are still unclear. Be careful of falling into "TV-watching mode", as it is easy to look at the pictures and not take down any notes.
3. **Ask Questions.** The only stupid question is one that is unasked. Because you will be responsible for material in each assigned chapter whether that material is specifically covered during lecture or not, it is essential to ask questions to clarify any concepts that you do not understand. PLEASE do not be too shy, embarrassed, intimidated, afraid, etc. to ask questions.
4. **Know the Key Terms** at the end of each chapter (these are bold in the chapter text). If I use a term that you don't understand, PLEASE ASK me to define it.
5. **Use the Glossary** in the back of the book to help understand key terms.
6. **Answer the Review Questions** at the end of each chapter in order to **assess your learning of the material** on a regular basis. If you are unsure about any of the answers after checking the chapter text, PLEASE ASK me.
7. **Check out the Internet.** The companion web site for our text is <http://wwnorton.com/college/geo/essgeo4/>. On this web site is additional material & quizzes that will help enhance your understanding of the chapters & help you assess your progress. You also can use a search engine to find additional web sites of interest. Geotours can be found at: <http://wwnorton.com/college/geo/essgeo4/geotours.aspx>
8. **Create your own Study Aids.** Some people like to highlight text in the chapter, others like to make flash cards, and still others like to study in groups and discuss the material. Feel free to experiment with what works for you. In addition, the Academic Resource Center in Asbury Hall (1st floor) has Q tutors and trained people available to help you refine and improve your study habits and techniques.
9. **Study the Material on a Regular Basis.** It is important that everyone maintain good study habits by regularly working with the assigned material. Procrastination and cramming just don't work for most of us...it is best to get comfortable with the material as we go along so that you don't fall behind.
10. **Study for the Exam** as an Individual and then as a Group. Again, different people study in different ways. I've found that it helps to study as an individual first (thinking about what important concepts were emphasized in each chapter & lecture), then get together with others and study as a group (e.g., asking each other questions, brainstorming about what will be on the test, etc.).

FAQ:

Are lecture notes from the slides provided? PDF's of the lecture notes will be available in Moodle. Please bring printouts to class, so that you can annotate them. Please note that if I post notes from the last time the course was offered, I will post any revised PDF's of the lecture notes before the next corresponding exam.

Should we copy all the text on the slides? There shouldn't be a need with access to PDF's of the lecture notes. However, it is *far better* to listen to me/our discussion and take notes than to copy the slides. Sometimes text on slides is really just to trigger me on a topic and not something to be committed to your notes. In addition, I commonly go more in-depth than what is on the slides, and you will be responsible for knowing that detail on the exams.

Can we have an exam review sheet? I always do oral Q&A reviews before every lecture exam to clarify geoscience concepts.

ORDER OF TOPICS

Week Starting	Lecture Topics & [Reading Assignments]	Lab Topics
01: 08/28	Syllabus [Preface & Prelude] Earth in Context [Chap 1; 9-21]	Introduction to Google Earth & Geotours
02: 09/02	Earth in Context [Chap 1; 21-33] Plate Tectonics I [Chap 2; 6-7, 34-49]	Measuring the Earth using a GPS*
03: 09/09	Plate Tectonics 2 [Chap 2; 49-69]	Minerals I
04: 09/16	Minerals [Chap 3; 71-87]	Minerals II
05: 09/23	Rock Groups [Interlude A; 88-95] Rock Cycle [Interlude C; 210-215] Igneous Rocks [Chap 4; 96-117] <i>Exam Review</i>	Lab Quiz #1: Minerals
06: 09/30	Exam #1-Sept 30 Volcanoes [Chap 5; 118-147] Weathering [Interlude B; 148-156]	Igneous Rocks
07: 10/07	Sedimentary Rocks [Chap 6; 162-187] Metamorphic Rocks [Chap 7; 188-209]	Sedimentary Rocks Metamorphic Rocks
08: 10/14	Geologic Time [Chap 10; 304-327] <i>[Geologic Time Scroll]</i>	Lab Quiz #2: Rocks
09: 10/21	Fall Break	
10: 10/28	Hydrologic Cycle [Interlude F; 386-395] <i>Exam Review</i> last day to withdraw with W-11/01	TBD <i>Geological Society of America Mtg Oct 27-30</i>
11: 11/04	Exam #2-Nov 4 River Systems [Chap 14; 416-443] Groundwater Systems [Chap 16; 472-495]	<i>Field Trip to Shades State Park* or Field Trip to the DePauw Nature Park*</i>
12: 11/11	Earthquakes [Chap 8; 216-251 & Interlude D; 252-263]	Streams or Earthquakes
13: 11/18	Crustal Deformation [Chap 9; 264-291]	Topographic Maps I
14: 11/25	Earth's Resources [Chap 12; 352-385]	Thanksgiving (no lab)
15: 12/02	Global Change [Chap 19; 544-556]	Topographic Maps II
16: 12/09	Global Change [Chap 19; 557-567] <i>Exam Review</i>	Lab Quiz #3:

Exam #3: Thurs, Dec 19, 8:30-11:30 am, Julian 223

Note: These topics and exam times are subject to change.

*You must be present in lab to get full credit.

We will need a few students (21+ years old) to become certified for driving University vehicles in order to go on field trips. Please visit <http://www.depauw.edu/studentlife/campus-safety/publicsafety/education-and-awareness/drivers-safety/> to find out about driver certification classes.

Policy Page

ATTENDANCE

Regular and on-time attendance is expected and monitored (see the Student Handbook <http://www.depauw.edu/handbooks/academic/policies/attendance/>). As stated in the Student Handbook, excessive absences can be grounds for being dismissed from the course. In addition, it has been my experience that learning comprehension improves dramatically when students are present to listen to lectures, to ask questions, and to discuss the material in the classroom setting. In addition, some activities (e.g., labs) require attendance to receive credit. Should you know that you will be absent (e.g., health issue regarding yourself or immediate family, athletic obligation, etc), please contact me in advance to make arrangements about assignments.

ACADEMIC INTEGRITY

Any attempt to gain an unfair advantage over other students in the class will be handled in accordance with established University procedures as described in the Academic Handbook section on Academic Dishonesty:

<http://www.depauw.edu/handbooks/academic/policies/integrity/>

Writing Center Information on Plagiarism:

<http://www.depauw.edu/academics/academic-resources/academic-resource-center/w-center/w-center-handouts/>

ADAAA STATEMENT

DePauw University is committed to providing equal access to academic programs and University administered activities with reasonable accommodations to students with disabilities, in compliance with the Americans with Disabilities Act and Amendments (ADAAA). Any student who feels she or he may need an accommodation based on the impact of a disability or learning challenge is strongly encouraged to contact Pamela Roberts, Coordinator of Student Disability Services for further information on how to receive accommodations and support. Student Disability Services is located at 101 E. Seminary St., 765-658-6267.

CELL PHONE & LAPTOP USE

Cell phones and laptops are now allowed to be used in the classroom except for 1) activities directly related to our course as specified by your instructor or 2) special circumstances involving a personal emergency situation with the instructor's permission. I will have my cell phone on in the case of a campus emergency.

Please read the following: <http://www.insidehighered.com/blogs/just-visiting/open-letter-incoming-freshmen>

CLASSROOM BEHAVIOR

- **Respect everyone** (yourself, your peers, and your instructor).
- **Listen and contribute.** Lecture and discussion portions of our class can quickly morph to lecture only if you are not an active and contributing participant in class.
- **Work to the best of your ability.** Grades are earned, not given. A strong work ethic will not only serve you well in this course, but in life in general. Do not settle for less than your best effort.
- **Be aware of consequences (positive & negative).** If you make good decisions (e.g., reading the chapter text, taking notes, asking questions, working hard, etc.), you will likely experience good consequences such as improved grades, enhanced understanding of geoscience processes, and general success in life. Conversely, poor decisions (e.g., waiting to cram right before an exam or assignment, pulling an "all-nighter" and coming to class exhausted, relying on energy drinks or other substances, distracting yourself or others with cell phones or laptops, etc.) typically have negative consequences that cause your grade and your understanding of course content to suffer.
- **Consider the classroom your workplace.** Once you step inside the classroom, commit yourself to learning as much as you can during that hour. Try to take care of personal needs (e.g., bathroom breaks, social networking, etc.) during the break between classes.