COURSE OVERVIEW AND SYLLABUS
GEL 1: THE EARTH, WINTER 2018

Professor: Dylan Spaulding
Email: dkspaulding@ucdavis.edu
Dept. of Earth & Planetary Sciences
Office hours: M 4:00-5:00pm & Fri 1:00-2:00pm in EPS 1309 (or email for an alternate time)

Lecture: Geidt 1002, Monday, Wednesday and Friday 12:10 – 1:00 pm
GEL 1 qualifies for GE credit in Science & Engineering topical breadth as well as GE credit in Scientific Literacy and Writing Experience.

To download a syllabus for the lecture, please see the course Canvas site (canvas.ucdavis.edu)

TEACHING ASSISTANTS AND DISCUSSION SECTIONS:

A01	Mon., 11:00 – 11:50am	Caroline Hagan-Webb	chwebb@ucdavis.edu	EPS 1316
A02	Thurs., 10:00 – 10:50 am	Amanda Glynn	anglynn@ucdavis.edu	EPS 1309
A03	Thurs., 12:10 – 1:00 pm	George Snyder	grsnyder@ucdavis.edu	EPS 1316
A04	Tues., 12:10 – 1:00 pm	George Snyder	grsnyder@ucdavis.edu	EPS 1316
A05	Wed., 11:00 – 11:50 am	Veronica Vriesman	vpvriesman@ucdavis.edu	EPS 1316
A06	Mon., 10:00 – 10:50 am	Veronica Vriesman	vpvriesman@ucdavis.edu	EPS 1316
A07	Tues., 11:00 – 11:50 am	Zach Mason	zemason@ucdavis.edu	EPS 1309

GOAL OF THE COURSE:

To get you to view the world like a geologist. Understanding how the Earth works as a planet will provide context for environmental issues, energy problems, and ongoing global change that we'll all be dealing with for the foreseeable future. The societal relevance of geology will become evident as we discuss natural disasters (earthquakes, volcanoes, tsunami, floods), economic resources (water, fossil fuels, minerals) and our relationship with the environment (climate change). You should come to appreciate the importance of 'scale', particularly in thinking about deep time and the rate of change in various Earth processes.

TEXTBOOK AND NOTES:

Physical Geology Today (2016, 1st ed.), By Nance & Murphy
This is a new book relative to previous years, but its more affordable than what's been used in the past and is up to date. *We will not be going through the whole book*. I will give you specific sections to read. It's important that you do! Although the lectures and notes will closely follow the material in the book, you can't just substitute one for the other. You will need to synthesize what's in all three. This textbook is profusely illustrated - just viewing the graphics in the book in coordination with the lecture will bring the topic to life and help you better understand the material. Read it selectively. I'll show you how to use the book efficiently in class.

You can find a used copy or an ebook online for a much cheaper price than retail. VitalSource rents the text as an ebook for $62. And in a further effort to save you money, I've placed a copy of the textbook on reserve in Shields Library that you'll be able to check out for 2 hours at a time.

PDF outlines of notes for unit in the course will be posted in the 'Files' link on the Canvas site close to the actual time of the topic. They are relatively comprehensive but ***they will help you far more if you annotate them with your own notes, sketches and comments***. Use them to study for exams, but add to them from the lectures and the reading as you see fit.

CLASS STRUCTURE:
Come to class!! My goal is for this class to be fun, interesting and as participatory as possible. It will ultimately be faster, more efficient and educational for you to come listen to one hour of lecture rather than skipping it and then counting on teaching yourself the material from the book. This course will be dynamic, so *not everything you need will necessarily be in the notes*. Come to class. Ask questions. Have fun.

I strongly encourage you to speak up in class - any question is legitimate and I promise that if you ask it, I'll take the time to answer it.

Although we live in a world of electronic convenience, I want to ask you to consider limiting your use of laptops, tablets and cell phones while you're in class. Using them to take notes is fine, but if it's not course-related (Facebook, email etc.), chances are it's going to make it harder for you to learn and be distracting for your neighbors. Be considerate! Be present!

DISCUSSION:
Discussion sections begin the week of January 15th!
The Lecture and Discussion topics are decoupled. Discussion is not a supplement to the lecture material. What is taught in lecture is completely separate from what is addressed in your discussion section each week. There is a reason for this – discussion and lecture will complement each other and help give you a broader understanding.

Each Geology 1 discussion group meets once a week to talk about a topic in geology that has clear relevance to society. All Discussion materials can be found through the GEL 1 "Files" link listed on the left column of the Canvas site. The TAs will go over discussion topics & assignments with you each week and remind you of upcoming deadlines.

Please go to the section that you signed up for - don't go to a different section and expect credit from your assigned section/TA. Obviously, we will try to work around legitimate absences or special circumstances, but you need to work those out *in advance* with me and with your TA.

The discussion sections are intended to be straightforward and relevant. The discussion

is worth 50% of the overall class grade, so it is important to attend and accumulate the points. Learn your TA's name and get to know them personally – they're all willing to help if you ask (and so am I)!

PAPERS:

Being a strong writer is critical no matter what your major and GEL1 will give you some practice in writing a tightly-knit, evidence-based paper (and you'll get a GE writing credit!). Two papers will be assigned over the course of the term (one 4-5 pg and one 5-6pg) and plenty of help will be available along the way to help you through the process. Please check Canvas for paper writing guides and other helpful information when they are assigned.

READING ASSIGNMENTS:

We'll try to stay as close to this schedule as possible, but be ready for evolving dates and topics (except for exams, of course).

Week of:	Lecture Topic:	Textbook
Jan 8 - Jan 12	Introduction; Foundations; Building the Earth and Exoplanets	Sections 1.6-1.9
Jan 15 - Jan 19	Building the Earth (cont.); Plate Tectonics: Part I - Making and Breaking Continents	2.1 - 2.5
Jan 22 - Jan 26	Plate Tectonics: Part II - The Dynamic Earth	9.3 - 9.8
Jan 29 - Feb 2	Minerals and Rocks: Atomic to Planetary Scale	3.2, 3.6, 3.7
Feb 5 - Feb 9	Deep Beneath Volcanoes	4.1 - 4.3, 9.2
Feb 9	Midterm (50 minutes, in class, bring Scantron 2000)	
Feb 12 - Feb 16	Volcanism - Igneous Processes	4.6 - 4.7
Feb 19 - Feb 23	Earthquakes & Earth's Interior	11.1-11.5
Feb 26 - Mar 2	Telling Time: Sedimentation, Age Dating	6.1-6, 8.1, 8.3, 8.5-8.9
Mar 5 - Mar 9	End of the Oil Age?	19.1-19.3
Mar 12 - Mar 16	Global Change and the Anthropocene	15.1, 15.4, 20.1-20.5, 20.8
March 20	Final Exam – 6:00-8:00 PM (cumulative, bring Scantron 2000)	

EXAMS & GRADING:

MIDTERM (Friday, February 10th, in class) = 20%
FINAL (Thursday, March 23rd, 8:00-10:00 am) = 30%
DISCUSSION (participation ~10%, exercises ~10%, writing assignments ~12 and 18%) = 50%

Exams will be multiple choice. Be forewarned, the questions will be based directly on the notes, lectures and reading but will be designed to make you think- not just regurgitate specific phrases or facts. NO EARLY EXAMS OR MAKEUP EXAMS except under *truly* exceptional circumstances, which you will need to justify.