

Earth 202: Earth's Interior

Winter 2017

Instructor:

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Office Hours: Tuesday 09:00-11:00 AM, or by appointment

Lectures: Tuesday & Thursday 12:30-1:50 PM Tech F285

Labs:
A: Wednesday 12:00-1:50 PM Tech F389
B: Wednesday 3:00-4:50 PM Tech F389

Note: Official office hours listed above have been moved to Tech F391.

Course Website: <http://www.earth.northwestern.edu/people/seth/202>

Dates:

- Test 1: Thursday 10/26
- Test 2: Tuesday 11/21

Optional Supplementary Sources:

1. Bolt, B. A., 1982. *Inside the Earth: Evidence from Earthquakes*, WH Freeman
2. Brown, G. C. & Mussett, A. E., 1993. *The Inaccessible Earth: An Integrated View to Its Structure and Composition*, Chapman and Hall
3. Davidson, J. P., Reed, W. E., & Davis, P. M., 1997. *Exploring Earth*, Prentice Hall
4. Press, F. & Siever, R., 1986. *Earth*, New York: WH Freeman and Co
5. Uyeda, S. et al., 1978. *New View of the Earth*, WH Freeman
6. Wood, J. A., 1979. *The Solar System*, The Prentice-Hall Foundations of Earth Science Series, Englewood Cliffs: Prentice-Hall

Grades:

Problem sets (20%), Labs (20%), Class questions (10%), Test # 1 (25%), Test # 2 (25%)

Tests will cover material from lectures, labs, and homeworks.

Extra Credit:

1-page reports on up to three of the department seminars listed below, each worth 2% of final class grade, due within two weeks after the talk. All EPS seminars are on Fridays at 3:00 PM in the L. L. Sloss room (Tech F285).

- **September 29 - Carol Stein**, University of Illinois at Chicago
What's the Grenville Front and should it be erased from geological maps in the central U.S.?
- **October 27 - Ray Anderson**, University of Iowa
The Midcontinent Rift System
- **November 3 - Lynn Sykes**, Columbia University
Silencing the bomb: One scientist's quest for a test ban and the control of nuclear weapons

Note: On tests, homework, class problems, and labs, numerical answers require units and appropriate numbers of significant digits. *Remember to show all work.*

Administrative Stuff:

- It's important to keep up, so attending all lectures and lab periods is required. In-class questions cannot be made up.
- Homework and labs are due a week after being handed out, at the beginning of class. No credit will be given for late work without prior approval from instructor or TA. Missed labs cannot be made up, given the setup and operational time involved.
- No portable electronic devices (tablets, cell phones, PDA's, laptops etc.) may be used in lectures. Computers are necessary in labs unless noted otherwise.
- Students may discuss homework and reports with each other, but are expected to work and do their write-ups independently. You can't look at another student's work or show them yours, except for your lab partner. Cases of suspected academic dishonesty will be reported to the Dean's office. This isn't Harvard!



Eric Kester Author [♥ Become a fan](#) [✉](#) [🐦](#) [👍](#)

An Inside Look at Harvard's Cheating Scandal

Posted: 09/07/2012 9:09 pm EDT | Updated: 11/07/2012 5:12 am EST



I am a recent Harvard grad who has just published a memoir that discusses my experience at the college, including my observations on a cheating culture that surprised me. I never cheated myself, but I certainly saw a lot of the seedier side of the famed university: widespread copying of take-home assignments, exchanges of notes in bathroom stalls during tests, and research papers written and sold to desperate students

for upwards of \$800. In my mind it was not a question of if Harvard would face a cheating scandal, it was a matter of when.

Nearly half the 279 students in Government 1310 have been accused of cheating on last spring's take-home final exam, and these students should be shouldering nearly all of the blame. There are numerous external factors that kindled this cheating scandal, but the bottom line is that students know right from wrong. Yes, we're young, but we're also adults. You know when that feeling in your gut is linked to something deeper than what you had at the dining hall.

Outline (subject to changes) :

WEEK	SUBJECT	SUPPLEMENTAL READING	LAB
1	- Unit Conversion - Dimensional Analysis - Size, Mass & Density of the Earth	Bolt: Chapters 1, 2	Lab 0 – Introduction
2	- Seismic Waves - Earth Structure from Seismology	Brown & Mussett: 11-20pp, 27-32pp Bolt: Chapters 3, 4	Gravity Lab
3	- Minerals & Rocks	Press & Siever: Chapters 1, 3	Slinky Lab
4	- Composition of Mantle & Core	Brown & Mussett: Chapters 6, 7	Rocks & Minerals
5	- Radiometric Dating - Origin of Elements	Bolt: Chapter 7 Wood: Chapter 6	Meteorites Lab
6	- Formation of the Solar System - Formation of Planets - Test 1: October 26	Brown & Mussett 43-61pp Wood: 157-180pp Brown & Mussett 61-67, 73, 76-82, 96-101pp	No Lab
7	- Heat & Temperature in the Earth	Press & Siever: Chapter 14	Heat Lab
8	- Continents & Oceans - Paleomagnetism - Continental Drift	Uyeda: Chapters 1, 2, 3	Plate Tectonics Lab
9	- Earthquake Focal Mechanisms - Plate Boundaries and Kinematics - Mechanics of Plate Tectonics	Uyeda: Chapters 4, 5, 6	No Lab
10	Test 2: November 21	-	-