

## Earth 202: Earth's Interior

### Winter 2017

#### Instructor:

Seth Stein

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#### TAs:

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**Office Hours:** Monday 4:00-6:00 PM, or by appointment

Michael Witek

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**Office Hours:** Thursday ??:??-?:?? PM, or by appointment

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

**Labs:**      Wednesday      1:00-2:30 PM      Tech F389  
                 Wednesday      3:00-4:30 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: Tuesday 2/1
- Test 2 Review Session - Instead of lab, Week 9
- Test 2: Tuesday 3/7

## 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 3 department seminars, each worth 2% of final class grade, due within two weeks after the talk and by time of second test.

**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.
- Make-ups are ONLY allowable through advance arrangement with the Office of Studies.
- 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. This isn't Harvard!



**Eric Kester** ♥ Become a fan ✉ 🐦 👍  
Author

## 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: Chapter 1, 2	Lab 0 – Intro
2	- Seismic Waves  - Earth Structure from Seismology	Brown & Mussett: 11-20pp, 27-32pp Bolt: Chapter 3, 4	Gravity Lab
3	-Minerals & Rocks	Press & Siever: Chapter 1, 3	Slinky Lab
4	- Composition of Mantle & Core	Brown & Mussett: Chapter 6, 7	Rocks & Minerals Lab
5	- Heat and Temperature in the Earth  - Radiometric Dating	Press & Siever: Chapter 14 Bolt: Chapter 7	No Lab  Test 1: February 1
6	- TEST 1 - Tuesday 10/20 - Origin of Elements - Formation of the Solar System	Wood: Chapter 6 Brown & Mussett 43-61pp	Meteorite Lab
7	- Meteorites - Formation of Planets	Wood: 157-180pp Brown & Mussett 61-67, 73, 76-82, 96-101pp	Plate Tectonics Lab
8	- Continents & Oceans - Paleomagnetism  - Continental Drift	Uyeda: Chapters 1, 2, 3	Heat Lab
9	- Earthquake Focal Mechanisms - Plate Boundaries and Kinematics  - Mechanics of Plate Tectonics	Uyeda: Chapters 4, 5, 6	Earthquakes Lab
10	No Lab Test 2: March 7	-	-