Earth 202: Earth’s Interior  
Fall 2015

Instructor:

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TAs:

Amir Salaree  
Tech F482  email: amir@earth.northwestern.edu  847-491-8182

Office Hours: Monday 9:00-11:00 AM, or by appointment

Chijun Sun  
Tech F498  email: csun@earth.northwestern.edu  847-491-5265

Office Hours: Thursday 12:00-2:00 PM, or by appointment

Lectures:  
Tuesday & Thursday  2:00-3:20 PM  Tech F285

Labs:  
Wednesday  10:00-11:00 AM  Tech F389 (Chijun)  
Wednesday  3:00-4:00 PM  Tech F389 (Amir)

Course Website: [http://www.earth.northwestern.edu/people/seth/202](http://www.earth.northwestern.edu/people/seth/202)

Dates:

- Test 1 Review Session - Instead of lab, Week 4
- Test 1: Tuesday 10/20
- Test 2 Review Session - Instead of lab, Week 9
- Test 2: Tuesday 11/24
Optional Supplementary Sources (in the Mudd Library Reserve):


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 class.
- 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!

An Inside Look at Harvard's Cheating Scandal

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.
# Syllabus

## Outline (subject to changes):

<table>
<thead>
<tr>
<th>WEEK</th>
<th>SUBJECT</th>
<th>SUPPLEMENTAL READING</th>
<th>OTHER</th>
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| 1    | - Unit Conversion  
       - Dimensional Analysis  
       - Size, Mass & Density of the Earth | Bolt: Chapter 1, 2 | Gravity Lab |
| 2    | - Seismic Waves  
       - Earth Structure from Seismology | Brown & Mussett:  
                                           11-20pp, 27-32pp  
                                           Bolt: Chapter 3, 4 | Slinky Lab |
| 3    | - Minerals & Rocks | Press & Siever:  
                       Chapter 1, 3 | Rock & Minerals Lab |
| 4    | - Composition of Mantle & Core | Brown & Mussett:  
                                  Chapter 6, 7 | Exam 1 Review in Lab |
| 5    | - Heat and Temperature in the Earth  
       - Radiometric Dating | Press & Siever:  
                                  Chapter 14  
                                  Bolt: Chapter 7 | No Lab |
| 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 | Earthquakes Lab |
| 9    | - Earthquake Focal Mechanisms  
       - Plate Boundaries and Kinematics  
       - Mechanics of Plate Tectonics | Uyeda: Chapters 4, 5, 6 | Exam 2 Review in Lab |
| 10   | TEST 2 - Tuesday 11/24 | - | Thanksgiving |