

Geodynamics 2010 GEOS 620 Syllabus

Instructor: Erin Pettit
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Office hours: Wednesdays 10am - 12 or by appointment
(you are welcome to drop by my office anytime, I will help if I can).

Course Description: In this course we will study the fundamentals of continuum mechanics and rheology of materials as they apply to geodynamics problems in the Earth Sciences. The first half of the semester will focus on fundamental principles of continuum mechanics. The second half will look deeper into the application of these principles for range of questions in geophysics.

Time: We will meet regularly Tuesdays and Thursday from 2pm to 3:30pm. I will have to miss class for travel to a couple of meetings, I would like to find an alternative time to meet to make up some of those missed classes, we will discuss it on the first day of class.

Place: We will meet in Elvey Room 414. Otherwise known as the Glaciology Map Room.

Course Materials:

Book: There is no required book, but selected reading will be from:

1. Geophysical Continua by Kennett and Bunge (2008)
2. Geodynamics by Turcotte and Schubert (2002)

These two books and several others will be on reserve in the GI library and I will provide scanned copies of selected readings from them.

Blackboard: The digitally available readings and class notes will be posted on Blackboard, this provides a secured place to put copyrighted material.

Homework: I will assign weekly problems sets or journal articles. These will typically be due at the beginning of class on Thursdays. Late assignments will be marked down 5% per day.

Exams: There will be one time-limited take home exam given the first week of December that will be similar in style to homework problems.

Review Paper: You will choose a topic, preferably in your field of study and write a 8 to 10-page (typed double spaced, not including figures) review-style paper on the subject. This will require you to conduct a literature review in this subject and condense the information into a coherent paper of a style suitable for publication. More details in class.

Presentation/Teaching: Based on the topic of your review paper, you will put together a 45 minute session to teach the rest of the class the fundamental concepts and analytical techniques.

Assessment:	Problem Sets	20%
	Paper First Draft	5%
	Paper Final Draft	25%
	Presentation/Teaching Outline	5%
	Presentation/Teaching Final	25%
	Take home exam	20%
	Contributions during class discussions	5% (bonus)