EART 290C – GEODYNAMICS
Spring 2011 Class Notes

Email Prof. Nimmo (fnimmo@es.ucsc.edu) if you have problems accessing the files below

Timing/Location: Tu/Thurs from **10:00** to **11:45** in E&MS D258

Course Goals: To provide a quantitative, graduate-level investigation of the physical processes controlling the deformation and response of planetary bodies at different time- and length-scales.

Texts: The two most useful textbooks are Turcotte and Schubert, *Geodynamics*, 2nd ed., CUP, 2002, and Kennett and Bunge, *Geophysical Continua*, CUP, 2008. Reference will also be made to the primary literature.

(Approximate) Course Outline

Week 1 (29 Mar): **Heat transfer.**

Week 2 (5 Apr): **Elasticity and flexure.**

Week 3 (12 Apr): **Gravity & potential field theory.**

Week 4 (19 Apr): **Rheology & viscoelasticity.**

Week 5 (26 Apr): **Fluid dynamics.**

Week 6 (3 May): **Fluid dynamics (cont'd).**

Week 7 (10 May): **Convection.**

Week 8 (17 May): **Permeable Flow.**

Week 9 (24 May): **Tides** FN away Tues

Week 10 (31 May): **Recap and applications**