

Syllabus

Date	Topic	Reading	Homework/Project
27-Aug	Introduction - class interests		
1-Sep	Plate tectonics: A historical review	Ch 1	
3-Sep	Plate rotations	Ch 2	
8-Sep	Plate motions	Ch 2	Probs 1 (plate motions)
10-Sep	The Earth's Magnetic Field	Ch 3 p43-51	
15-Sep	Rock magnetization and translation	Ch 3 p51-93	
17-Sep	The Geodynamo	Ch 8 p373-381 & Glatzmaier et al, 1999	Probs 2 (magnetism)
22-Sep	Planetary dating, magnetism and tectonics?	Hartmann p132-135, 256-263 & Connerney et al, 2005	Probs 1 due
24-Sep	Global seismology and wave propagation I	Ch 4 p100-111	Paper reviews due
29-Sep	Global seismology and wave propagation II	Ch 4 p100-111	
1-Oct	The earthquake source	Ch 4 p111-140	Probs 2 due
6-Oct	MidTerm I: Magnetism and tectonics		
8-Oct	Moment tensors	Ch 4 p111-140	
13-Oct	Global velocity structure	p126-130, 326-331, 336-348	Probs 3 (seismology)
15-Oct	Regional 3D velocity imaging I		
20-Oct	Regional 3D velocity imaging II		Term project abstracts due
22-Oct	Gravity and isostasy	p193-206	
27-Oct	Gravitational constraints	p206-228	Probs 4 (gravity)
29-Oct	Planetary gravity anomalies	Mars: Smith et al, 1999 optional reading: Moon: Konopliv et al, 1998 Mars: Phillips et al, 2001	Probs 3 due
3-Nov	MidTerm II: Seismology and gravity		
5-Nov	Special topic: TBA		
10-Nov	Dating processes	Ch 6	Probs 4 due
12-Nov	Heat sources and flow	Ch 7	
17-Nov	Geotherms	Ch 7	Term project outlines due
19-Nov	Convection in the Earth's mantle	p331-337, 353-367	
24-Nov	Convection around the solar system	Wenzel, Manga & Jellinek, 2004	Probs 5 (geochronology, heat)
26-Nov	Thanksgiving - no lecture		
1-Dec	Student presentations		Term project papers due
3-Dec	Student presentations		Probs 5 due
8-Dec	MidTerm III: Dating, heat and convection		
		11am Tue Dec 8: Rm 325 McCone	

Reading: Chapter and page numbers refer to the class text: "The Solid Earth: An Introduction to Global Geophysics" (2nd edition) by C.M.R. Fowler. Published by Cambridge University Press. All other reading will be posted on the class website.

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This syllabus is subject to change.
For an up-to-date syllabus visit: <http://eps.berkeley.edu/~rallen/eps122>

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