

EPSS 200A
Introduction to Geophysics and Space Physics I: The Solid Earth and Planets
EPSS 152
Physics of Earth

Instructor: Paul Davis
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Lectures: Tuesdays and Thursdays 9:30-11 AM, Geology 4677
Website: <http://ccle.ucla.edu>
Textbook: 4th edition of [Physics of the Earth](#) (Stacey and Davis), Cambridge Univ. Press.
Grading: Homework-20%; Report-20%; Mid Term exam-30%; Final exam-30%.
Report should be a review and some calculations on a topic covered in the course (~4 pages).

Course Catalog Description:

Lecture, three hours. Requisites: Physics 105A, 110A, 112, 131. Geochemistry, cosmochemistry, and petrology; geotectonics; gravity field; seismology; heat transfer, thermal and mechanical evolution of the mantle; core and geomagnetism; lunar and planetary interiors.

Date	LEC.	LECR.	Chapter Reading	Subject
Thu-Sept 24	1	JLM	1	Origin and history of the Solar System.
Tue-Sept 29	2	PD	2	Composition of the Earth.
Thu-Oct 1	3	JLM	3, 4.1 – 4.3	Radioactivity, isotopes and dating, Age Earth
Tue-Oct 6	4	PD	4.3 – 4.6, 5	Evidence of the Earth's evolutionary history.
Thu-Oct 9	5	PD	6	Rotation, figure of the Earth and gravity.
Tue-Oct 13	6	JLM	7	Precession, wobble and rotational irregularities.
Thu-Oct 15	7	JLM	8	Tides and the evolution of the lunar orbit.
Tue-Oct 20	8	PD	9	The satellite geoid, isostasy, post-glacial rebound and mantle viscosity.
Thu-Oct 22	9	JLM	10	Elastic and inelastic properties.
Tue-Oct 27	10	PD	11	Deformation of the crust: rock mechanics.
Thu-Oct 29				MID TERM EXAM
Tue-Nov 3	11	PD	14	Kinematics of the earthquake process.
Thu-Nov 5	12	PD	15	Earthquake dynamics.
Tue-Nov 10	13	PD	16 – 17	Seismic wave propagation. Earth Interior.
Thu-Nov 12	14	PD	19	Thermal properties.
Tue-Nov 17	15	PD	20	Surface heat flux.
Thu-Nov 19	16	JLM	21	Global energy budget.
Tue-Nov 24	17	JLM	23	Thermal history.
Thu-Nov 26				No class (Thanksgiving).
Tue-Dec 1	18	JLM	24	Geomagnetic Field.
Thu-Dec 3	19	JLM-PD	All above	Review/Projects.
Thu-Dec 10 (TBD)				FINAL EXAM