

EART 270-01 Global Seismology

Fall, 2019 MWF 10:40-11:45am C332 E&MS

Day	Date	Topic
F	Sept. 27	Introduction to Seismology
M	Sept. 30	Continuum: Strain and Stress, Eq. of Equilibrium/Motion
W	Oct. 2	Constitutive Equations, Eq. of Motion for Isotropic Medium
F	Oct. 4	1D Wave Equation, Nature of Solutions
M	Oct. 7	Inhomogeneous medium, Plane waves
W	Oct. 9	No Class – T. Lay to Portland (SAGE/GAGE)
F	Oct. 11	Eikonol, Seismic rays
M	Oct. 14	No Class - T. Lay to UIUC (External Review)
W	Oct. 16	Travel time – distance for 1D velocity structure
F	Oct. 18	Reflection/Transmission coefficients
M	Oct. 21	Amplitudes: Geometric spreading and attenuation
W	Oct. 23	Free surface effects: Surface Waves
F	Oct. 25	No Class – T. Lay to AFTAC (Patrick AFB)
M	Oct. 28	Surface Wave Dispersion
W	Oct. 30	Normal Modes
F	Nov. 1	Inversion for Earth Structure
M	Nov. 4	Earth structure
W	Nov. 6	Elastostatics –Equivalent Body Force
F	Nov. 8	Elastostatics – Somigliano Tensor
M	Nov. 11	No class – Veteran’s Day
W	Nov. 13	Elastodynamics – Initial Value Problem
F	Nov. 15	Elastodynamics – whole space solution
M	Nov. 18	Elastodynamics – whole space solution
W	Nov. 20	No class – T. Lay to D.C. (BESR)
F	Nov. 22	Finite Source Representation –Haskell Model
M	Nov. 25	Source Spectra and Magnitudes
W	Nov. 27	Scaling Laws and Rupture Properties
F	Nov. 29	No class – Thanksgiving
M	Dec. 2	Putting it All Together: Linear operators, Synthetic Seismograms
W	Dec. 4	Putting it All Together: Linear operators, Synthetic Seismograms
F	Dec. 6	Solution of the Problem