

Introduction to Seismic Imaging - EARTH/OCEA 4470/5470

Prerequisite: 1st year physics, mathematics; 2nd year Introduction to Applied Geophysics

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Textbook: Yilmaz, O., 2001, Seismic Data Analysis: Processing, Inversion and Interpretation of Seismic Data (Vols. 1 & 2): Society of Exploration Geophysicists, Tulsa Oklahoma, 2027 pp

Focus: Basic techniques of the reflection seismic method for imaging of earth structures, such as used in hydrocarbon exploration. Class lectures introduce concepts and techniques applied in computer lab to the processing of a multi-channel seismic dataset. Concepts covered include: source and receiver geometry, digital filtering, deconvolution, velocity analysis, stacking, and migration

Components of the Class:

Lectures	1 x 1 hour each week (Tue, 13:05:-14:00)
Labs	1 x 3 hours each week (Tue, 14:00-16:55)

Assessment: The final grade of the class will be based on the following:

Assignments	80%
(4x20% for undergrads; 5x16% for graduate students)	
Class and lab participation	20%

Grade Conversion:

Numerical results will be converted to letter grades as follows:

A+	100-90	A	89.9-85	A-	84.9-80
B+	79.9-75	B	74.9-70	B-	69.9-65
C+	64.9-62	C	61.9-58	C-	57.9-55
D	54.9-50	F	49.9-0		

Passmarks for graduate students:

Minimum B- for any graduate student (~65%)
Minimum B+ for any Ph.D. student (~75%)

Computer Usage:

Students use unix- and windows-based computers and provided software to analyze seismic data handed as part of their assignments