

Advanced Seismic Imaging - EARTH/OCEA 4480/5480

Prerequisite: 4th year Introduction to Seismic Imaging or consent of instructor

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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: This class teaches advanced techniques of seismic imaging of earth structures. Class lectures will introduce techniques that will be applied in the computer lab to the processing of multi-channel reflection and wide-angle refraction seismic datasets. Concepts covered will include: multiple removal, pre-stack migration in time and depth, amplitude analysis, velocity modeling and inversion, and seismic attributes.

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