

# **Introductory Seismology, Part II (GPGN553)**

## **Spring 2007, 3 credit hours**

**Instructor: Prof. Ilya Tsvankin**

The goal of the course is to introduce students to basic problems and methods of modern seismology with the main emphasis on analysis of wavefields from point sources in stratified elastic media. Among the topics are reflection and transmission of spherical waves, the methods of steepest descents and stationary phase, point-source radiation in layered isotropic media (including surface waves and nongeometrical modes), and elements of wave propagation in anisotropic and attenuative media. We will also discuss the advantages and limitations of ray theory and other seismic modeling methods for 1-D and 2-D isotropic media. The main text used in the course is the instructor's notes "Seismic wavefields in layered isotropic media" freely available online from Samizdat Press.

Prerequisite: consent of department. Understanding of the theory of elasticity and seismic sources within the scope of GPGN552 (Introductory Seismology-I) would be very helpful, although some of the necessary prerequisite information will be reviewed at the beginning of the course.

**Schedule: Tuesday and Thursday, 10:00 – 11:15 a.m., room 263.**

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