INTRODUCTION TO SEISMOLOGY – FALL 2010

INSTRUCTOR: Guoqing Lin, N255, 305-421-4150, glin@rsmas.miami.edu

CREDITS: 3

TIME: Monday/Wednesday 1:30-2:45 pm

OFFICE HOURS: by appointment, send e-mail

LOCATION: MGG Conference Room

COURSE DESCRIPTION: This class provides an approachable and concise introduction to seismic theory

GRADES: Homework (60%); Final Exam (40%)

TEXT (required):
Peter M. Shearer TITLE Introduction to seismology, Cambridge: Cambridge University Press, c2009, 2nd Ed.

READING LIST:


COURSE OUTLINE:
1. Introduction
2. Stress and Strain
3. Seismic Wave Equation
4. Ray Theory: Travel Times
5. Inversion of Travel Time Data
6. Ray Theory: Amplitude and Phase
7. Reflection Seismology
8. Surface Waves
9. Source Theory
10. Earthquake Prediction
11. Miscellanea

HOMEWORK ASSIGNMENT
There will be ten homework problems, which will involve deriving equations, computer simulations, and data analysis. The homework is designed for each student to work by him/herself. The homework will count as 60% of your overall course grade, with each counting 6%.
FINAL EXAM
There will be a closed-book final exam (40%). Reference to texts or other documents such as previous semester course materials during exams is strictly forbidden. Using these materials will be considered a direct violation of academic policy. The use of electronic devices (e.g. cellular phones, computers etc.) other than non-programmable calculators during exams and quizzes is not allowed.