Higher Institute of Earthquake studies and Research

Department: Earthquake Structural Engineering
Course: principals of Seismology and Earthquake Engineering **(Part 1)**
Hours: (2 Hours Theoritical+2hours Practical)weekly
Teaching Staff:

Description:
The course is 8 chapters. It starts by the elementary principals of seismology, then the properties of strong ground motion, and their parameters, the recording systems and the processing methods. The next chapters present the topics of seismic response in sites, and buildings, measurement methods and processing. The last chapter discuses the topics of seismic risk and vulnerability.

Aims & Objectives:
The purpose of this course is to present the essential theoretical background of the earthquake engineering in the strong ground motions and their effects on sites and buildings.

Syllabus:
Chapter 1: The elementary principals of seismology
Chapter 2: The properties of strong ground motion, and their parameters
Chapter 3: The recording systems of strong ground motion
Chapter 4: The processing methods (1)
Chapter 5: The processing methods (2)
Chapter 6: A program for signal processing
Chapter 7: The seismic site response
Chapter 8: The seismic building response
Chapter 9: The seismic risk and vulnerability

Course Outline:
Week 1: The elementary principals of seismology
Week 2: The elementary principals of seismology
Week 3: The properties of strong ground motion, and their parameters
Week 4: The properties of strong ground motion, and their parameters
Week 5: The recording systems of strong ground motion
Week 6: The processing methods (1)
Week 7: The processing methods (2)
Week 8: A program for signal processing
Week 9: The seismic site response
Week 10: The seismic building response
Week 11: The seismic risk and vulnerability
Week 12: field application
Week 13: discussion of application reports
Week 14: revision

Instructional Methodology & Teaching Resources:
Lectures, Lab for computer processing, Field applications.

Head of Department: Date:

Vice Dean: Date:

Dean: Date: