Advanced Earthquake Engineering

2 units (selection)

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Target⟩ To learn fundamental knowledge in Earthquake Engineering.

Outline⟩ To provide students with fundamental knowledge in Earthquake Engineering including (1) Seismology (2) Ground Motion (3) Finite Element Analysis.

Style⟩ Lecture

Keyword⟩ ***seismology, wave propagation theory, ground motion, finite element analysis***

Relational Lecture⟩ "**Advanced Structural Dynamics**"(0.5)

Requirement⟩ Fundamental knowledge of dynamics of structures

Goal⟩ To understand fundamental knowledge in earthquake engineering

Schedule⟩

1. Introduction
2. Earthquake Mechanism
3. Fault Model
4. Propagation of Seismic Waves
5. Surface Ground Motions
6. Probabilistic Analysis Methods for Input Ground Motion
7. Synthesis and Simulation Methods Stochastic for Input Ground Motion
8. Microtremor Measurments and Analysis
9. Seismic Response of SDOF
10. Seismic Response of SDOF
11. Seismic Response of MDOF
12. Seismic Response of MDOF
13. Seismic Response of MDOF
14. Kinematic Soil-Structure Interaction
15. Inertial Soil-Structure Interaction
16. Seismic Soil-Structure Interaction

Evaluation Criteria⟩ Evaluation by Reports, Minimum Requirement=60%

Textbook⟩

- ◇ Introduction to seismic spectral analysis
- ◇ Finite Element Method

Contents⟩ http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216748

Student⟩ Able to be taken by only specified class(es)

Contact⟩

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