Civil, Environmental and Geomatic Engineering

Structural Vulnerability and Resilience (CEGE0051)

Description

Outline:

The course has three strands:

1. It reviews approaches in mitigation and reduction of losses from social, economic, and structural perspective, as outlined in major code of practice in earthquake prone countries worldwide;

2. It develops tools for the analysis of the seismic behaviour of low engineered and none engineered structures, presenting models for the assessment of their performance and the computation of their vulnerability.

3. It compares approaches from different codes in earthquake prone countries worldwide;

4. It presents traditional and novel strengthening techniques and technologies for seismic retrofitting.

It develops criteria for the choice of appropriate strengthening interventions and methods for the detailed design of such interventions for a range of substandard structures;

Aims and Learning Outcomes:

To expose the students to the decisional process and design issues in upgrading the built environment to reduce losses from seismic hazards.

By the end of the course, students should be able to critically choose among different mitigation and strengthening strategies, given a specific assessment and performance requirement for buildings in seismic prone countries;

Students should also understand the wider economic, social and technical context within which upgrading and strengthening of structures is pursued;

Key information

Year 2018/19
Credit value 15 (150 study hours)
Delivery PGT L7, Campus-based
Reading List View on UCL website
Tutor Prof Dina D’Ayala
Term Term 2
Timetable View on UCL website

Assessment

- Coursework: 30%
- Written examination (main exam period): 70%

Find out more

For more information about the department, programmes, relevant open days and to browse other modules, visit ucl.ac.uk

Disclaimer: All information correct as of December 2018. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.
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