Introduction to Seismic Design of Structures (CEGE0032)

**Description**

**Aims and Topics.**

The aims of the course are: to provide knowledge of the concepts behind seismic design and their implementation in different building codes of practice; to impart knowledge of materials, structural element behaviour and global structural behaviour under seismic loading; to provide the knowledge necessary for students to design reinforced concrete structures to any seismic code; to introduce the use of software packages for seismic analysis and design.

This course is intended to cover the following topics:

1. Intro to Seismology and Earthquake Engineering
2. Intro to Probabilistic Seismic Hazard Analysis (PSHA)
3. Earthquake Load Representation: Response Spectrum and Equivalent Static Approach
4. Intro to Eurocode 8
5. Intro to GSA
6. Response of structures to earthquakes/Conceptual Design
7. Detailed design of RC structures (Eurocode 8)
8. Advanced topics in Seismic Design
9. Earthquake case studies
10. Earthquake Engineering Field Trip

**Learning outcomes.**

The learning outcomes of the course are: understanding the concepts behind seismic design; understanding the behaviour of building materials, structural members and structural systems under earthquake loading; having the ability to interpret and critique different seismic codes of practice; gaining knowledge of how to design civil engineering structures for seismic resistance.

**Key information**

- **Year**: 2020/21
- **Credit value**: 15 (150 study hours)
- **Delivery**: PGT L7, Campus-based
- **Reading List**: View on UCL website
- **Tutor**: Dr Carmine Galasso
- **Term**: Term 1
- **Timetable**: View on UCL website

**Assessment**

- Coursework: 20.0%
- Coursework: 40.0%
- Coursework: 40.0%

**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 March 2020. 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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