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.
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**: UGM 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.