Advanced Structural Analysis (CEGE0046)

Outline:
This module uses exciting practical applications to introduce different forms of advanced structural analysis.

In all cases the emergence of structural analysis as an amalgam of material behaviour, equilibrium and compatibility considerations is emphasised;

The practical applications are timber-concrete composites (where slip analysis is the key), double-stiffness hyperstatic spans (where moment optimisation analysis via manipulation of stiffness distributions is the key) and FRP-plated reinforced concrete sections (where analysis to show the effect of material nonlinearities on plated section behaviour is key);

All three topics are assessed via a 2 hour exam at the end of the academic year, and there is also coursework on the first topic to complement (not duplicate) the learning done in preparation for the exam.

The split is exam 70% and coursework 30%;

Aims and Learning Outcomes:
The primary aim of the course is to foster a confidence in and enjoyment of structural mechanics;

other learning outcomes are essentially a means to this end;

Learning Outcomes:
to familiarise students with the process of modelling timber concrete composites (TCCs), including the effects of timber-to-concrete slip.

The 2018-19 coursework (different from the 2017-18 coursework) will be on a TCC floor;

to acquire the ability to appreciate and assess the role and adequacy of the timber-to-concrete connections;

Key information
Year 2018/19
Credit value 15 (150 study hours)
Delivery PGT L7, Campus-based
Reading List [View on UCL website]
Tutor Dr Wendel Sebastian
Term Term 1
Timetable [View on UCL website]
to use parametric analysis for optimising indeterminate structural spans;
to become familiar with material and geometric nonlinear analyses of simple structures;
Advanced Structural Analysis (CEGE0046)

**Description**

Outline:
This module uses exciting practical applications to introduce different forms of advanced structural analysis.

In all cases the emergence of structural analysis as an amalgam of material behaviour, equilibrium and compatibility considerations is emphasised;

The practical applications are timber-concrete composites (where slip analysis is the key), double-stiffness hyperstatic spans (where moment optimisation analysis via manipulation of stiffness distributions is the key) and FRP-plated reinforced concrete sections (where analysis to show the effect of material nonlinearities on plated section behaviour is key);

All three topics are assessed via a 2 hour exam at the end of the academic year, and there is also coursework on the first topic to complement (not duplicate) the learning done in preparation for the exam.

The split is exam 70% and coursework 30%;

Aims and Learning Outcomes:

The primary aim of the course is to foster a confidence in and enjoyment of structural mechanics;

other learning outcomes are essentially a means to this end;

Learning Outcomes:

to familiarise students with the process of modelling timber concrete composites (TCCs), including the effects of timber-to-concrete slip.

The 2018-19 coursework (different from the 2017-18 coursework) will be on a TCC floor;

to acquire the ability to appreciate and assess the role and adequacy of the timber-to-concrete connections;

**Key information**

- **Year**: 2018/19
- **Credit value**: 15 (150 study hours)
- **Delivery**: UGM L7, Campus-based
- **Reading List**: View on UCL website
- **Tutor**: Dr Wendel Sebastian
- **Term**: Term 1
- **Timetable**: View on UCL website

**Assessment**

BAD ASSESSMENT DATA

**Find out more**

For more information about the department, programmes, relevant open days and to browse other modules, visit ucl.ac.uk
to use parametric analysis for optimising indeterminate structural spans;
to become familiar with material and geometric nonlinear analyses of simple structures;