

Advanced Civil Engineering Materials (CEGE0057)

Description

Aims:

The overall aim of the module is to provide students with detailed knowledge on advanced construction and building materials used in civil infrastructure, such as sustainability of materials, mechanisms of fracture and failure, fibre reinforced composites, advanced concrete, advanced steel, and advanced engineered wood products. The composition, characteristics, properties and performance of these materials will be introduced in detail, and their availability, cost and their use in civil engineering will be discussed as well, based on which the students will develop the ability to make professional decisions about materials selection for civil engineering design within a practical context.

Learning outcomes:

By the end of the module students will be able to:

- Describe the chemical composition and structure of different advanced civil engineering materials;
- Discuss their physical and mechanical properties, and durability;
- Explain their performance under different loading and environmental conditions;
- Analyse their availability, cost and embodied energy;
- Identify their manufacture, products and applications in civil infrastructure;
- Explain the materials selection process for civil engineering industry;
- Discuss how to make appropriate decisions about materials selection for civil engineering design

Key information

Year	2019/20
Credit value	15 (150 study hours)
Delivery	PGT L7, Campus-based
Reading List	View on UCL website
Tutor	Dr Mingzhong Zhang
Term	Term 2
Timetable	View on UCL website

Assessment



- Coursework: 20%
- Written examination (main exam period): 80%

Find out more

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

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