Civil, Environmental and Geomatic Engineering

Materials and Applied Fluid Mechanics I (CEGE0108)

Description

The module aims to provide knowledge and understanding of fundamental principles of materials and fluid mechanics and to teach how to use these principles in civil engineering practice through linkage to the Civil Engineering Design Module. The module helps students to fit understanding of fluids and materials into the bigger engineering picture. It provides intellectual, practical and transferable skills that will allow students to develop careers in civil engineering.

The module delivers the following learning outcomes:

Fluid Mechanics
1. Understanding forces acting on a fluid volume and basic principles of fluid motion
2. Using a 1D continuity equation for calculating fluid velocities and flow rates.
3. Understanding of hydrostatics and its applications
4. Understanding energy conservation in fluids and applications of Bernoulli equation
5. Application of steady flow energy equation to calculate flows in pipes and pipelines.

Materials
1. Understanding of the mechanical behaviour of materials, including: elastic and plastic deformation, fracture, impact, creep, fatigue and mechanical testing;
2. Understand the structure of metals, polymers and ceramics and comparison of their properties;
4. Develop the following transferable skills: problem solving, laboratory skills, presenting information textually and graphically.

Key information

Year 2019/20
Credit value 15 (150 study hours)
Delivery UG L4, Campus-based
Reading List View on UCL website
Tutor Dr Eugeny Buldakov
Term Terms 1 and 2
Timetable View on UCL website

Assessment

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 August 2019. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.