

Offshore and Coastal Engineering (CEGE0023)

Description

This module focusses on the engineering concerns specific to the regions of the ocean near the coastline. It covers marine hydrodynamics and techniques to model waves, erosion and other coastal and offshore processes. The coursework project will relate to topics such as the design of coastal or offshore structures, options for use of an area of seabed, design of offshore renewable energy facilities and coastal defence planning for a region of the UK. The course includes a one-day field trip to the Sussex coast.

Learning outcomes

At the end of the course, students should be able to:

- derive 1st order theory for oscillatory water waves;
- calculate the effects of wave refraction, shoaling, reflection, diffraction;
- analyse wave data to determine parameters describing wave height and period;
- predict extreme wave events for design purposes from wave data;
- know how to predict tide levels, changes in Mean Sea Level, storm surge, and tidal currents;
- calculate scales for hydraulic modelling and be aware of scale effects;
- understand the processes of cliff recession and coastal morphology;
- understand beach processes, sediment transport and scour;
- outline options for coastal defence;
- calculate wave and current loads on simple structures;
- design basic coastal and offshore structures.

Key information

Year	2019/20
Credit value	15 (150 study hours)
Delivery	UG L6, Campus-based
Reading List	View on UCL website
Tutor	Dr Eugeny Buldakov
Term	Term 1
Timetable	View on UCL website

Assessment

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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Year	2019/20
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Delivery	PGT L7, Campus-based
Reading List	View on UCL website
Tutor	Dr Eugeny Buldakov
Term	Term 1
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