Module Specification

Coastal Engineering

Version: 2027-28, v3.0, Approved

Contents

Part 1: Information

Module title: Coastal Engineering

Module code: UBGL6A-15-M

Level: Level 7

For implementation from: 2027-28

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Arts, Technology and Environment

School: CATE School of Engineering

Partner institutions: None

Field: Engineering, Design and Mathematics

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module introduces students to the key coastal parameters required in the assessment of overtopping and wave forces in the nearshore zone. These are used in standard design approaches to assess potential coastal flood levels and sustainable defence options utilized in coastal zone management.

Features: Not applicable

Educational aims: This module introduces the students to the key coastal parameters used to assess coastal processes, and how these are used in both hard and soft engineering techniques to protect coastlines and coastal communities against flooding and erosion.

Outline syllabus: Tides, surges and mean sea levels
Waves
Extreme value analysis
Introduction to joint probability
Overtopping and defence schematisation
Design parameters in coastal defence
Options appraisal
Wave and tidal energy
Soft engineering
Sediment transport in the coastal zone
Field trip

Part 3: Teaching and learning methods

Teaching and learning methods: Teaching methods on this module will involve lectures and tutorials as well as a coastal site visit.
Independent learning will include reading based on posted links as well as preparation and completion of the assessment.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 To interpret the different coastal parameters in the nearshore zone and how they can be used in design.

MO2 To carry out an assessment or design of a coastal defence structure and assess different options for the protection of a coastline against erosion and flooding.

MO3 To appreciate sustainable alternatives of coastal zone management.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 98 hours

Face-to-face learning = 52 hours

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://rl.talis.com/3/uwe/lists/60A477A9-F10C-57CF-D469-3A9441BFCD22.html?lang=en&login=1

Part 4: Assessment

Assessment strategy: The assessment for this module will consist of two tasks, which are:

A report outlining the determination of design parameters of a coastal defence structure of the student's choice in England based on available nearshore wave and sea level datasets produced as part of the England National Flood Risk Assessment. The design will draw on all the lectures given on this course.

A reflective presentation outlining the different options that could be used to protect the coastline chosen by the study, as well as how they have used the data available for this study.

Resit assessment is the same as the first sit.

Assessment tasks:

Portfolio (First Sit)
Description: A Portfolio compised out of the following:
Report (3000 words). The determination of the design parameters of a coastal defence structure of the student's choice in England based on available nearshore wave and sea level datasets produced as part of the England National Flood Risk Assessment. The design will draw on all the lectures given on this course.
A reflective presentation (10 mins) outlining the different options that could be used

to protect the coastline chosen by the student, as well as how they have used the data available for this study.
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Portfolio (Resit)
Description: A Portfolio compised out of the following:
Report (3000 words). The determination of the design parameters of a coastal defence structure of the student's choice in England based on available nearshore wave and sea level datasets produced as part of the England National Flood Risk Assessment. The design will draw on all the lectures given on this course.
A reflective presentation (10 mins) outlining the different options that could be used to protect the coastline chosen by the student, as well as how they have used the data available for this study.
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Civil Engineering [Frenchay] MEng 2024-25

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