



## **Module Specification**

### **Coastal Engineering**

Version: 2027-28, v2.0, 02 Aug 2023

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## 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 Architecture and Environment

**Partner institutions:** None

**Field:**

**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.

**MO3** To assess different options for the protection of a coastline against erosion and flooding.

**MO4** To appreciate sustainable alternatives of coastal zone management.

**Hours to be allocated:** 150

**Contact hours:**

Independent study/self-guided study = 98 hours

Lectures = 30 hours

Total = 150

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

**Report (First Sit)**

Description: 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.

Weighting: 60 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

### **Presentation (First Sit)**

Description: 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: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3

### **Report (Resit)**

Description: 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.

Weighting: 60 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

### **Presentation (Resit)**

Description: A recording of 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: 40 %

Final assessment: No

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