



Module Specification

Coastal and Port Engineering

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Part 1: Information

Module title: Coastal and Port Engineering

Module code: UBGMU7-15-M

Level: Level 7

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Geography & Environmental Mgmt

Partner institutions: Northshore College of Business and Technology

Field: Geography and Environmental Management

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: Not applicable

Features: Not applicable

Educational aims: This module will be delivered by means of a series of lectures, tutorials, workshops and site visits.

Outline syllabus: Coastal Environment: Introduction to the dynamic coastal environment, Tides, Wave generation by wind, Random waves, Probabilistic

description of ocean waves, Wave propagation and forecasting, Wave measurements.

Coastal Hydraulics: Deterministic wave theories, Small amplitude wave theory, Near-shore processes.

Coastal Processes and Coastal Protection: Sediment transport, Beaches, Coastal erosion, Coast Protection Systems, Artificial, natural and hybrid methods, Case histories.

Coastal Zone Management in Sri Lanka: Development of CZM in Sri Lanka, Coastal Hazards and Vulnerability, Environmental Problems and their management, Environmental impact assessment for development projects.

Port and Harbour Engineering: Planning and Design of Fishery harbors and Commercial Ports.

Coastal and Harbour Structures: Classification, Important aspects of wave-structure interaction, Rock and concrete armoured breakwaters, Design of Rock armoured rubble mound breakwaters. Experimental investigations to support the design process. Wave forces on cylindrical piles and vertical walls.

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled learning includes lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops; fieldwork; external visits; work based learning; supervised time in studio/workshop.

Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc.

Student time will be allocated as follows:

Lectures: 54 hours

Tutorials/Workshop: 18 hours

Directed learning: 09 hours

Summative assessment: 23 hours

Self directed learning: 46 hours

Total student hours: 150 hours

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

MO1 Demonstrate an in-depth knowledge on the dynamic coastal environment and the associated hydraulic regimes.

MO2 Critically analyse the impact of near shore processes and in response design rock armoured rubble mound structures and compute forces on piled vertical structures.

MO3 Demonstrate an in-depth knowledge of the principles of Coastal Zone Management and its application.

MO4 Critically analyse coast protection schemes and select from a range, appropriate coast protection schemes for given hazard scenario.

MO5 Demonstrate the ability to plan and layout harbours and select appropriate structures.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 78 hours

Face-to-face learning = 72 hours

Total = 150

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/index.html) via the following link <https://uwe.rl.talis.com/index.html>

Part 4: Assessment

Assessment strategy: Assessment is based on a written examination and a project report.

The strategy has been chosen to ensure that fundamental engineering principles are assessed under controlled conditions, while a more open ended research based assignments are used to encourage wider engagement and reflection on this topic. Learning outcomes related to the principles and analysis of Coastal & Port Engineering topics are assessed with the 2.5 hr examination. Learning outcomes related to planning, design, management and applications are assessed by a project report and students are expected to submit individual reports.

Formative feedback for the exam is available via tutorial worksheets. For the project formative feedback is available via introductory and follow-up tutorials.

Students are encouraged to attend all tutorial sessions and project sessions, which provide them the opportunity to gain formative feedback.

Assessment tasks:

Examination (First Sit)

Description: Examination (150 minutes)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Project (First Sit)

Description: Project report (3000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4, MO5

Examination (Resit)

Description: Examination (150 minutes)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested:

Project (Resit)

Description: Project report (3000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested:

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Civil Engineering [Jan][FT][Northshore][4yrs] - Not Running MEng 2020-21