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OCEAN AND COASTAL ENGINEERING (LECTURE NOTES)

CREATED BY: Ts. Dr. Teh Hee Min

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VEB4233 COASTAL PLANNING AND MANAGEMENT



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BIOGRAPHY OF AUTHOR

Hee Min Teh is a Senior Lecturer at Universiti Teknologi PETRONAS, Malaysia. He graduated from Universiti Teknologi Malaysia with a bachelor's degree in civil engineering in 2000. He further pursued a master's degree in coastal and maritime engineering and graduated from the same university in 2003. He was then awarded a PhD in coastal engineering from the University of Edinburgh in 2013. His main research interests are hydrodynamics of coastal structures, wave and storm surge modelling, renewable wave energy and physical modeling. Dr. Teh secured 13 international, national and internal research grants amounting to a total of about RM2 million. He owns an IP of a floating breakwater design that won him several international awards. He published more than 70 journals and conference articles. He is also the reviewer of a number of international journals and research proposals. He is the IMarEST Chartered Engineer since 2013.

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PREFACE

Coastal Planning and Management is one of the courses of Coastal Engineering elective offered by Civil Engineering Programme. The course is taken by the final year undergraduate Civil Engineering students of Universiti Teknologi PETRONAS (UTP). This 4 ECTS (approximately 3 credit hours) course aspires to introduce the important frameworks in coastal planning and management and to develop further understanding and knowledge related to coastal zone sustainability. There are five topics altogether in this course, namely (1) introduction to coastal planning and management, (2) coastal classification and causes of coastal erosion, (3) planning concept in the coastal zones, (4) coastal stabilization schemes, and (5) hydraulic study for shoreline management. The MARE subtopics on dredging and land reclamation as well as marine pollution have been included in the syllabus. Coastal Planning and Management is a subject that requires interactive discussions, sharing of exciting examples and case studies for enhanced understanding and appreciation. This skill is developed through series of lectures/modules, discussion related to case studies during execution of project assigned. Transferred skill to be assessed by project report, test and final examination. A problem-based learning will be implemented in the class. An adjunct lecture and a field trip will also be conducted to expose the students to the real coastal management projects in Malaysia.

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LIST OF THE TLM AVAILABLE:

The course was delivered using the online mode during COVID pandemic.

(a) List of Lecture Notes

Lesson1-Overview

Lesson2-Meteorological Parameters & Field Measurement

Lesson3-Coastal Classification, Hydrodynamics & Erosion

Lesson4-Coastal Protection & Stabilization

Lesson5-Hydraulic Study for Shoreline Management

Lesson6-Coastal Planning

Lesson7-Dredging, Reclamation & Marine Pollution Control

(b) Video

Nil

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