

Course G1466: COASTAL ENGINEERING

GENERAL INFORMATION

Spring Semester
6 ECTS credits

INSTRUCTOR(S)

RAÚL MEDINA (raul.medina@unican.es) Catedrático de Universidad. Departamento de Ciencias y Técnicas del Agua y del Medio Ambiente.

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Description

The aim of this course is to provide the student with the knowledge for the design, construction and management of coastal works, and more specifically those devoted to coastal protection against erosion and beach nourishment and restoration. The course is divided into three main sections. The first one is focused on the understanding of coastal processes, the second is devoted to the conceptual models and formulations used in engineering designs, the third one deepens on several hot topics related with shore protection and coastal management.

TEXTBOOK

Textbook: *Introduction to Coastal Engineering & Management. J.W. Kamphuis.*

SYLLABUS

1. Introduction, course overview
2. Water Waves
3. Short-Term Wave Analysis
4. Long-Term Wave Analysis
5. Wave Generation
6. Tides and Water Levels
7. Wave Transformation and Breaking
8. Design of Coastal Structures
9. Breakwaters and jetties
10. Coastal Sediment Transport
11. Basic Shore Processes
12. Coastal Design and Shore Protection
13. Coastal Management