



CE 482	Design of Coastal Protection Structures				
Semester	Course Unit Code	Course Unit Title	L+P	Credit	Number of ECTS Credits
8	CE 482	Design of Coastal Protection Structures	3+0	3	5

Type of Course Unit:

Design Elective

The objective of the Course:

The objective of this course is to describe briefly the essential wave hydrodynamics based on the small amplitude wave theory, the generation and propagation of wind waves, the nature of random waves, and wave-structure interactions. To determine the design wave characteristics in front of the coastal protection structures and to compute the wave-related hydrodynamic pressures and forces on them. To calculate wave overtopping discharges on the coastal protection structures. Discuss various types of coastal protection structures; Dikes, Revetments, Groins, Detached Breakwaters, Sill or Submerged breakwaters, Beach Nourishments

Content of the Course:

Wave climate, Overtopping, Wave force, and Pressure, Coastal Protection Structures; Sea Walls, Dikes, Revetments, Groins, Detached Breakwaters, Sill or Submerged breakwaters, Beach Nourishments

Prerequisites and co-requisites:

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Course Lecturers:

Asst. Prof. Dr. Doğan Kısacık

Recommended or Required Reading

1. Pullen, T. et al. EurOtop: Wave Overtopping of Sea Defenses and Related Structures: Assessment Manual (Die Kuste version). Kuste (2007).
2. Coastal Engineering Manual. Washington, D.C.: U.S. Army Corps of Engineers, 2006.
3. CIRIA; CUR; CETMEF, The Rock Manual. The use of rock in hydraulic engineering (2nd edition), C683, CIRIA, London (2007)

Weekly Detailed Course Contents

1	Introduction to Design of Coastal Protection Structures
2	Wave climate and design wave selection
3	Wave structure interaction
4	Wave overtopping
5	Seawalls
6	Seawalls
7	Dikes
8	Dikes
9	Revetments
10	Revetments
11	Groins
12	Detached Breakwaters
13	Sill or Submerged breakwaters
14	Soft measures: Beach nourishments

Assessment Method and Criteria

In-Term Studies	Quantity	Percentage
Midterm exams	1	% 30
Projects	1	% 30
Final examination	1	% 40
Total		% 100