IZTECH CIVIL ENGINEERING DEPARTMENT

CE 480 DESIGN OF COASTAL STRUCTURES /SPRING 2025-2026

COURSE OUTLINE

Objective:
The objective of the course is introduction to the field of coastal engineering and to learn the basic principles of the design of coastal structures.

Text Book:
Ergin A. (2009) Coastal Engineering, METU Press
Goda, Y. (2010), 'Random Seas and Design of Maritime Structures', Advanced Series of Ocean Engineering, Volume 33, World Scientific.

References:
- Kıyı Yapıları Planlama ve Tasarım İlkeleri (2016) Ulaştırma Bakanlığı, Altyapı Yatırımları Genel Müdürlüğü, https://aygm.uab.gov.tr/uploads/pages/kiyi-yapilari-planlama-ve-tasarim-teknik-esaslari/teknikesas.pdf
- Türkiye Kiyi Ve Liman Yapilari Deprem Yönetmeliği (2020) Ulaştırma Bakanlığı, Altyapı Yatırımları Genel Müdürlüğü, https://www.resmigazete.gov.tr/eskiler/2020/10/20201006M1-
- 'Coastal Engineering Manual' (2003), Coastal Engineering Research Center, Dept. of Army Corps of Engineers, US
- Özhan, E., Abdalla, S., (2003) 'Wind and Wave Atlas for Turkish Coasts' METU

Course Topics:
- Introduction to coastal engineering and coastal structures
- Harbor location selection
- Wave parameters and classification
- Review of small amplitude wave theory
- Wave prediction
- Design wave selection
- Wave transformation
- Harbor lay-out
- Design of harbor structures (breakwaters)
- Design of harbor structures (quays)
- Technical visit to a port or marina

Class Requirements:
- 3 hours per week
- One midterm exam (50%)
- Project (6 assignments)(30%)
- Final report and presentation (20%)

Computer Usage:
Students will use at least Ms-Office programs (excel, word) while making assignments. The writing code will be a plus.

Instructor:
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