

IM 450 INTRODUCTION TO COASTAL ENGINEERING		CIVIL ENGINEERING	
Semester	Credit Structure		
	Lecture	Recitation	Laboratory
7	3	0	0
Language	English		
Compulsory / Elective	Elective		
Prerequisites	-		
Catalog Description	Introduction to Coastal Engineering and Fields of The Coastal Engineering Applications. Principles and Concepts of the Coastal Hydraulics. Linear Wave Theory. Classification of Water Waves. Wave Processes. Wave Energy and Pressure. Wave Statistics. Irregular Waves and Prediction of the Wind Waves. Interaction of Waves and Structures. Design of the Breakwaters.		
Course Objectives	Introduce the fundamental principles of coastal hydraulics and coastal engineering. Provide the basic knowledge essential for civil engineers whose are planning to have a role in development, protection and conservation of coastal environments.		
Course Outcomes	Application ability of basic coastal engineering knowledge in civil engineering for the design of coastal structures, planning and protection of coastal environments.		
Textbook and /or References	R. G. Dean, A. R. Dalrymple, 1984, Water Wave Mechanics for Engineers and Scientists, Advanced Series on Ocean Engineering, World Scientific International Publishing, ISBN: 981-02-0420-5. K. Horikawa, 1978, Coastal Engineering: An Introduction to Ocean Engineering, University of Tokyo Press, Japan. Shore Protection Manual, 1984, U. A. Army Coastal Engineering Research Center, Fourth Edition, Washington, D. C., USA. Y. Goda, 1985, Random Seas and Design of Maritime Structures, University of Tokyo Press, Japan. Y. Yüksel, 1998, Kıyı Mühendisliği, İnşaat Mühendisleri Odası, Ankara		
Assessment Criteria		Quantity	Percentage
	Midterm Exams	2	20- 20
	Quizzes	-	
	Homeworks	5	10
	Projects	-	-
	Term Paper	-	-
	Laboratory Work	-	-
	Other	-	-
	Final Exam	1	50
Course Category by Content (%)	Mathematics and Basic Sciences	% 20	
	Engineering Science	% 70	
	Engineering Design	% 10	
	Social Sciences	-	
Instructor	Prof. Dr. Can E. BALAS		

COURSE PLAN	
Week	Topics
1	Introduction to Coastal Engineering
2	Basic Principles and Concepts of Coastal Engineering
3	Basic Principles and Concepts of Coastal Engineering
4	Coastal Hydraulics
5	Coastal Hydraulics
6	Coastal Hydraulics
7	Coastal Hydraulics
8	Wind Waves
9	Wind Waves
10	Wind Waves
11	Interaction of Waves and Structures
12	Interaction of Waves and Structures
13	Design of Breakwaters
14	Design of Breakwaters

RELATIONSHIP BETWEEN THE COURSE AND DEPARTMENT CURRICULUM				
	Program Outcomes	1	2	3
1	An ability to apply knowledge of mathematics, science, and engineering			X
2	An ability to design and conduct experiments, as well as to analyze and interpret data		X	
3	An ability to design a system, component, or process to meet desired needs			X
4	An ability to function on multi-disciplinary teams			X
5	An ability to identify, formulate, and solve engineering problems			X
6	An understanding of professional and ethical responsibility		X	
7	An ability for effective written and oral communication in Turkish and English		X	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context			X
9	A recognition of the need for, and ability to engage in life-long learning		X	
10	A knowledge of contemporary issues		X	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice			X
Contribution of the course : 1:None 2:Partially 3:Completely				