

Code : INS3222		Course Name : Introduction to Coastal Hydraulics						
Year	Semester	Group(s)	Language	Lecture	Prac	Lab	Credit	ECTS
2019-2020	Spring	2	English	3	0	0	3	4
Course Type		Basic Sciences <input type="checkbox"/>	Engineering <input type="checkbox"/>	Technical Elective <input checked="" type="checkbox"/>		Non-Technical Elective <input type="checkbox"/>		
Prerequisites		Fluid Mechanics 0422212						
Coordinator*		Assoc. Prof. Dr. Yeşim Çelikoğlu						
Instructor		Assoc. Prof. Dr. H. Anıl Güner						
Aims		The course is designed to give an introduction to the profession and to provide students with a basic understanding of the wave environment, wave forces and coastal structures.						
Course Content		General/ Introduction to Wave Mechanics / Wave Climate and Statistics / Coastal Protection / Wave Loads on Coastal Structures / Breakwaters / Submarine Pipelines						
Knowledge and Skills		<ul style="list-style-type: none"> To gain the basic knowledge about the structures like seawalls, breakwaters, coastal defense structures and submarine pipelines To understand the importance of the subject 						
References		<ol style="list-style-type: none"> Kıyı Mühendisliği, 2016, Y. Yüksel, E. Çevik, BETA yayınevi, 2. Baskı Hydrodynamics of Coastal Regions, IB. A. Svendsen and I.G. Jonsson Hydraulic Structures, Novak, P., Moffat, A.I.B., Nalluri, C., Narayanan, R.,(2001) Basic Coastal Engineering, Sorensen, R.M., (2006) CEM (2003) 						
Assignments and Projects		<ol style="list-style-type: none"> Wave mechanics Wave Transformations Wave Statistics, Breakwaters Term Paper 						
Laboratories								
Computer codes								
Other Activities		Site visits						
Contribution of The Course Towards Providing Professional Education		<ol style="list-style-type: none"> Students will learn wave characteristics. To gain knowledge on coastal engineering concepts towards sustainable use of natural resources in coastal and marine environments. To gain principle knowledge in the planning, design, building and monitoring of coastal engineering applications. To examine environmental factors in coastal and maritime engineering. To gain an ability of determination, monitoring and discussion of coastal and maritime engineering issues. 						

Success Evaluation

Theoretical Courses			Projects		
	Number	Weight (%)		Number	Weight (%)
Midterms	1	60*(0.80)	Midterms		
Quizzes	-		Controls		
Assignments	5	60*(0.15)	Mid-submission		
Term paper (project, report, etc)	1	60*(0.05)	Oral examination		
Laboratories			Others	-	
Others			Final		
Final	1	40			

Subjects

1. Week	Introduction, Definition of Coastal Areas,
2. Week	Classification of Water Waves, Wave Characteristics
3. Week	Assumptions on Wave Theories, Linear Wave Theory, Wave Form, Propagating Wave, Hyperbolic Functions
4. Week	Wave Celerity, Wave Kinematics
5. Week	Pressure Distribution, Wave Energy, Energy Flux HOMEWORK 1
6. Week	Wave Transformations; Shoaling, Refraction
7. Week	Wave Transformations; Shoaling, Refraction
8. Week	MIDTERM
9. Week	Wave Transformations; Reflection, Diffraction, Wave Breaking
10. Week	Wave Transformations; Wave Breaking HOMEWORK 2
11. Week	Wave Climate and Statistics; Wave generation, Wave forecasting HOMEWORK 3
12. Week	Breakwaters, Rubble Mound Breakwaters, Wave Run-up HOMEWORK 4
13. Week	Seabed Hydrodynamics and Coastal Protection HOMEWORK 5
14. Week	TERM PAPER

FORM 3: COMMUNICATION**Page 3**

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Groups	Time and Place	Instructor	Office Number	Office Hours	E-mail	Web
2	Monday 10 ⁰⁰ -13 ⁰⁰ F1-101	Assoc. Prof. Dr. H. Anıl Güner	H Blok- 04	Tuesday 14 ⁰⁰ -15 ⁰⁰	aari@yildiz.edu.tr	www.inm.yildiz.edu.tr