COASTAL HYDRODYNAMICS										
1	Course Title:	COASTAL HYDRODYNAMICS								
2	Course Code:	INS5261								
3	Type of Course:	Optional								
4	Level of Course:	Second	Cycle							
5	Year of Study:	1								
6	Semester:	1								
7	ECTS Credits Allocated:	7.50								
8	Theoretical (hour/week):	3.00								
9	Practice (hour/week):	0.00								
10	Laboratory (hour/week):	0								
11	Prerequisites:	None								
12	Language:	Turkish								
13	Mode of Delivery:	Face to face								
14	Course Coordinator:	Prof. Dr. Adem Akpınar								
15	Course Lecturers:									
16	Contact information of the Course Coordinator:	ademakpinar@uludag.edu.tr 0224 24 09 04								
17	Website:									
18	Objective of the Course:	To teach and develop basic understanding of the physical processes that are of engineering and environmental importance in coastal regions, and to acquire engineering skills needed to solve coastal problems, such as sediment transport and beach erosion, coastal protection, navigation and structure design, coastal floods and water quality control.								
19	Contribution of the Course to Professional Development:	To teach and develop basic understanding of the physical processes that are of engineering and environmental importance in coastal regions, and to acquire engineering skills needed to solve coastal problems, such as sediment transport and beach erosion, coastal protection, navigation and structure design, coastal floods and water quality control.								
20	Learning Outcomes:									
		1	Be able to learn the wave mechanics.							
		2	Be able to have general knowledge about computations and processes of wave transformation in near-shore.							
		3	Be able to learn the mechanism of wind-wave generation.							
		4	Be able to have general knowledge about applications regarding wave hydrodynamics.							
		5	Be able to learn the application studies regarding coastal protection.							
		6	Be able to have general knowledge about wave loadings on structures							
		7								
		8								
		9								
		10								
21	Course Content:									
Course Content:										

Theoretical sediment transport Practicals/Labs 0 0.00 0.00 Self study and preparation Toythooks References and/or Other Homeworks Projects Projects Field Studies 0 0.00 0.00 Midtern exams I be H HOI THI II ISEN Waves in Oceanic and Others Total Work Load Total work load/30 hr Total work load/30 hr Total work load/30 hr Total work load/30 hr	Week	Theoretical		Practice							
shoaling, refraction, diffraction, reflection, breaking, wave run-up and down 3 Wave Transformation in Near-shore; shoaling, refraction, diffraction, reflection, breaking, wave run-up and down 4 Wave Transformation in Near-shore; shoaling, refraction, diffraction, reflection, breaking, wave run-up and down 5 Random waves; wave statistics 6 Wind-wave generation; hindcast and forecast of wind-wave characteristics 7 Wind-wave generation; hindcast and forecast of wind-wave characteristics 8 Shallow-water Dynamics; longshore and cross-shore currents, storm surge, coastal water level fluctuations 9 Wave loading on structures 10 Wave loading on structures 11 Coastal contaction structures 12 Activities Number Duration (hour) To Lo Theore Idiational sediment transport 14 3.00 42 Practicals/Labs 0 0.00 0.00 24 Activities		introduction to water waves, linear waves and wave theory; kinematics, pressure, wave energy and power, w									
shoaling, refraction, diffraction, reflection, breaking, wave run-up and down 4	_	shoaling, refraction, diffraction, reflection									
shoaling, refraction, diffraction, reflection, breaking, wave run-up and down 5 Random waves; wave statistics 6 Wind-wave generation; hindcast and forecast of wind-wave characteristics 7 Wind-wave generation; hindcast and forecast of wind-wave characteristics 8 Shallow-water Dynamics; longshore and cross-shore currents, storm surge, coastal water level fluctuations 9 Wave loading on structures 10 Wave loading on structures 11 Cagetal protection etwetures brookwater Activites Number Duration (hour) To Lo Theore lutteral sediment transport 14 3.00 42. Practicals/Labs 0 0.00 Self study and preparation Homeworks 0 0.00 0.00 0.00 0.00 Midtern exams Dirigions Scientists, Weigd Scientific. 10 Work Load Others 0 0.00 0		shoaling, refraction, diffraction, reflection									
6 Wind-wave generation; hindcast and forecast of wind-wave characteristics 7 Wind-wave generation; hindcast and forecast of wind-wave characteristics 8 Shallow-water Dynamics; longshore and cross-shore currents, storm surge, coastal water level fluctuations 9 Wave loading on structures 10 Wave loading on structures 11 Coastal protection etrustures: breakwater Activities Number Duration (hour) To Lo Theoretical protection etrustures: breakwater Activities Number Duration (hour) To Lo Self-study and preparation of the study and p		shoaling, refraction, diffraction, reflection									
of wind-wave generation; hindcast and forecast of wind-wave generation; hindcast and forecast of wind-wave characteristics 8	5	Random waves; wave statistics									
Shallow-water Dynamics; longshore and cross-shore currents, storm surge, coastal water level fluctuations Wave loading on structures 10 Wave loading on structures 11 Coastal extection structures: breakwater. Activities Number Duration (hour) To Lo Coastal water level fluctuations of the coastal extension of the co			forecast								
cross-shore currents, storm surge, coastal water level fluctuations 9 Wave loading on structures 10 Wave loading on structures Activites Number Duration (hour) Total Variety and preparation 14 3.00 42. Practicals/Labs O 0.00 0.00 Celf study and preparation 14 13.00 0.00 Colf study and preparation 15 Vilked EÖ Cavik 2000 k.w. Mithandistlat landmarks O 0.00 0.00 Projects Wave loading on structures Variety and preparation 17 Vilked EÖ Cavik 2000 k.w. Mithandistlat landmarks O 0.00 0.00 Projects Warmy Corps of Engineers, Coastal Engineers Field Studies O 0.00 0.00 Midtern exams Lagineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, Vigid Scientific, 2.00 Lab H HOLTHILLISEN Waves in Oceanic and Engineers & Scientists, 2.00 Daminic REEVE, Andre W. G. JADWILLK, and 7.00 Lab H HOLTHILLISEN Waves in Oceanic and 1.00 Lab H HOLTHILLISEN Waves in Oceanic and 1.00 Daminic REEVE, Andre W. G. JADWILLK, and 7.00 Lab H HOLTHILLISEN Waves in Oceanic and 1.00 Daminic REEVE, Andre W. Jaw H Holthill M. Jaw H			forecast								
Number Duration (hour) To Lo		cross-shore currents, storm surge, cowater level fluctuations									
Activites Number Duration (hour) To Lo	9	Wave loading on structures									
Activites Number Duration (hour) To Lo	_										
Practicals/Labs 0 0.00 0.00 Self study and preparation Homeworks Projects Projects Projects Pield Studies Projects Pro			<u>rator</u>		Number	Duration (hour)	ur) Total Work Load (hour)				
Self-study and preparation Homeworks 0 0.00 0.00 Projects Field Studies 0 0.00 0.00 Midtern exams Chers 0 0.00 0.00 Final Exams Total Work Load Total work load/ 30 hr ECTS Credit of the Course Textwice Rate of the Course Total Exam 1 40.00 Ridtern Exam 1 40.00 Quiz 0 0.00 Final Exam 1 60.00 Contribution of Term (Year) Learning Activities to 40.00	Th e3 ret	tld ∉ bral sediment transport			14	3.00	42.00				
Homeworks Projects Field Studies O O O O Midtern exams O Final Exams Total Work Load Total work load/ 30 hr ECTS Credit of the Course Term Learning Activities Midtern Exam O O O O O O O O O O O O O	Practica	als/Labs			0	0.00	0.00				
Homeworks	Self stu	dy and preperation Textbooks, References and/or Other		V	14 Vüksel EÖ Cevik 200	13.00 9: Kıyı Mühendisli	182.00				
Field Studies					0		0.00				
Field Studies	Projects	S		US Army Corps of Engingers, Coastal Engineering							
Others 0 0.00 0.00 Final Exams	Field St	rudies			0	0.00	0.00				
Others 0 0.00 0.00 Final Exams	Midtern	n exams		F	ngineers & Scientists,	World Scientific. Waves in Oceanic	2.00 and Coastal				
Total Work Load	Others				0	0.00	0.00				
Total Work Load	Final Ex	kams		D F	ominic REEVE, Andre EMING, Coastal Engi	w GHADWICK, and neering: Processes	Christopher Theory and				
ECTS Credit of the Course Table T	Total W	ork Load					230.00				
Midterm Exam 1 40.00 Quiz 0 0.00 Home work-project 0 0.00 Final Exam 1 60.00 Total 2 100.00 Contribution of Term (Year) Learning Activities to 40.00	Total w	ork load/ 30 hr					7.60				
R Midterm Exam 1 40.00 Quiz 0 0.00 Home work-project 0 0.00 Final Exam 1 60.00 Total 2 100.00 Contribution of Term (Year) Learning Activities to 40.00							7.50				
Quiz 0 0.00 Home work-project 0 0.00 Final Exam 1 60.00 Total 2 100.00 Contribution of Term (Year) Learning Activities to 40.00	I EKIVI L	EARNING ACTIVITIES		**	EIGHT						
Home work-project 0 0.00 Final Exam 1 60.00 Total 2 100.00 Contribution of Term (Year) Learning Activities to 40.00	Midterm	n Exam	1	40.00							
Final Exam 1 60.00 Total 2 100.00 Contribution of Term (Year) Learning Activities to 40.00	Quiz 0				0.00						
Total 2 100.00 Contribution of Term (Year) Learning Activities to 40.00	Home work-project 0				0.00						
Contribution of Term (Year) Learning Activities to 40.00	Final Ex	kam	1	60.00							
	Total		2	100.00							
			es to	40.00							
Contribution of Final Exam to Success Grade 60.00	Contribu	ution of Final Exam to Success Grade)	60.00							
Total 100.00	Total			100.00							
Measurement and Evaluation Techniques Used in the Course Students are assessed with homework that mu personally apply what they have learned in the	1	ement and Evaluation Techniques Us	sed in the								

24 EC	ECTS / WORK LOAD TABLE															
25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16
ÖK1	0	4	0	0	0	0	0	0	0	5	0	0	0	0	0	0
ÖK2	0	4	5	0	0	0	0	0	0	5	0	0	0	0	0	0
ÖK3	0	4	0	0	0	0	0	0	0	5	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	3	0	5	5	0	0	0	0	0	5	0	0	0	0	0	0
ÖK6	3	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib 1 very low ution Level:			2	2 low		3 Medium			4 High			5 Very High				