

## 14. Ocean Dynamics

Module Name	:	Ocean Dynamics		
Module Level	:	Bachelor		
Code, if applicable	:	23H06120503		
Subtitle, if applicable	:	-		
Courses, if applicable	:	Ocean Dynamics		
Semester(s) in which the module is taught	:	III (Third Semester)		
Module coordinator(s)	:	Dr. Sakka, M.Si.		
Lecturer(s)		Dr. Sakka, M.Si.,		
		Dr. Muhammad Alimuddin, Eng.		
Language	:	Bahasa (Indonesian language)		
Relation to curriculum	:	Compulsory course in the second year for Bachelor Degree in Geophysics		
Type of teaching, contact hours	•	This course is delivered through Lectures (i.e., Project/Casebased learning), complemented by structured assignments (paper review, project/case evaluation) and independent study. Contact hours consist of 150 minutes lectures per week, plus 180 minutes per week for each of the following: structured assignments and independent study		
Workload	:	Total workload is 135 hours per semester, consisting of 38 hours for lectures, and 48.5 hours each for structured assignments and independent study		
Credit points	:	3 SKS (4.8 ECTS)		
Requirements according to the examination regulations	:	Students are eligible to attend the examination if their absences are less than 20% of the lectures		
Recommended prerequisites	:	-		
Module objectives/intended	:	After completion of this module, students will be able to:		
learning outcomes		CLO 1. Students are able to analyze and model processes occurring in marine areas, such as waves, currents, sediment transport, and tidal propagation;		
		The following is the mapping of the ILO and the CLO of this course:		



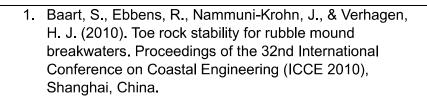
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				ILO 8	ILO 9	ILO 11				
			CLO 1	✓	<b>✓</b>	✓				
Content	1:	1. Ocea	n Wave Th	eory						
		2. Ocea	n Wave Pr	ediction						
		3. Ocea								
		4. Ocea								
		5. Ocean Currents								
Study and examination requirements		Participants are marked based on their performance in theory: Case Study (60%), Written examination (40%)								
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		Students are marked based on their percentage of points obtained and based on the following grade scale:								
			Percentage Achievem		Grade	Conversio Value	on			
			85 – 100	)	А	4.00				
			80 - <85	5	A-	3.75				
			75 - < 80	)	B+	3.5				
			70 - < 75	5	В	3.0				
			65 - < 70	)	B-	2.75				
			60 - < 65	5	C+	2.5				
			50 - < 60	)	С	2.00				
			40 - < 50	)	D	1.00				
			< 40		E	0.00				
					•					
Exams and assessment formats		Assessment in this course consists of case study, a written examination. The case study is conducted individually and requires students to apply theoretical concepts to analyze and make a research proposal, presented in the form of a written report. The written examination ( <i>closed-book</i> , written) evaluates students' understanding of fundamental concepts covered by CLO 1.								
Reading list		Main References:								



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- 2. Horikawa, K. (1988). Nearshore dynamics and coastal processes. Tokyo, Japan: University of Tokyo Press.
- 3. Komar, P. D. (1983). CRC handbook of coastal processes and erosion. Boca Raton, FL: CRC Press, Inc.
- 4. USACE (U.S. Army Corps of Engineers). (1984). Shore protection manual. Washington, DC: Department of the Army, U.S. Army Corps of Engineers.
- 5. USACE (U.S. Army Corps of Engineers). (2003a). Meteorology and wave climate (Part II). Washington, DC: Department of the Army, U.S. Army Corps of Engineers.
- 6. USACE (U.S. Army Corps of Engineers). (2003b). Coastal sediment processes (Part III). Washington, DC: Department of the Army, U.S. Army Corps of Engineers.