University of Gdańsk

Subject card

Subject name and code	Coastal Geodynamics - lecture, PG_00205018						
Field of study	Oceanography						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
Education level	Master's studies		Subject group		Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		2.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Geophysics -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Leszek Łęczyński, prof. UG				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		2.0		18.0	50
Subject objectives	Introduction to the terminology of processes and conditions of coastal formation on the sea coast.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OCEANMU2-U05] is able to use source information in Polish and a chosen foreign language, including archival and electronic databases, within the field of oceanography; critically analyzes and synthesizes information, and is capable of performing critical interpretation and synthesis of data	Can use source information, in Polish and English, including archival and electronic databases, in the field of coastal geodynamics	[SU4] test/exam - oral or written
[OCEANMU2-U02] is able to fluently and accurately use scientific terminology when presenting and discussing oceanographic issues, and to propose and justify innovative solutions	Can fluently and appropriately use current scientific terminology in the field of coastal geodynamics in presenting and discussing problems concerning it	[SU4] test/exam - oral or written
[OCEANMU2-W02] knows and understands complex processes and phenomena occurring in the marine environment, with particular emphasis on the coastal zone, as well as complex relationships between living and non-living elements of the aquatic environment	He knows and understands, to a deeper degree, the course of complex processes and phenomena occurring in the marine environment, with particular emphasis on the coastal zone, as well as the complex interrelationships between animate and inanimate	[SW4] test/exam - oral or written
[OCEANMU2-U04] is ready to develop in an analytical and synthetic way research and analysis results and based on them creating conclusions	Can analytically and synthetically process the results of research and analysis and on their basis make correct conclusions, in the field of coastal geodynamics	[SU4] test/exam - oral or written
[OCEANMU2-W01] knows and understands in-depth specialized terminology used in oceanography and related sciences (in Polish and a selected foreign language)	He/she knows and understands specialist terminology in oceanography and related sciences (in Polish and a selected foreign language) relevant to coastal geodynamics.	[SW4] test/exam - oral or written
[OCEANMU2-W06] knows and identifies potential threats to the marine environment on a local and global scale resulting from strong anthropopressure, predicts their effects on various time and space scales	Knows and identifies potential threats to the marine environment at local and global scales resulting from strong anthropopression, predicts their effects at different spatiotemporal scales, and knows and understands the impact of human activities on coastal geodynamics	[SW4] test/exam - oral or written

Subject contents

Geological conditions of cliff edge formation.Terminology of cliff shores.Surface mass movements.Geodynamics of cliff shores of the Gdańsk region.Characteristics of basic processes of sea dynamics shaping sea shores.Differential and transport of debris in the coastal zone from cliff abrasion.Factors shaping the beach.Aeolian processes: basic mechanisms, sediment movement.Circulation cells and longshore transport.Anthropogenic transformation of the marine coastal zone.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
exam	51.0%	100.0%

Recommended reading	Basic literature	Dubrawski R., 2008, Elementy monitoringu morfodynamicznego polskich brzegów morskich. Zakład Wydawnictw Nauko-wych Instytutu Morskiego w Gdańsku Gudelis W. K., Jemielianow J.M., 1982. Geologia Morza Bałtyckiego, Wyd. Geologiczne, Warszawa Teichman A., i in. 1995.Stateczność i ochrona klifów polskiego wybrzeża. Politechnika Gdańska. Leontiew O. K., Nikiforow L.G., Safinow G.A., 1982. Geomorfologia brzegów morskich, Wyd. Geologiczne, Warszawa Łęczyński L., 2009. Morfolitodynamika przybrzeża Półwyspu Helskiego. Wydawnictwo Uniwersytetu Gdańskiego Subotowicz W., 1982. Litodynamika brzegów klifowych w Polsce, Wyd. GTN, Ossolineum Subotowicz W., 1984. Brzegi klifowe [w:] Pobrzeże Pomorskie, Wyd. GTN, Ossolineum Zawadzka Kahlau E., 1999, Tendencje rozwojowe polskich brzegów Bałtyku południowego. Gdańskie Towarzystwo Naukowe Gdańsk.
	Supplementary literature	Pisarczyk S., 2005. Geoinżynieria metody modyfikacji podłoża gruntowego. Oficyna Wydawnicza Trąbczyński T, Sokołowski K., 2004.Wstęp do mechaniki gruntów. Politechnika Świętokrzyska. Kielce.
	eResources addresses	
Example issues/ example questions/ tasks being completed	-	
Work placement	Not applicable	

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