

Subject card

Subject name and code	Methods of geological research of the seabed (Lecture), PG_00169060						
Field of study	Oceanography						
Date of commencement of studies	October 2022		Academic year of realisation of subject		2024/2025		
Education level	undergraduate studies		Subject group		Obligatory subject group in the field of study Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish polish		
Semester of study	6		ECTS credits		2.0		
Learning profile	academic		Assessment form				
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Dominik Pałgan				
	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		7.0		13.0	50
Subject objectives	To learn and understand the principles of operation and the applicability of basic survey methods in geological investigations of the seafloor.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[OCEANL3-W03] knows and understands, at an advanced level, the relationship between animate and inanimate elements of the aquatic environment, is aware of the complex nature of aquatic environments, their complexity and natural variability	knows and understands to an advanced level the relationship between living and non-living elements of the seafloor, their complexity and natural variability, and knows with which methods they can be studied (Programme content: A.1-A.9)	[SW4] test/exam - oral or written
	[OCEANL3-W02] has an in-depth knowledge and understanding of physical, biological, chemical and geological processes and phenomena occurring in the aquatic environment, with particular emphasis on the marine environment	knows and understands the basic physical, biological, chemical and geological processes and phenomena that have an impact on the application of appropriate methods for the geological exploration of the seafloor (Programme content: A.1-A.9)	[SW4] test/exam - oral or written
	[OCEANL3-U01] is able to use the applicable scientific terminology in the field of oceanography in various forms of expression	is able to use current scientific terminology in presenting and discussion of problems in the field of methods used in geological investigations of the seafloor (Programme content: A.1 - A.9)	[SU4] test/exam - oral or written
	[OCEANL3-W01] knows and understands, at an advanced level, the terminology used in oceanography and related exact and natural sciences (in Polish and selected foreign language)	has an advanced knowledge and understand the terminology related to various types of geological investigations of the seafloor (in Polish, and also with elements of terminology in English) (Programme content: A.1-A.9)	[SW4] test/exam - oral or written
	[OCEANL3-W05] knows at an advanced level the techniques, research methods and tools (mathematical, statistical, IT) used in the work of an oceanographer to describe and interpret processes and phenomena occurring in the marine environment	has an advanced understanding of the techniques, research methods and tools used in geological surveys of the seabed (Programme content: A.1-A.9)	[SW4] test/exam - oral or written
Subject contents	A.1 Terminology used in seafloor surveys and basic legislation. A.2. Basic geology and seafloor genesis. A.3 Overview of direct seafloor investigation methods. A.4. Seafloor field surveys/campaigns. A.5 Basic methods of laboratory work related of seafloor soils. A.6. Review of indirect seafloor investigation methods. A.7. Basic information on the International Ocean Discovery Program (IODP). A.8. Seafloor mapping methods (bathymetry) and the Seabed 2030 project. A.9. Pre-investment seafloor surveys.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written examination with test and open questions (descriptive)	51.0%	100.0%

Recommended reading	Basic literature	Harff, J., Meschede, M., Petersen, S., Thiede, J. (Eds.), 2016, Encyclopedia of Marine Geosciences, Springer, Dordrecht, ISBN Online 978-94-007-6238-1 Hückel S., 1967, Zarys fundamentowania dla geologów. Wydanie II. Wyd. Geol., Warszawa. Hückel S., 1975, Budowle morskie. T. IV. Wykonawstwo robót morskich. Przykłady obliczeń. Wydanie II. Wyd. Morskie, Gdańsk. Kramarska R. (red.), 1999 Mapa geologiczna dna Bałtyku bez utworów czwartorzędowych 1:500 000. Państw. Inst. Geol., Warszawa. Mazurkiewicz B., 1986 Encyklopedia inżynierii morskiej. Wyd. Morskie, Gdańsk. Mazurkiewicz B. (red.), 2006 Morskie budowle hydrotechniczne. Zalecenia do projektowania i wykonywania. Wyd. IV. Fundacja Promocji Przemysłu Okrętowego i Gospodarki Morskiej, Gdańsk. Pruszek Z., 2003 Akweny morskie. Zarys procesów fizycznych i inżynierii środowiska. Wyd. IBW PAN, Gdańsk. Wiłun Z., 2001 Zarys geotechniki. Wyd. Komunikacji i Łączności, Warszawa. Wysokiński L., 2007 Instrukcje, wytyczne, poradniki 428/2007. Komentarz do nowych norm klasyfikacji gruntowej. ITB, Warszawa. Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 24 września 1998 r. w sprawie ustalania geotechnicznych warunków posadawiania obiektów budowlanych (Dz.U. Nr 126 z 1998 r., poz. 839). Rozporządzenie Ministra Gospodarki Morskiej z dnia 23 października 2006 r. w sprawie warunków technicznych użytkowania oraz szczegółowego zakresu kontroli morskich budowli hydrotechnicznych (Dz.U. Nr 206 z 2006 r., poz. 1516).
	Supplementary literature	Hückel S., 1967, Zarys fundamentowania dla geologów. Wydanie II. Wyd. Geol., Warszawa
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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