University of Gdańsk

Subject card

Subject name and code	Introduction to Seabed Morphometry - lecture, PG_00205001		
Field of study	Oceanography		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
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	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	exam
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Jarosław Tęgowski	
	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	Recognition and understanding of methods of bathymetric data processing and quantitative and qualitative description of seabed morphometry.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OCEANMU2-W05] knows and understands the principles of planning and conducting field and laboratory research as well as advanced methods and tools of scientific research, especially in the field of the studied specialty	Is able to use research methods used in oceanography.	[SW4] 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)	Understands processes in the sea and coastal zone	[SW4] test/exam - oral or written
[OCEANMU2-W03] has an in-depth understanding of research methods used in oceanography and related sciences, and interprets their mechanisms and interrelationships across different spatial and temporal scales	Is able to use research methods used in oceanography.	[SW4] 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	Is proficient in oceanographic issues, including marine coastal zone processes	[SW4] test/exam - oral or written

Subject contents

Morphometry as a tool and a scientific sub-discipline.Methodology of bathymetric measurements.Bathymetric data interpolation methods.Uneven bottom surface - Numerical Terrain Model.Morphometric description and morphometric parameters.Seabed relief forms.Elements of statistical analysis of morphometric relief forms.Software used in morphometry.Classification of morphological features of bottom surface and bottom sediments.Morphometric reconstruction of bottom-forming processes - a case study.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
written exam with open questions (tasks)	51.0%	100.0%

Recommended reading

Basic literature	Lucieer, V.L., Lecours, V., Dolan, M.F.J. (eds) 2019. Marine Geomorphometry. MDPI Basel, Switzerland.Hengl, T., Reuter, H.I. (eds) 2008. Geomorphometry: Concepts, Software, Applications. Developments in Soil Science, vol. 33, Elsevier, 772 pp.Harris, P.T, Baker, E.K. (eds) 2012. Seafloor Geomorphology as Benthic Habitat. GeoHAB Atlas of Seafloor Geomorphic Features and BenthicHabitats. Elsevier, 900 pp.
Supplementary literature	Medwin H. and Clay C. S., 1998. Fundamentals of Acoustical Oceanography. Academic Press, Boston, 712.Medwin H., 2005. Sounds in the Sea. From Ocean Acoustics to Acoustical Oceanography. Cambridge University Press, New York, 643.
eResources addresses	

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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