University of Gdańsk

Subject card

Subject name and code	The impact of human activity on the polar regions, PG_00140228						
Field of study	Archaeology						
Date of commencement of studies	October 2024		Academic year of realisation of subject	2024/2025			
Education level	undergraduate studies		Subject group				
Mode of study	full-time studies		Mode of delivery	at the university			
Year of study	1		Language of instruction	Polish			
Semester of study	2		ECTS credits	2.0			
Learning profile	academic		Assessment form				
Conducting unit	Pracownia Biologii Planktonu -> Katedra Biologii Morza i Biotechnologii -> Faculty of Oceanography and Geography -> Rektor						
Name and surname of lecturer (lecturers)	Subject supervisor	dr Anna Panasiuk					
	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

Familiarizing students with the specific functioning of marine and ocean ecosystems, including the particularly sensitive polar regions. Presentation of factors that shape and significantly influence the condition of marine environments, including living marine resources. Identifying marine areas that are critically endangered due to changing climatic conditions and increasing human pressure.

Learning outcomes

Course outcome	Subject outcome	Method of verification
	Is able to characterize the basics of functioning aquatic ecosystems. Knows the basic concepts and terms used in natural sciences, is able to describe basic concepts in the field of marine sciences and has knowledge about the development of oceanography - lists the most important directions and the latest research methods. Recognizes potential threats to the aquatic environment resulting from the development of civilization, in particular strong anthropopressure in the seas and oceans. Has the ability to draw correct conclusions based on data from various sources	[SK3] text preparation/written work [SK4] test/exam - oral or written

Subject contents	A.1. Factors shaping the range of occurrence and species diversity of organisms inhabiting the seas and ocean. A.2. The specific functioning of tropical, temperate and polar ecosystem. A.3. Ecological and biological characteristics of cold regions - Antarctica and the Arctic. A.4. Stability of life in the sea - natural threats and those resulting from increasing human pressure and their impact on the range of occurrence and settlement of representatives of marine organism. A.5. Global changes in Earth's climate; the greenhouse effect; ozone hole and their impact on local and global ecosystem. A.6. Polar regions as areas particularly vulnerable to climate change and human activity. A.7. Benefits and consequences of research in polar regions: the impact of polar stations on local ecosystems, protected areas in the Arctic and Antarctic regions. A.8. Exploitation of living resources in the Arctic and Antarctic regions: in the past, today and in the future - the scale of profitability for humans and threats to nature, methods of protecting polar environments.
Prerequisites and co-requisites	

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Written work	51.0%	30.0%
Test	51.0%	70.0%

Recommended reading	Basic literature	Demel K. (1974) Życie morza. Wydawnictwo morskie. Gdańsk (in polish). Duxbury A.C., Duxbury A.B., Sverdrup K.A. (2002) Oceany świata, PWN, Warszawa (in polish). Longhurst A. (2007) Ecological geography of the sea. Elsevier, Academic Press, San Diego. Luning K. (1990) Seaweeds, Their environment, biogeography, and ecophysiology. John Wiley &Sons. Inc. New York. Staszyńska A. (2005) Przyczyny i mechanizmy współczesnego (1982-2002) ocieplenia atlantyckiej Arktyki. Wydawnictwo Uczelniane Akademii Morskiej, Gdynia (in polish). Wiktor K., Węsławski J. M., Żmijewska M. I. (1997) Biogeografia Morza, Wyd. UG. Gdańsk (in polish). Winogradowa M. E. (1988) Oceanobiologia: praca zbiorowa. T. 1, Biologiczna struktura oceanu. Państwowe Wydawnictwo Naukowe, Warszawa (in polish).

	Supplementary literature	Bachmaty C., Legendre P., Desbruyeres D. (2009) Biogeographic relationships among deep-sea hydrothermal vent faunas at global scale. Depp-Sea Research I 56: 1371-1378. Blaxter J. H. S., Southward A. J. (1997) The Biogeography of the Ocean. In: Advances in Marine Biology, Academic Press, San Diego. Gage J. D., Tyler P. A. (1991) DEEP-SEA BIOLOGY: A natural history of organisms at the deep-sea floor. University Press, Cambridge. Holdgate M.W. (1970) Antarctic Ecology. The Scientific Committee on Antarctic Research, Academic Press, London. Knox G.A. (2007) Biology of the Southern Ocean (Second Edition). CRC Press, Boca Raton. Rakusa-Suszczewski S. (1999) Ekosystem morskiej Antarktyki: zmiany i zmienność. Wydawnictwo Naukowe PWN, Warszawa (in polish). Walczowski W. (2009) Woda atlantycka w morzach nordyckich - właściwości, zmienność, znaczenie klimatyczne. Polska Akademia Nauk. Instytut Oceanologii, Sopot (in polish).
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Functioning of marine and ocean ecosystems, including particularly sensitive polar regions, in the face of increasing anthropogenic pressure.	
Work placement	Not applicable	

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