University of Gdańsk

Subject card

Subject name and code	The Baltic Sea Environment, PG_00103758		
Field of study	Środowisko Morza Bałtyckiego (Ćw. audytoryjne)		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2024/2025
Education level	Bachelor'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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	1.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Biosystematics and Ecology of Aquatic Invertebrates -> Department of Evolutionary Genetics and Biosystematics -> Faculty of Biology -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Anna Iglikowska	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	15.0	0.0	0.0	0.0	15

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	15	0.0	0.0	15

Subject objectives

- providing knowledge about the general characteristics of the Baltic Sea environment

- presenting the current state of knowledge regarding the ecological problems of the Baltic Sea

- indicating the importance of protecting the environment of the Baltic Sea and its resources

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OZPL3_W11] The graduate possesses a fundamental understanding of the concepts and terminology of natural science, as well as knowledge of the evolution of natural sciences and the research methods employed in them. They are also cognizant of the potential for practical application	- describes the history and marine environment of the Baltic Sea (O_W11) - explains the mechanisms of selected ecological processes in the Baltic Sea environment (O_W11)	[SW4] test/egzamin - ustny lub pisemny [SW1] wypowiedź ustna/rozmowa/ dyskusja [SW2] prezentacja/projekt/referat/ raport
[OZPL3_U03] The graduate is able to search for and use available sources of biological information, including electronic sources, and critically analyse them	- demonstrates the ability to select information and critically analyze it (O_U03)	[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU2] prezentacja/projekt/referat/ raport [SU8] obserwacja samodzielnej lub zespołowej pracy studenta
[OZPL3_U07] The graduate is able to draw correct conclusions on the basis of analysis and synthesis of data from various sources	- predicts the directions of ecological changes and their impact on society (O_U07)	[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU4] test/egzamin - ustny lub pisemny [SU8] obserwacja samodzielnej lub zespołowej pracy studenta
[OZPL3_K04] The graduate is ready to understand the need for honesty and integrity in scientific and professional work, and consciously applies the principles of bioethics	- has the habit of using reliable and recognized sources of scientific information (O_K04)	[SK2] prezentacja/projekt/referat/ raport [SK8] obserwacja samodzielnej lub zespołowej pracy studenta
[OZPL3_K08] The graduate is ready to systematically update his/ her natural knowledge and to apply it in practice	- feels the need for continuous updating of knowledge on the ecological problems of the Baltic Sea (O_K08) - recognizes the relationship between the intensity of anthropogenic impacts and the functioning of the Baltic ecosystem (O_K08) - understands the need to promote pro-ecological attitudes and behaviors (O_K08)	[SK1] wypowiedź ustna/rozmowa/ dyskusja [SK8] obserwacja samodzielnej lub zespołowej pracy studenta
[OZPL3_U02] The graduate can read with comprehension scientific texts in the field of natural sciences in Polish and simple texts in English	- reads with understanding scientific texts on the ecology of the Baltic Sea in Polish and simple texts in English (O_U02)	[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU2] prezentacja/projekt/referat/ raport [SU4] test/egzamin - ustny lub pisemny
[OZPL3_W07] The graduate has an advanced understanding of the methods and means of nature and environmental protection, including nature monitoring	- lists and characterizes procedures related to the protection of the Baltic marine environment (O_W07)	[SW4] test/egzamin - ustny lub pisemny [SW1] wypowiedź ustna/rozmowa/ dyskusja
[OZPL3_W09] The graduate possesses an advanced comprehension of the current state of knowledge and the latest trends in biology, as well as their relationship to other natural disciplines	- supplements knowledge about current ecological threats in the Baltic Sea (O_W09)	[SW4] test/egzamin - ustny lub pisemny [SW1] wypowiedź ustna/rozmowa/ dyskusja [SW2] prezentacja/projekt/referat/ raport

Subject contents

1. Morphometry and division of the Baltic Sea. 2. History of the Baltic Sea. 3. The Baltic as a brackish sea. 4. Flora and fauna of the Baltic Sea. 5. The problem of invasive species. 6. Anthropogenic eutrophication of the Baltic Sea. 7. The impact of climate change and increased CO_2 emissions on the environment of the Baltic Sea. 8. Pollution of Baltic Sea waters. 9. The problem of chemical weapons deposited at the bottom of the Baltic Sea. 10. Protection of Baltic Sea waters. 11. Currently conducted research programs regarding Baltic Sea.

Prerequisites and co-requisites

To complete the course, it is necessary to pass the following courses: Invertebrate Zoology, Plant and Animal Ecology.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
poster presentation	51.0%	10.0%
final test	51.0%	50.0%
work card	51.0%	10.0%
test	51.0%	30.0%

Recommended reading	Basic literature	Literature required to complete the course (pass the exam): 1. Snoeijs-Leijonmalm, P., Schubert, H., Radziejewska, T. 2017. Biological Oceanography of the Baltic Sea. Springer. 2. Harff, J., Björck, S., Hoth, P. 2011. The Baltic Sea basin. Central and Eastern European Development Studies (CEEDES), Springer. 3. The BACC II Author Team. Second Assessment of Climate Change for the Baltic Sea basin. Springer. 4. Różańska, Z. 1999. Ekologia środowiska morskiego. Wydawnictwo ART. 5. Scientific papers selected by the lecturer and available to students during the class.
	Supplementary literature	Additional literature: Witalis, B., Iglikowska, A., Ronowicz, M., Kukliński, P. 2021. Biodiversity of epifauna in the ports of Southern Baltic Sea revealed by study of recruitment and succession on artificial panels. Estuarine, Coastal and Shelf Science 249: 107107.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Task 1. What ecological form dos the lion's mane jellyfish represent? a) Plankton b) Neuston c) Nekton d) Benthos Task 2. Which of the following Baltic species is an invasive invertebrate: a) Round goby b) Cyclopterus c) Bay barnacle d) Shorthorn sculpin	
Work placement	Not applicable	

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