

Subject card

Subject name and code	The Baltic Sea Environment, PG_00154365						
Field of study	Natural Resources Conservation						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2026/2027		
Education level	undergraduate studies		Subject group		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				
Conducting unit	Pracownia Biosystematyki i Ekologii Bezkręgowców Wodnych -> Katedra Genetyki Ewolucyjnej i Biosystematyki -> Faculty of Biology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Anna Iglowska				
	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		2.0		8.0	25
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_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 marine environment of the Baltic Sea (O_W07);	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion
	[OZPL3_U02] The graduate can read with comprehension scientific texts in the field of natural sciences in Polish and simple texts in English	- reads and understands scientific texts on the ecology of Baltic Sea in Polish and simple texts in English (O_U02);	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU4] test/exam - oral or written
	[OZPL3_K08] The graduate is ready to systematically update his/her natural knowledge and to apply it in practice	- feels the need to constantly update knowledge on the ecological problems of the Baltic Sea (O_K08); - notices the relationships between the intensity of anthropogenic impacts and the functioning of the Baltic ecosystem (O_K08); - understands the need to promote pro-ecological attitudes and behaviours (O_K08);	[SK1] oral statement/conversation/discussion [SK8] observation of student's independent or team work
	[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 a habit of using reliable and recognized sources of scientific information (O_K04);	[SK2] presentation/project/paper/report [SK8] observation of student's independent or team work
	[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] oral statement/conversation/discussion [SU4] test/exam - oral or written [SU8] observation of student's independent or team work
	[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 analyze it critically (O_U03);	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU8] observation of student's independent or team work
	[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	- updates knowledge about current ecological threats in the Baltic Sea (OW09);	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report
	[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/exam - oral or written [SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report
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
	test	51.0%	30.0%
	poster presentation	51.0%	10.0%
	work card	51.0%	10.0%
	final test	51.0%	50.0%

Recommended reading	Basic literature	Literature required to complete the course (pass the exam): 1. Snoeijjs-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., Iglukowska, 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	Podstawowe https://epdf.tips/morze-baltyckie-o-tym-warto-wiedzie.html - Basic textbook for the course Baltic Sea Environment Uzupełniające Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Task 1. What ecological form does 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	