

Subject card

Subject name and code	The Baltic Sea Environment, PG_00154449						
Field of study	Biology						
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
	[BIOLL3_U06] The graduate can read with comprehension simple scientific biological texts in Polish and simple texts in English	- reads and understands scientific texts on the ecology of the Baltic Sea in Polish and simple texts in English (B_U06);	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU4] test/exam - oral or written
	[BIOLL3_U05] The graduate will be able to synthesise data from a variety of sources and draw appropriate conclusions	- demonstrates the ability to select information and analyze it critically (B_U05); - predicts the directions of ecological changes and their impact on society (B_U05);	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU8] observation of student's independent or team work
	[BIOLL3_W16] The graduate knows and understands the relationship between the achievements of the chosen field of science and discipline of natural sciences and the possibilities of their use in socio-economic life, taking into account the sustainable use of biodiversity	- has in-depth knowledge about current ecological threats in the Baltic Sea (B_W16); - knows the procedures related to the protection of the marine environment of the Baltic Sea (B_W16);	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion
	[BIOLL3_K08] The graduate is ready to be honest, reliable and apply the principles of savoir-vivre in academic and professional work	- has the habit of using reliable and recognized sources of scientific information (B_K08);	[SK2] presentation/project/paper/report [SK8] observation of student's independent or team work
	[BIOLL3_K07] The graduate is prepared to apply the principles of bioethics consciously	- understands the need to promote pro-ecological attitudes and behaviours (B_K07);	[SK1] oral statement/conversation/discussion [SK8] observation of student's independent or team work
	[BIOLL3_W05] The graduate knows the rules and describe the mechanisms of life at the population, biocenosis and ecosystem levels and the temporal and spatial determinants of biodiversity	- describes the history and marine environment of the Baltic Sea (B_W05); - explains the mechanisms of selected ecological processes in the Baltic Sea environment (B_W05);	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report
Assessment methods and criteria	[BIOLL3_K01] The graduate is prepared to evaluate their own knowledge, understand the need for continuous learning and development, and is open to new ideas	- feels the need to constantly update knowledge on the ecological problems of the Baltic Sea (B_K01); - notices the relationship between the intensity of anthropogenic impacts and the functioning of the Baltic ecosystem (B_K01);	[SK1] oral statement/conversation/discussion [SK8] observation of student's independent or team work
	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, General Ecology.		
	Subject passing criteria	Passing threshold	Percentage of the final grade
	final test	51.0%	50.0%
	test	51.0%	30.0%
	poster presentation	51.0%	10.0%
	work card	51.0%	10.0%

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 shared with 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 - The basic textbook for the course Environment of the Baltic Sea 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	