

**Subject card**

<b>Subject name and code</b>	Marine ecology - laboratory exercises, PG_00044095						
<b>Field of study</b>	Oceanography						
<b>Date of commencement of studies</b>	October 2024	<b>Academic year of realisation of subject</b>			2024/2025		
<b>Education level</b>	postgraduate studies	<b>Subject group</b>			Obligatory subject group in the field of study		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	1	<b>Language of instruction</b>			Polish Polish		
<b>Semester of study</b>	1	<b>ECTS credits</b>			4.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>					
<b>Conducting unit</b>	Katedra Funkcjonowania Ekosystemów Morskich -> Faculty of Oceanography and Geography						
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		dr hab. Adam Sokołowski				
	<b>Teachers</b>		dr hab. Adam Sokołowski dr Justyna Świeżak				
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	0.0	0.0	45.0	0.0	0.0	45
	E-learning hours included: 0.0						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	45		12.0		50.0	107
<b>Subject objectives</b>	Familiarization with the fundamental problems in marine ecology, particularly the influence of abiotic and biotic factors on the functioning of marine organisms at different levels of biological organization.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[OCEANMU2-K02] is ready to take full responsibility in terms of actions taken and compliance with professional ethics and principles intellectual honesty, is aware of the importance professional approach in every situation	Knowledge of ecological processes in order to describe and present an overview of ecological processes and the ability to present selected ecological problems.	[SK1] oral statement/conversation/discussion [SK8] observation of student's independent or team work
	[OCEANMU2-W01] knows and understands in-depth specialized terminology used in oceanography and related sciences (in Polish and a selected foreign language)	Knowledge of marine ecology terminology allows for understanding contemporary ecological problems and creating new concepts in the study of ecological processes in marine ecology and readiness for social education in the light of marine ecological awareness.	[SW2] presentation/project/paper/report
	[OCEANMU2-W06] knows and identifies potential threats to the marine environment on a local and global scale resulting from strong anthropopressure, predicts their effects on various time and space scales	Student represents well-grounded knowledge on terminology describing ecological processes and is capable of understanding ecological processes (natural, human-driven) in the marine environment. This knowledge allows for skillfull navigation in the scientific literature (polish and english), in order to develop their career in academia or environmental consulting agencies.	[SW3] text preparation/written work
	[OCEANMU2-U02] can use scientific terminology fluently and appropriately in presenting and discussing problems in the field of oceanography	Well-established knowledge that will allow to expand the knowledge of ecological processes in the marine environment to include other aspects, including socio-economic and legal matters, and use them to build and promote a holistic approach to ecological education, conducting scientific research or proposing new solutions in the management of marine resources.	[SU2] presentation/project/paper/report
[OCEANMU2-U01] is able to formulate and solve complex and unusual problems regarding the functioning of individual components of the marine environment using knowledge from various fields and scientific disciplines and propose solutions	Student knows and applies the rules of ethics, intelectual honesty, and is aware of the importance of professionalism at workplace.	[SU1] oral statement/conversation/discussion	
Subject contents	<p>1 Adaptations and reactions of the aquatic organisms (behavior, metabolic rate, mortality) to the changes in environmental factors such as salinity, sediment type, temperature.</p> <p>2. Growth and development dynamics of marine organisms across different biogeographic regions.</p> <p>3. Colonization and succession of macrobenthic epifauna on hard substrates.</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Report (reporting activities from each laboratory project)	51.0%	40.0%
	Final test (written examination)	51.0%	20.0%
	Test (at the beginning of every class)	51.0%	40.0%

Recommended reading	Basic literature	<p>Kinne O., 1977. Marine Ecology vol. I i II John Wiley and Sons Ltd, New York</p> <p>Odum E.P., 1953. Fundamentals of ecology. Saunders, Philadelphia, or any republished version</p> <p>Karasov W.H., Martinez del Rio C., 2007, Physiological ecology. Princeton University Press, Princeton</p> <p>Kaiser M., Attrill M., Jennings S., Thomas D.N., Barnes D., Brierley A., Polunin N., Raffaelli D., Williams P.L.B., 2005, Marine Ecology: Processes, Systems, and Impacts. Oxford University Press, Oxford</p> <p>Snoeijs-Leijonmalm P., Schubert H., Radziejewska T., 2017, Biological Oceanography of the Baltic Sea. Springer Science and Business Media, Dordrecht</p> <p>Schiewer U., 2008, Ecology of Baltic coastal waters. Springer, Berlin</p> <p>Kaiser M., Attrill M., Jennings S., Thomas D.N., Barnes D., Brierley A., Polunin N., Raffaelli D., Williams P.L.B., 2005, Marine Ecology: Processes, Systems, and Impacts. Oxford University Press, Oxford</p> <p>Schiewer U., 2008, Ecology of Baltic coastal waters. Springer, Berlin</p> <p>and other relevant scientific publications</p>
	Supplementary literature	<p>Wilkinson D.M., 2007, Fundamental processes in ecology. An earth systems approach. Oxford University Press, Oxford</p> <p>Thurman H., 1993. Essentials of oceanography. Macmillan, New York</p>
	eResources addresses	Adresy na platformie eNauczenie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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