

**Subject card**

<b>Subject name and code</b>	Diseases of marine organisms - laboratory exercises, PG_00117732						
<b>Field of study</b>	Oceanography						
<b>Date of commencement of studies</b>	October 2024	<b>Academic year of realisation of subject</b>			2025/2026		
<b>Education level</b>	postgraduate studies	<b>Subject group</b>			Obligatory subject group in the field of study Optional subject group		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	2	<b>Language of instruction</b>			Polish Polish		
<b>Semester of study</b>	3	<b>ECTS credits</b>			2.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>					
<b>Conducting unit</b>							
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		dr hab. Katarzyna Smolarz				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	0.0	0.0	20.0	0.0	0.0	20
	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>	20		5.0		20.0	45
<b>Subject objectives</b>	he aim of the course is to analyze and assess the health of marine organisms living in natural conditions						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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	knows and identifies potential threats to the marine environment on a local and global scale resulting from strong anthropopressure, predicts their effects on the condition and well-being of marine organisms (program contents B2-B3)	[SW2] presentation/project/paper/report
	[OCEANMU2-U08] is able to prepare a study of a given issue/problem in Polish and a selected foreign language in written form (short scientific text, documented research work) and orally (paper, presentation) and discuss with specialists on topics related to oceanographic issues, with particular emphasis on the studied specialty	is able to prepare a study of a selected issue/problem in Polish and English in written form (short scientific text, documented research work) and orally (paper, presentation) and discuss topics related to oceanographic issues in the thematic scope related to diseases of free-living marine organisms (program content B2-B4)	[SU1] oral statement/conversation/discussion
	[OCEANMU2-K05] is ready to follow the rules occupational health and safety, taking care of the entrusted person specialized and recognition equipment emergency situations and take appropriate action activities	is ready to comply with the principles of occupational health and safety, take care of the specialized equipment entrusted to him, recognize threat situations and take appropriate actions (program content: B4)	[SK1] oral statement/conversation/discussion [SK8] observation of student's independent or team work
[OCEANMU2-U04] is ready to develop in an analytical and synthetic way research and analysis results and based on them creating conclusions	is able to analytically and synthetically develop research and analysis results and, based on them, make correct conclusions regarding the diagnosis of diseases of marine organisms (program contents B1-B4).	[SU4] test/exam - oral or written	
Subject contents	<p>1 Familiarizing the student with the safety rules used in the laboratory and preparing for group work.</p> <p>2 Diagnostics of diseases and pathological changes in free-living marine organisms.</p> <p>3 Anatomopathological changes (retrograde changes, inflammation, cancer, parasitic infections) and epizootics on the example of Limecola balthica mussels.</p> <p>4 Basic principles of ethics in biological research, the use of literature sources and reporting.</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	final report (assessed: comprehensiveness of the topic, substantive correctness, originality, form)	50.0%	25.0%
	assessment of activity and work directly during classes (assessed: group work, activity)	50.0%	15.0%
	knowledge of the material discussed during classes (assessed: practical use of discussed issues, association of facts)	50.0%	60.0%
Recommended reading	Basic literature	<p>Klatt E. C., Edward C., Klatt MD., Vinay, Kumar MD., Kumar V., 2000. Review of pathology, W B Saunders; 1st edition  Cotran R. S., Kumar V., Collins T., Robbins S. L., 1999. Pathologic basis of disease, W B Saunders; 6th edition  Kinne O. 1980. Diseases of marine animals Vol. I, General aspects, Protozoa to Gastropoda, Wiley &amp; Sons</p> <p>Hopkin S.P., Sibly R.M., Peakall D.B., 2002. Podstawy ekotoksykologii, Wyd. PWNMalicka E., Materiały pomocnicze do ćwiczeń z histopatologii zwierząt, 2008, SGGW, Warszawa</p>	

	Supplementary literature	Hochberg F.G., 1990. Diseases of marine animals Vol. III, Introduction, Mollusca: Cephalopoda, Crustacea, etc. to Urochordata., Kinne O. (red), Biologische Anstalt Helgoland, Hamburg; Howard D., Lewis E.j., Keller J., Smith C.S., 2004, Histological techniques for Marine bivalve mollusks and crustaceans, NOAA
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	none	
Work placement	Not applicable	

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