

Subject card

Subject name and code	Reproductive and developmental biology of marine invertebrates - lecture, PG_00117718						
Field of study	Oceanography						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Master'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	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		1.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Marine Ecosystems Functioning -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Luiza Bielecka				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	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		3.0		12.0	30
Subject objectives	Familiarizing students with the basic concepts of reproduction and development of marine invertebrates, the diversity and complexity of their development cycles and the methodology of biological (population) analyses. Acquiring the ability to describe the development cycles of marine invertebrates, including environmental conditions that may affect them.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[OCEANMU2-W01] knows and understands in-depth specialized terminology used in oceanography and related sciences (in Polish and a selected foreign language)		Knows and understands in-depth specialized terminology used in oceanography and related sciences (in Polish, English and/or Latin) with particular emphasis on the reproduction and development of marine invertebrates		[SW4] test/exam - oral or written		
	[OCEANMU2-U02] can use scientific terminology fluently and appropriately in presenting and discussing problems in the field of oceanography		Can use scientific terminology fluently and appropriately in presenting and discussing problems in the field of reproduction and development of marine invertebrates		[SU4] test/exam - oral or written		

Subject contents	Diversity of reproduction and development of marine invertebrates. Types of asexual reproduction (budding, division, fragmentation) and sexual reproduction (genetic diversity of offspring) - conditions determining the type of reproduction (lifestyle, population density, etc.). Metagenesis, heterogony, parthenogenesis, hermaphroditism. Development cycles direct and complex (two-phase) development. Embryonic and post-embryonic development. Definition of a larva, types of marine invertebrate larvae - commonness or specificity (classification principles). Structure, functioning, adaptability of larval forms - environmental factors influencing the distribution, colonization of the substrate, metamorphosis. Biological importance of larvae in the life of sedentary and pelagic animals. Environmental quality and animal reproductive abilities.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	oral exam	51.0%	100.0%
Recommended reading	Basic literature	Conn, D. B.: Atlas of invertebrate reproduction and development, J. Wiley & Sons, New York, 2000. Conway, V. P., 2006. Identification of the copepodite development stages of twenty-six North Atlantic copepods, Marine Biological Association, Occasional Publication No. 21, Plymouth. Grabda E., 1986. Zoologia. Bezkręgowce. PWN. Jura Cz., 1997. Bezkręgowce. PWN. Smith, D. L., K. B. Johnson, 1996. A guide to marine coastal plankton and marine invertebrate larvae. Kendall/Hunt Publishing Com-pany, USA. Sumich, J. L., J. F. Morrissey, 2004. Introduction to the biology of marine life, Jones and Bartlett Publisher, Boston. Young C. M., 2002. Atlas of marine invertebrate larvae, Academic Press, USA.	
	Supplementary literature	Supplemental literature is determined based on students' interests.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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