University of Gdańsk

Subject card

Subject name and code	Reproductive and Developmental Biology of Marine Invertebrates - lecture, PG_00204912		
Field of study	Oceanography		
Date of commencement of studies	October 2027	Academic year of realisation of subject	2027/2028
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, prof. UG	
	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	1.0	9.0	25

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] is able to fluently and accurately use scientific terminology when presenting and discussing oceanographic issues, and to propose and justify innovative solutions	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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