University of Gdańsk

Subject card

Subject name and code	Reproductive and Developmental Biology of Marine Invertebrates - laboratory , PG_00204911		
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	2.0
Learning profile	academic	Assessment form	credit
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	0.0	0.0	30.0	0.0	0.0	30

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	30	2.0	18.0	50

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-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 follow the rules occupational health and safety, taking care of the entrusted person specialized and recognition equipment emergency situations	[SK8] observation of student's independent or team work
[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	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU4] test/exam - oral or written
[OCEANMU2-U04] is ready to develop in an analytical and synthetic way research and analysis results and based on them creating conclusions	Is ready to develop in an analytical and synthetic way research and analysis results regarding the reproduction and development of marine invertebrates and based on them creating conclusions	[SU8] 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)	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 [SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report

Subject contents

Life cycles of selected taxonomic groups of marine invertebrates, with particular emphasis on the fauna of the Baltic Sea - the importance of the complexity of life cycles and the impact of the environment on the quality of marine invertebrate populations. Microscopic analysis of developmental stages of selected marine invertebrates - identification of animals based on specific diagnostic features, assignment to particular taxonomic groups.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
test	51.0%	50.0%
student's work during laboratory classes	51.0%	35.0%
presentation	51.0%	15.0%

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. Mańkowski Wł., 1955. Atlas zooplanktonu morskiego. Morski Instytut Rybacki. Gdynia. 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. Żmudziński L., 1990. Świat zwierzęcy Bałtyku. Atlas makrofauny. Wydawnictwo Szkolne i Pedagogiczne, Warszawa. Keys to determining developmental stages of invertebrates from various sea and ocean regions - specialized literature.
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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