University of Gdańsk

Subject card

Subject name and code	Principles of Marine Invertebrates Biology - laboratory , PG_00206163		
Field of study	Oceanography		
Date of commencement of studies	October 2027	Academic year of realisation of subject	2028/2029
Education level	Bachelor'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	2	Language of instruction	Polish
Semester of study	4	ECTS credits	3.0
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	45.0	0.0	0.0	45
	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	45	3.0	27.0	75

Subject objectives	To familiarize the student with the biology and ecology of marine invertebrates, the diversity of these animals, the specific structure of their bodies, including basic identification features used to recognize animals at various taxonomic levels and features indicating adaptations to the environment. Acquiring skills in taxonomic identification of marine invertebrates.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OCEANL3-K05] is willing to take responsibility for the safety of his/ her own and others' work, is aware of the risks and threats resulting from the work performed	Is willing to take responsibility for the safety of his/her own and others' work, is aware of the risks and threats resulting from the work performed in laboratory	[SK8] observation of student's independent or team work
[OCEANL3-U04] is able to independently search for information in Polish and foreign specialist literature, as well as on the Internet and in databases	Is able to independently search for information in Polish and English-language specialist literature, as well as in the Internet and databases regarding issues related to the biology and ecology of marine invertebrates (program content)	[SU4] test/exam - oral or written [SU8] observation of student's independent or team work
[OCEANL3-U01] is able to use the current scientific terminology in the field of oceanography in various forms of expression	Can use scientific terminology fluently and appropriately in presenting and discussing problems in the field of oceanography with particular emphasis on the biology and ecology of marine invertebrates	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written
[OCEANL3-W05] has an advanced knowledge of techniques, research methods, and tools (mathematical, statistical, and computational) used by oceanographers to describe and interpret processes and phenomena occurring in the marine environment	Knows at an advanced level techniques, research methods and tools used for identification analyzes of marine invertebrates in order to describe and interpret phenomena and processes occurring in the marine environment program content)	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SW5] implementation of a problem task
[OCEANL3-W07] knows and understands the principles of occupational health and safety for an oceanographer	Knows and understands the basic principles of occupational health and safety as an oceanographer with a biological specialization	[SW5] implementation of a problem task
[OCEANL3-W01] has an advanced knowledge and understanding of the terminology used in oceanography and related exact and natural 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 biology and ecology of marine invertebrates	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion

Subject contents

A detailed review of selected marine invertebrate taxa, starting from Protista through the main taxonomic groups, with particular emphasis on the fauna of the Baltic Sea. roscopic and microscopic analysis of marine invertebrates occurring in various water bodies and belonging to various ecological formations. Identification and classification of animals based on detailed biological analysis (specific diagnostic features, body shape and structure, body coverings, features related to lifestyle, way of moving, eating, place of living) to the level of lower taxonomic categories, including the recognition of sexual dimorphism features) .

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Test I	51.0%	30.0%
Test II	51.0%	30.0%
activity and completion of tasks during laboratory exercises	51.0%	40.0%

Recommended reading

Basic literature

Błaszak Cz., 2009. Zoologia, Bezkręgowce, tom I i II. PWN.
Grabda E., 1986. Zoologia. Bezkręgowce. PWN.
Jura Cz., 1997. Bezkręgowce. PWN.
Mańkowski Wł., 1955. Atlas zooplanktonu Bałtyku. Morski Instytut Badawczy. Gdynia.
Nybakken, J. W., M. D. Bertness, 2005. Marine biology an ecological approach, Pearson Education, San Francisco.
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 & Bartlett Publishers, Sudbury.
Todd, C. D., M. S. Laverack, G. A. Boxshall, 2006. Coastal Marine Zooplankton. A practical manual for students, Cambridge Uni-versity Press,
Cambridge.
Żmudziński L., 1990. Świat zwierzęcy Bałtyku. Atlas makrofauny. Wydawnictwo Szkolne i Pedagogiczne, Warszawa.

Keys to the identification of marine invertebrates in various water bodies - 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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