University of Gdańsk

Subject card

Subject name and code	Bioindication of Marine Environments - laboratory, PG_00206172						
Field of study	Oceanography						
Date of commencement of studies	October 2026		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	3		Language of instruction		Polish		
Semester of study	6		ECTS credits		3.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Aleksandra Zgrundo				
	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	Familiarizing students with basic methods used in research to assess the quality of the aquatic environment. Creating a basis for critical reflection on the usefulness of appropriate tools and methods in monitoring the aquatic environment and proper interpretation of data.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[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	Has advanced knowledge of basic techniques, research methods and mathematical and statistical tools used in monitoring work to describe and interpret phenomena and processes occurring in the aquatic environment	[SW4] test/exam - oral or written [SW3] text preparation/written 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 foreign specialist literature, as well as on the Internet and databases	[SU3] text preparation/written work
[OCEANL3-K03] is ready to exercise caution and criticism in accepting information from scientific literature, the Internet and other media relating to natural sciences	Is prepared to exercise caution and criticism in accepting information from scientific literature, the Internet and other media relating to marine environment monitoring	[SK3] text preparation/written work
[OCEANL3-U06] is able to formulate and solve advanced problems related to the functioning of individual components of the marine environment, using knowledge from various fields and scientific disciplines	Is able to define the basic relationships concerning the functioning of individual components of the marine environment and the impact of humans on their functioning/is able to define the basic relationships between individual components of the marine environment, integrating knowledge from various fields and scientific disciplines	[SU3] text preparation/written work [SU4] test/exam - oral or written
[OCEANL3-U02] is able to independently and collaboratively conduct observations and perform measurements in the field or laboratory using appropriately selected techniques, tailored to the research problem	Is able to individually and collectively conduct observations and perform basic measurements of environmental elements used in monitoring sea waters in the field or in the laboratory using appropriately selected techniques, adequate to the characteristics of the research point	[SU4] test/exam - oral or written

Subject contents

1. Preparation of a project for assessing the state of the environment in a selected region of the Gulf of Gdańsk. 2. Fieldwork aimed at learning about the methods used to collect biological material in water monitoring, collecting material for the analysis of plant and animal communities, and discussing good practices. 3. Qualitative and quantitative analysis of plant and animal communities in terms of assessing the state of the environment. 4. Use of cytogenetic analysis to assess the state of the environment using bivalves as an example. 5. Analysis of the collected data to assess the state of the environment. 6. Preparation and presentation of the project results in the form of a uniform study.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Test	51.0%	80.0%
Completion of a final paper - conducting research and presenting its results	51.0%	20.0%

Recommended reading

Basic literature	publications on water environment monitoring, key documents on water protection and monitoring applicable in the EU and Poland
Supplementary literature	publications on water environment monitoring, key documents on water protection and monitoring applicable in the EU and Poland
eResources addresses	

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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