University of Gdańsk

Subject card

Subject name and code	Biodiversity of marine organisms - laboratory, PG_00054196		
Field of study	Marine Biotechnology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	postgraduate studies	Subject group	
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	English
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	dr Anna Toruńska-Sitarz	
	Teachers	dr hab. inż. Konrad Ocalewicz dr Anna Toruńska-Sitarz mgr Adam Makatun dr hab. Agata Weydmann-Zwolicka	

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	5.0	15.0	50

Subject objectives	At the end of the course students will be able to: demonstrate current research practice and methodologies in the field of biodiversity, discuss the possibilities and limitations of biodiversity studies, design and execute experiments related to metabarcoding of the marine environments, perform analysis of the genetic variation.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[MBMU2-KU02] Can collect and interpret empirical data; applies statistical methods and computer tools in data analysis; formulates conclusions based on empirical data	KU_02 Student can collect and interpret empirical data on the biodiversity of marine organisms; applies statistical methods and computer tools in data analysis; formulates conclusions based on empirical data.	[SU3] text preparation/written work
[MBMU2-KU01] Can plan and carry out tests in the laboratory and at sea, and document activities and results; can use laboratory equipment under the guidance of a tutor; applies principles of occupational health and safety	KU_01 Student has the ability to plan and carry out research in the laboratory, document the experiments and their results; can use laboratory equipment under the guidance of teaching staff; applies the principles of safety rules and good laboratory practices.	[SU3] text preparation/written work [SU8] observation of student's independent or team work

Subject contents

1. Metabarcoding of marine environmental samples.

1.1 Methods of eDNA extraction (e.g. water, sediments).

1.2 Methods of invertebrate DNA extractions.

1.3 Selection of appropriate DNA barcode markers; PCR optimization.

2. Analysis of invertebrate samples from different environments (water column, sea bottom).

3. Analysis of the genetic condition of chosen fish species from the Baltic Sea.

Prerequisites and co-requisites

Formal requirements: none.

Prerequisites: basic knowledge on biology.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Reports	51.0%	100.0%

Recommended reading

Basic literature	Instructions prepared by the teaching staff. Set of up-to-date scientific papers selected by the teaching staff (including SOP, protocols, white papers etc.).
Supplementary literature	-
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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