Subject card

Subject name and code	Genetics of marine organisms, PG_00120310		
Field of study	Oceanography		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2025/2026
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	1	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 Rafał Lasota	
	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	1.0	19.0	50

Subject objectives	Insight into current research in the field of broadly understood genetics of marine organisms. Application of genetics in other fields of knowledge (including marine ecology, aquaculture, protection of biodiversity and living marine resources).

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OCEANMU2-K04] is ready to critically evaluate his/her knowledge and received content in the field of natural sciences in in particular in the field of the studied specialty, a in problematic situations, supports oneself with knowledge experts	Is ready to critically assess the knowledge acquired and the content received in the field of genetics of marine organisms, particularly within the scope of the studied specialization, and in problematic situations, relies on the knowledge of experts.	[SK2] presentation/project/paper/ report [SK3] text preparation/written work
[OCEANMU2-U08] is able to prepare a study of a given issue/ problem in Polish and a selected foreign language in written form (short scientific text, documented research work) and orally (paper, presentation) and discuss with specialists on topics related to oceanographic issues, with particular emphasis on the studied specialty	Is able to prepare a written elaboration of a selected topic/ problem in Polish and English (a short scientific text, documented research work) and discuss topics related to the genetics of marine organisms, with particular emphasis on the studied specialization.	[SU2] presentation/project/paper/ report [SU3] text preparation/written work
[OCEANMU2-W02] knows and understands complex processes and phenomena occurring in the marine environment, with particular emphasis on the coastal zone, as well as complex relationships between living and non-living elements of the aquatic environment	Knows and understands to an in-depth degree the course of complex genetic processes and phenomena occurring in the marine environment and the coastal zone, as well as the intricate relationships between living and non-living components of the aquatic environment in the context of the genetics of marine organisms.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
[OCEANMU2-U06] can use specialized computer software and advanced mathematical and statistical methods in data analysis and description of processes and phenomena occurring in the marine environment and coastal zone	Is able to use specialized computer software, bioinformatics tools, and mathematical and statistical methods in the analysis of genetic data and the description of phenomena and processes occurring at the molecular level in the marine environment and coastal zone.	[SU2] presentation/project/paper/ report [SU5] implementation of a problem task

Subject contents

Application of molecular methods in genetic and ecological research of marine organisms.

Bioinformatics analyses, interpretation, elaboration, and discussion of genetic research results.

Synthesis of published results concerning selected issues in the molecular ecology of marine organisms.

Prerequisites and co-requisites

Knowledge of the fundamentals of molecular genetics and population genetics. Knowledge of English at an intermediate level.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
completing the final paper, part 1	51.0%	50.0%
completing the final paper, part 2	51.0%	50.0%

Recommended reading

Basic literature	Charon K. M., Świtoński M. Genetyka i genomika zwierząt, Wyd. PWN, Warszawa, 2021 Brown A.C. 2019. Genomy. Wyd. PWN, Warszawa. Kartavtsev Y. Molecular Evolution and Population Genetics for Marine Biologists. CRC Press, 2015 Krzanowska H., Łomnicki A. (red.). Zarys mechanizmów ewolucji. Wyd. PWN, Warszawa, 2002
Supplementary literature	Słomski R. (red.). Analiza DNA teoria i praktyka. Wyd. Uniwersytetu Przyrodniczego w Poznaniu, 2008
eResources addresses	

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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