University of Gdańsk

Subject card

Subject name and code	Non-native species in the marine environment - laboratory exercises, PG_00117735		
Field of study	Gatunki obce w środowisku morskim - ćw. laboratoryjne (Ćw. laboratoryjne)		
Date of commencement of studies	October 2024	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	2	Language of instruction	Polish Polish
Semester of study	3	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Ecophysiology and Bioenergetics -> Department of Marine Ecology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Monika Normant-Saremba	
	Teachers	prof. dr hab. Monika Normant-Saremba dr Joanna Hegele-Drywa	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	15.0	0.0	0.0	15

E-learning hours included: 0.0

Additional information:

Ćwiczenia laboratoryjne

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	15	25.0	15.0	55

Subject objectives	Raising knowledge about alien species in marine ecosystems, with particular emphasis on the Baltic Sea

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OCEANMU2-K01] is ready to plan, implement and supervise, individually or collectively, next stages of the entrusted task, is ready to take responsibility for its results, cooperates effectively in the team and performs its functions in it various functions, including managerial ones	Is ready to plan, implement and supervise, individually or in a team, subsequent stages of research in the field of biology and ecology of alien species, feels responsibility for their results, cooperates effectively in a team, performing various functions, including being the leader.	[SK8] obserwacja samodzielnej lub zespołowej pracy studenta
[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 comply with occupational health and safety rules and take care of the specialized equipment entrusted to him during research in the field of biology and ecology of alien species.	[SK8] obserwacja samodzielnej lub zespołowej pracy studenta
[OCEANMU2-U04] is ready to develop in an analytical and synthetic way research and analysis results and based on them creating conclusions	Is able to analytically and synthetically prepare the results of research and analyzes in the field of biology and ecology of alien species and draw correct conclusions based on them.	[SU2] prezentacja/projekt/referat/ raport
[OCEANMU2-U05] is able to use source information in Polish and a selected foreign language, including archival and electronic databases, in the field of oceanographic issues, performs critical analysis and synthesis of information	Is able to use source information in Polish and English, including archival and electronic databases, regarding issues related to the introduction of alien species into the marine environment, and performs critical analysis and synthesis of information.	[SU2] prezentacja/projekt/referat/ raport
[OCEANMU2-U02] can use scientific terminology fluently and appropriately in presenting and discussing problems in the field of oceanography	Is able to fluently and appropriately use scientific terminology in presenting and discussing problems related to alien species.	[SU1] wypowiedź ustna/rozmowa/ dyskusja

Subject contents

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Presentation of results/discussion	51.0%	25.0%
Practical work	51.0%	50.0%
Worksheet/ report	51.0%	25.0%

Recommended reading

Basic literature	Leppäkoski E., Gollasch S., Olenin S. (red.), 2002. Invasive Aquatic Species of Europe. Distribution, Impacts and Management. Kluwer Academic Publishers, The Netherlands. Rilov G., Crooks J.A. (red.), 2009. Biological Invasions in Marine Ecosystems. Ecological, Management, and Geographic Perspectives. Springer-Verlag Berlin Heidelberg , ISBN: 978-3-540-79235-2, 641 pp.
Supplementary literature	Lockwood J.L., Hoophes M.F., Marchetti M.P., 2007. Invasion Ecology. 4th Edition. Blackwell Publishing.
eResources addresses	Basic https://link.springer.com/article/10.2478/s13545-014-0157-4 - First record of the oriental shrimp Palaemon macrodactylus in the Baltic Sea. https://doi.org/10.3391/ai.2021.16.3.04 - Article on the non-native copepod Eurytemora carolleeae invading Polish coastal waters. https://doi.org/10.1515/ohs-2019-0008 - Article on non-indigenous tanaid Sinelobus vanhaareni in the Polish coastal waters. http://dx.doi.org/10.3391/bir.2015.4.2.06 - First record of the Asian crab Hemigrapsus takanoi in the Baltic Sea. https://doi.org/10.3391/bir.2021.10.4.10 - First record of mass occurrence of the polychate Ficopomatus enigmaticus in coastal waters of the Baltic Sea.

Example issues/ example questions/ tasks being completed	Alien invertebrates in the Baltic Sea: taxonomic identification, origin, introduction pathways and vectors, biological and ecological features enabling population formation, invasive potential.
Work placement	Not applicable

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