University of Gdańsk

Subject card

Subject name and code	Non-native species in the marine environment - laboratory exercises, PG_00117892		
Field of study	Oceanography		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
Education level	postgraduate studies	Subject group	Obligatory subject group 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	
Conducting unit	Pracownia Ekofizjologii i Bioenergetyki -> Katedra Ekologii Morza -> Faculty of Oceanography and Geography		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Monika Normant-Saremba	
	Teachers		

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: Laboratory class						

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-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] presentation/project/paper/ report
	[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] oral statement/conversation/ discussion
	[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] presentation/project/paper/ report
	[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] observation of student's independent or team work
	[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] observation of student's independent or team work

Subject contents

Alien species in benthic communities occurring on submerged surfaces (macrofouling) in the coastal zone of the Gulf of Gdańsk.

Alien species from the list of the 100 most invasive species in the world occurring in the coastal zone of the Gulf of Gdańsk.

New alien species introduced to the Baltic Sea - origin, taxonomic features for identification, routes and vectors of introduction and secondary spread, biology and ecology, and potential impact on biodiversity and the human economy.

Prerequisites and co-requisites

Assessment methods and criteria

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

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	Uzupełniające Adresy na platformie eNauczanie:

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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