University of Gdańsk

Subject card

Subject name and code	Non-native Species in the Marine Environment - laboratory , PG_00204928		
Field of study	Oceanography		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
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
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		

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

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	1.0	34.0	50

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;	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.	[SK2] presentation/project/paper/ report [SK8] observation of student's independent or team work
[OCEANMU2-U05] is able to use source information in Polish and a chosen foreign language, including archival and electronic databases, within the field of oceanography; critically analyzes and synthesizes information, and is capable of performing critical interpretation and synthesis of data	Is able to use source information in Polish and English, including archival and electronic databases, in the field of issues related to alien species in the marine environment, and is able to critically analyze and synthesize information.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
[OCEANMU2-U02] is able to fluently and accurately use scientific terminology when presenting and discussing oceanographic issues, and to propose and justify innovative solutions	Is able to fluently and appropriately use scientific terminology in presenting and discussing problems related to alien species.	[SU1] oral statement/conversation/ discussion
[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 [SU8] 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

Analysis of the qualitative and quantitative composition of alien species occurring on submerged surfaces in the coastal zone of the Gulf of Gdańsk, together with the development of information on taxonomic features for identification, origin, pathways and vectors of primary introduction and secondary spread, biology and ecology, with particular emphasis on the impact on local biodiversity and ecosystem services.

Examples of species from the list of 100 most invasive species in the world occurring in the coastal zone of the Gulf of Gdansk and 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 ecosystem services.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Presentation of results/discussion	51.0%	20.0%
Practical work and report/ worksheet	51.0%	80.0%

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	Scientific publications on non-native species in the Baltic Sea.
eResources addresses	

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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