University of Gdańsk

Subject card

Subject name and code	Ecological modelling - lecture, PG_00117893		
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 Optional subject group
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	1.0
Learning profile	academic	Assessment form	
Conducting unit	Pracownia Ichtiologii -> Katedra Ekologii Morza -> Faculty of Oceanography and Geography		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Mariusz Sapota	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	10.0	0.0	0.0	0.0	0.0	10
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	10	8.0	10.0	28

Subject objectives

Explanation of methods of creating ecological models, teaching the principles of creating models of the functioning of marine ecosystems

Learning outcomes

Course outcome	Subject outcome	Method of verification
[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	Explanation of methods of creating ecological models, teaching the principles of creating models of the functioning of marine ecosystems	[SW4] test/exam - oral or written
[OCEANMU2-W05] knows and understands the principles of planning and conducting field and laboratory research as well as advanced methods and tools of scientific research, especially in the field of the studied specialty	knows and understands to an in-depth degree basic and advanced mathematical, statistical and IT tools used to create models of phenomena and processes occurring in the aquatic environment	[SW4] test/exam - oral or written

Subject contents	Types of ecological models Construction of block models Mathematical modelling tools Population models . Dynamic models of matter circulation and energy flow Simulation and forecasting models
Prerequisites and co-requisites	basic knowledge of statistics, knowledge of the general principles of functioning of marine ecosystems
Assessment methods and criteria	

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

Recommended reading	Basic literature	Ecopath with Ecosim users guide, Lenfest Ocean Futures Project 2008 Witek Z. 1993. Structure and function of marine ecosystem In the Gdansk Basin on the basis of studies performed in 1987. (ed.) Studia I Materialy Oceanologiczne nr 63
	Supplementary literature	Kremer J.N., Nixon S.W. A Coastal Marine Ecosystem, , Ecological Studies 24, 1978 Fennel W. Neumann T., Introdustion to the modeling of marine ecosystems, , Elsevier Oceanography Series 72, 2004 Dzierzbicka-Glowacka L. 2000 Matematyczne modelowanie procesow biologicznych w gornej warstwie morza, Rozprawy i monografie IO PAN Sopot, 13
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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