University of Gdańsk

Subject card

Subject name and code	Ecophysiology of marine animals - lecture, PG_00054213		
Field of study	Oceanography		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
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	1	Language of instruction	Polish Polish
Semester of study	1	ECTS credits	3.0
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	prof. dr hab. Monika Normant-Saremba	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	0.0	0.0	30

E-learning hours included: 0.0

Additional information:
Lecture with multimedia presentation

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	8.0	38.0	76

Subject objectives

Learning about the basic life processes of marine animals, as well as behavioral and physiological adaptations to the environment and various changes occurring in it.

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	Knows and understands in-depth the latest research trends in the physiology of marine animals, as well as the possibilities of practical application of scientific achievements.	[SW4] test/exam - oral or written
[OCEANMU2-W04] knows and understands the latest research trends in the field of oceanography as well as the possibilities of practical application of scientific achievements	Knows and understands in-depth the course of complex physiological processes in animals living in the marine environment and the coastal zone, as well as their dependence on changes taking place in the environment.	[SW4] test/exam - oral or written
[OCEANMU2-W03] knows and understands research methods used in oceanography and related sciences	Knows and understands in-depth research methods used in ecophysiological studies of marine animals.	[SW4] test/exam - oral or written

Subject contents	Lecture include the following topics: introduction to ecophysiology; food consumption and assimilation; excretion; osmoregulation and ion regulation; breathing and circulation; energy metabolism; energy value and biochemical composition; energy balance and individual production; sensory organs and hormonal regulation; physiology of reproduction; adaptation of marine animals to life in various environmental conditions.	
Prerequisites and co-requisites		
Assessment methods and criteria		

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

Recommended reading	Basic literature	Hochachka P. W., Somero G. N., 1973. Strategies of Biochemical Adaptation. W.B. Saunders Company, Philadelphia. Prus T., 1975. Chapter 5: Calorimetry and Body Composition, 5A Measurement of calorific value using Phillipson microbomb calorimeter. In: Grodzinski In., Klekowski R.Z., Duncan A. (eds), Methods for Ecological Bioenergetics. IBP Handbook No. 24, Blackwell Scientific Publications, 149- 160. Schmidt-Nielsen K., 1997. Animal Physiology - Adaptation to Environment. 5th Edition, Cambridge University Press. Willmer, P., Stone, G., Johnston, I., 2000. Environmental Physiology of Animals. Blackwell Science Ltd.
	Supplementary literature	Harris, R.R., Aladin, N.V., 1997. The ecophysiology of osmoregulation in Crustacea. W: Hazon, N., Eddy, F.B., Flik, G. (eds.), Ionic Regulation in Animals. Springer, Berlin, 1-25.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Tolerance and physiological stress zones, acclimation, acclimatization and adaptation, physiological phenotypic plasticity, conformity and regulation, physiological processes and body mass, biological rhythms, homeostasis, reception and processing of stimuli from the environment, regulation and coordination of chemical processes in cells and tissues, digestion and food assimilation efficiency, respiration, ventilation, heart rate and oxygen transport, aerobic and anaerobic metabolism, excretion of metabolic products, maintaining water-ion balance, individual production, behavioral and physiological indicators of environmental changes.	
Work placement	Not applicable	

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