University of Gdańsk

Subject card

Subject name and code	Basic Physiology of Aquacultured Invertebrates - lecture, PG_00201316		
Field of study	Aquaculture – Business And Technology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Subject group related to practical vocational preparation
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	practical	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	15.0	0.0	0.0	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	9.0	25

Subject objectives

The aim of the course is to familiarize the student with the basic physiological processes of aquatic invertebrates used in aquaculture and the influence of various biotic and abiotic factors on these processes.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[AKWAL3_W04] has an advanced understanding of the principles of optimization of breeding methods for aquatic invertebrates, and has acquired theoretical and practical knowledge of the diagnostic methods used	Knows and understands the course of basic physiological processes, their connection with the optimization of breeding methods of aquatic invertebrates, and has acquired theoretical and practical knowledge of the diagnostic methods used.	[SW4] test/exam - oral or written

<table>
<tr><td>Subject contents</td><td>Food consumption and assimilation.

Excretion of metabolic products.

Osmo- and ionoregulation.

Respiration and energy metabolism.

Biochemical composition and energy value.

Energy balance and individual production.

Biotic and abiotic factors determining the rate of physiological processes and individual production.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Knowledge of systematics and basic biology and ecology of farmed invertebrates.</td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Test/ exam</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>Barnabe G., 1994. Aquaculture: Biology And Ecology Of Cultured Species (Ellis Horwood series in aquaculture and fisheries support). CRC Press.

Klekowski R.Z., Fischer Z., 1993. Bioenergetyka Ekologiczna Zwierząt Zmiennocieplnych. PAN, Wydział II Nauk Biologicznych, Warszawa.

Schmidt-Nielsen K., 2008. Fizjologia Zwierząt. Adaptacja do środowiska. Wydawnictwo Naukowe PWN, Warszawa.</td></tr><tr><td>Supplementary literature</td><td>Willmer, P., Stone, G., Johnston, I., 2000. Environmental Physiology of Animals. Blackwell Science Ltd.</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Tolerance and physiological stress zones, acclimation, acclimatization and adaptation, physiological phenotypic plasticity, conformism and regulation, physiological processes and body mass, homeostasis, digestion and food assimilation efficiency, respiration, ventilation, heart rate and oxygen transport, aerobic and anaerobic metabolism, excretion metabolic products, maintaining water-ion balance, individual production, behavioral and physiological indicators of environmental changes.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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