University of Gdańsk

Subject card

Subject name and code	Systematics and Basic biology of Cultivated Organisms - lecture, PG_00201278		
Field of study	Aquaculture – Business And Technology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
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	1	Language of instruction	Polish
Semester of study	2	ECTS credits	3.0
Learning profile	practical	Assessment form	exam
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	45.0	0.0	0.0	0.0	0.0	45

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	45	2.0	28.0	75

Subject objectives

The aim of the course is to familiarize the student with the systematics and basic issues in the field of biology of various groups of organisms used in aquaculture.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[AKWAL3_W03] has an advanced understanding of the conceptual categories and terminology related to the biological basis of aquatic organisms breeding, as well as concepts directly relevant to the practical applications of this knowledge	Knows and understands the terminology relating to the systematics and biology of farmed plants and algae, invertebrates and fish, as well as concepts directly related to the practical applications of this knowledge.	[SW4] test/exam - oral or written

Subject contents

Plants and algae: classification of cyanobacteria, algae and vascular plants of aquatic environments; structure of cyanobacterial and plant cells; characterization of the level of morphological organization of cyanobacteria, algae and vascular plants; macroalgae development cycles; adaptation of cyanobacteria and algae to the inhabited environments.

Invertebrates: taxonomy and morphological structure of the most important species in aquaculture, with particular emphasis on mollusks, crustaceans and echinoderms; anatomy; reproduction and life cycle; sense organs, behavior and inter-individual interactions.

Fish: historical outline of the taxonomy and specificity of the taxonomy nomenclature of this group; description of systematic features of fish: shape and color; elements of the external structure of fish; biometric and meristic features; skeleton and the structure and functioning of selected internal organs; characteristics of the main taxonomic groups; reaction to stimuli and behavior.

Prerequisites and co-requisites

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test/ exam: Fish	51.0%	33.34%
	Test/ exam: Invertebrates	51.0%	33.33%
	Test/ exam: Plants and Algae	51.0%	33.33%
Recommended reading	Basic literature	Barnes R.S.K., Calow P., Olive P.J.W., Golding D.W., Spicer J.I., 2007. The Invertebrates, A Synthesis. 3rd Edition, Blackwell Publishing. Bieniarz K., Epler P., 2004. Zoologia Tom V, Ryby. Leksykon popularnonaukowy. Wydawnictwo Albatros, Kraków. Błaszak C. (red.), 2021. Zoologia Szkarłupnie płazy Tom 3 Część 1. Wydawnictwo Naukowe PWN. Brusca R.C., Moore W., Shuster S.M., 2016. Invertebrates, 3rd Edition, Sinauer Associates. Brylińska M., 2000. Ryby słodkowodne Polski. Wydawnictwo Naukowe PWN Warszawa. Gerstmeier R., Romig T., 2002. Przewodnik. Słodkowodne ryby Europy. Mulico Warszawa. Kadłubowska J. Z., 1975. Zarys algologii, PWN, Warszawa. Kottelat M., Freyhof J., 2007. Handbook of European Freshwater Fishes Nelson J.S., 2006. Fishes of the Word. Wiley Pechenik J.A., 2014. Biology of the Invertebrates, 7th Edition, McGraw-Hill Education. Szweykowska A., Szweykowski J. 1974, 1993. Botanika Systematyka, PWN, Warszawa. Szweykowska A., Szweykowski J., 1974, 1993. Botanika Morfologia, PWN Warszawa.	

	Supplementary literature	Gąsowska M., 1962. Krągłouste i ryby. Państwowe Wydawnictwo Naukowe, Warszawa. Grabda E., 1986. Zoologia. Bezkręgowce, PWN. Grodziński Z., 1981. Anatomia i embriologia ryb. Państwowe Wydawnictwo Rolnicze i Leśne, Warszawa. Moore J., 2009. Wprowadzenie do zoologii bezkręgowców, Wydawnictwa Uniwersytetu Warszawskiego. Opuszyński K., 1979. Podstawy biologii ryb. Państwowe Wydawnictwa Rolnicze i Leśne, Warszawa. Pliński Marcin - Glony Zatoki Gdańskiej, część I-VII - Uniwersytet Gdański, 1980. Pliszka F., 1964. Biologia ryb. Państwowe Wydawnictwa Rolnicze i Leśne, Warszawa. Suworow E., 1954. Podstawy ichtiologii. Państwowe Wydawnictwo Naukowe, Warszawa.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Taxonomy, external and internal structure, phenotypic diversity; reproduction, life cycle and growth; adaptation to environmental conditions.	
Work placement	Not applicable	

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