University of Gdańsk

Subject card

Subject name and code	Diseases of Cultivated Invertebrates - laboratory classes, PG_00201295						
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	4		ECTS credits		1.0		
Learning profile	practical		Assessment form		credit		
Conducting unit	Department of Marine Ecosystems Functioning -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Katarzyna Smolarz				
	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		2.0		8.0	25
Subject objectives	The aim of the course is to familiarize students with the knowledge of diseases and pathological changes occurring in farmed invertebrates and the latest diagnostic methods used to identify them. Zoonotic diseases transmitted by farmed invertebrates.						

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	the student knows and understands the principles of optimization of breeding methods and has acquired theoretical and practical knowledge of the applied diagnostic methods for diseases of farmed invertebrates (program content: C1-C2)	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[AKWAL3-U03] can competently obtain selected aquatic invertebrates for ongoing breeding and perform simple practical tasks related to their breeding under the guidance of the scientific supervisor	the student is able to skillfully obtain selected aquatic invertebrates for breeding based on the assessment of their health condition and performs simple diagnostics during breeding under the supervision of a scientific supervisor (program content: C2)	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written
[AKWAL3-U12] can interact and work in a group, and assume different roles	is able to cooperate and work in a group in the diagnosis of diseases and pathological changes in farmed invertebrates, taking on various roles (program content: C1-C2)	[SU8] observation of student's independent or team work
[AKWAL3-K05] student is ready to appreciate the practical application of acquired knowledge	the student is ready to appreciate the practical application of the acquired knowledge in the assessment of the health of farmed invertebrates and the diagnosis of diseases occurring in farms (program content: C1-C2)	[SK4] test/exam - oral or written [SK8] observation of student's independent or team work

Subject contents

C. Laboratories

C.1. Latest diagnostic techniques for spatial assessment of pathological changes at the body level.

C.2. Diagnosis of anatomopathological changes (regressive changes, inflammation, cancer, parasitic infections) using histological techniques.

Prerequisites and co-requisites

Basics of biology, ecology, biochemistry, physiology and genetics of aquatic invertebrates

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
written test	51.0%	80.0%
work and activity during classes	51.0%	20.0%

Recommended reading

Basic literature

Dunham R. A., 2011, Aquaculture and fisheries biotechnology: genetic approaches, Second edition, CABI Publishing, Cambridge.

Cotran R. S., Kumar V., Collins T., Robbins S. L., 1999. Pathologic basis of disease, W B Saunders; 6th edition

Fingerman M., Nagabhushanam R., 2000. Recent Advances in Marine Biotechnology, Vol. 4: Aquaculture: Part A: Seaweeds and Invertebrates. CRC Press.

Kinne O. 1980. Diseases of marine animals Vol. I, General aspects, Protozoa to Gastropoda, Wiley & Sons

Klatt E. C., Edward C., Klatt MD., Vinay, Kumar MD., Kumar V., 2000. Rewiev of pathology, W B Saunders; 1st edition

Hopkin S.P., Sibly R.M., Peakall D.B., 2002. Podstawy ekotoksykologii, Wyd. PWN

Malicka E., Materiały pomocnicze do ćwiczeń z histopatologii zwierząt, 2008, SGGW, Warszawa

	Supplementary literature	Hochberg F.G., 1990. Diseases of marine animals Vol. III, Introduction, Mollusca: Cephalopoda, Crustacea, etc. to Urochordata., Howard D., Lewis E.j., Keller J., Smith C.S., 2004, Histological techniques for Marine bivalve mollusks and crustaceans, NOAA Kinne O. (red), Biologische Anstalt Helgoland, Hamburg; Kammenga, J., Laskowski, R., 2000. Demography in Ecotoxicology. John Wiley &Sons. Kuryszko J., Zarzycki J., Histologia zwierząt, 2000, Państwowe wydawnictwo Rolnicze i Leśne, Warszawa Phillips B.F., 2013. Lobsters: Biology, Management, Aquaculture and Fisheries. 2nd Edition, John Wiley & Sons, Ltd.
	eResources addresses	
Example issues/ example questions/ tasks being completed	none	
Work placement	Not applicable	

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