University of Gdańsk

Subject card

Subject name and code	Diseases of cultivated invertebrates - laboratory exercises, PG_00075915		
Field of study	Aquaculture – Business And Technology		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2026/2027
Education level	Bachelor's studies	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	4	ECTS credits	1.0
Learning profile	practical	Assessment form	credit
Conducting unit			
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	4.0	10.0	29

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-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
[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_W04] knows and understands 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

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	50.0%	80.0%
work and activity during classes	0.0%	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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