University of Gdańsk

Subject card

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| 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<br>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, prof. UG | | | | |
| | 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-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<br>[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] 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<br>[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<br>[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 | 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

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| | Supplementary literature | Hochberg F.G., 1990. Diseases of marine animals Vol. III, Introduction, Mollusca: Cephalopoda, Crustacea, etc. to Urochordata.,<br><br>Howard D., Lewis E.j., Keller J., Smith C.S., 2004, Histological techniques for Marine bivalve mollusks and crustaceans, NOAA<br><br>Kinne O. (red), Biologische Anstalt Helgoland, Hamburg;<br><br>Kammenga, J., Laskowski, R., 2000. Demography in Ecotoxicology. John Wiley &Sons.<br><br>Kuryszko J., Zarzycki J., Histologia zwierząt, 2000, Państwowe wydawnictwo Rolnicze i Leśne, Warszawa<br><br>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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