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| Module code  | M_WE-SEM8 PW 1F/2F CHBEZ WOD   |
| Field of study   | Veterinary medicine  |
| Module name, also the name in English  | Diseases of aquatic invertebrates  |
|  | Choroby bezkręgowców wodnych   |
| Language of instruction  | English  |
| Module type  | elective   |
| Level of studies   | Long-cycle master's degree studies   |
| Form of study  | Full-time/part-time  |
| Year of study in the field of study  | IV   |
| Semester of study in the field of study  | 8  |
| ECTS credits, divided into contact/non-contact hours   | 1 (0.7/0.3)  |
| Academic title/degree, name of the person responsible for the module   | Dr hab. Leszek Guz, prof. ucz.   |
| Unit teaching the module   | Sub-Department of Fish Diseases and Biology  |
| Module objective   | Introducing students to the biology, breeding, diseases and treatment of aquatic invertebrate animals, i.e. sponges, angiosperms, corals, shrimps, crayfish, mollusks, echinoderms, tunicates, and anurans. Familiarization with aquaculture animal regulations. |
| The learning outcomes for the module include a description of the knowledge, skills and social competences that the student will gain after completing the module. | Knowledge:   |
|  | K1. The student knows the biology of the aquatic invertebrates discussed and the infectious agents that cause disease and the disorders and symptoms of the body in the course of disease.   |
|  | K2. The student knows the basics of diagnosis, treatment, and prevention of aquatic invertebrate diseases, welfare principles, and basic regulations for aquaculture animals.  |
|  | Skills:  |
|  | S1. The student is able to perform veterinary medical history/examination, select and administer rational chemotherapy/prophylaxis.  |
|  | Social competences:  |
|  | C1. Willingness to formulate correct conclusions from the observation of sick animals in order to undertake proper diagnosis/treatment/prevention of animal diseases.  |
| Prerequisites and additional requirements  | None   |

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| Module program content   | <p>Exercise 1. Organisation. Regulatory provisions for the rearing and culture of invertebrate aquaculture animals. (2 hrs.)</p> <p>Exercise 2. Biology, breeding, diseases and treatment - sponges, caecilians. (2 hrs.)</p> <p>Exercise 3. Biology, breeding, diseases and treatment - corals. (2 hrs.)</p> <p>Exercise 4. Biology, breeding, diseases and treatment - shrimp. (2 hrs.)</p> <p>Exercise 5. Biology, breeding, diseases and treatment - crayfish. (2 hrs.)</p> <p>Exercise 6. Biology, breeding, diseases and treatment - molluscs. (2 hrs.)</p> <p>Exercise 7. Biology, breeding, diseases, and treatment - echinoderms, tunicates, anurans. (2 hrs.)</p>  |              |                     |
| List of core and supplementary literature                                    | <p>Gregory A. Lewbart (editor): Invertebrate medicine. John Wiley &amp; Sons 2012.</p> <p>Journals: Invertebrate Pathology, Koralle.</p>   |              |                     |
| Planned forms/activities/teaching methods                                    | <p>Laboratory exercises, studying recommended reading, preparing for class, preparing a presentation on a given topic, demonstration, consultation.</p> <p>Working with microscopes/loupes (preparing slides), viewing living and fixed organisms.</p>   |              |                     |
| Verification methods and ways of documenting the achieved learning outcomes. | <p><b>Knowledge.</b> Exercises, presentations/projects. It is necessary to pass all exercises (i.e. attendance at all classes - absences from classes must be passed at a date agreed with the teacher). Final Test. Documentation: list with grades and question sheet with grades.</p> <p><b>Skills.</b> Active participation in classes (it is necessary to complete all exercises, i.e. attendance at all classes - absences from classes must be passed/made up during the consultations or at another time agreed with the teacher) - a prerequisite for passing the final test. Documentation: attendance list.</p> <p><b>Competences.</b> Active participation in classes (attendance at all classes - a prerequisite for passing the final test). Absences from classes must be made up during consultations or at another time agreed with the instructor. Documentation: attendance list.</p> |              |                     |
| ECTS credits   | <b>Contact</b>   |              |                     |
|  |  | <i>Hours</i> | <i>ECTS credits</i> |
|  | practical classes  | 14           | 0.56                |
|  | Consultations  | 3            | 0.1                 |
|  | Getting credit for classes   | 1            | 0.04                |
|  | <b>TOTAL contact hours</b>   | <b>18</b>    | <b>0.7</b>          |
|  | <b>NON-CONTACT</b>   |              |                     |
|  | preparation for classes  | 3            | 0.1                 |
|  | project preparation  | 4            | 0.13                |
| literature study   | 2  | 0.07         |                     |

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|  | <b>TOTAL non-contact hours/ ECTS credits</b>   | <b>9</b>  | <b>0.3</b> |
|  | attendance at practical classes  | 14        | 0.56       |
|  | Consultations  | 3         | 0.1        |
|  | colloquium in practical classes  | 1         | 0.04       |
|  | <b>TOTAL with direct involvement of the teacher</b>  | <b>18</b> | <b>0.7</b> |
| The workload of activities that requires direct participation of an academic teacher | attendance at practical classes  | 14        | 0.56       |
|  | participation in consultations   | 3         | 0.1        |
|  | getting credit for classes   | 1         | 0.04       |
|  | <b>TOTAL of practical character</b>  | <b>18</b> | <b>0.7</b> |
| Relation of module learning outcomes to course learning outcomes.                    | K1 – A_W2, A_W13 ++<br>K2 – B_W3, B_W9, A_W17 ++<br>S1 – A_U8 ++<br>S2 – B_U2, B_U3, B_U13 ++<br>C1 – K5 +   |           |            |
| Elements and values affecting the final grade  | Final credit (20 question test).<br>Grading scale applicable for final credit: 5.0 (19-20 correct answers), 4.5 (17-18), 4.0 (15-16), 3.5 (13-14), 3.0 (11-12), 2.0 (<11).<br>The final grade for the course consists of 100% of the final test score (a passing grade is required). |           |            |