Module code	M_WE_SEM6 CHOWAD
Field of study	Veterinary medicine
Module name, also the name in English	Diseases of beneficial insects Choroby owadów użytkowych
Language of instruction	English
Module type	obligatory
Level of studies	Long-cycle Master's degree programme
Mode of study	Full-time
Year of study in the field of study	III
Semester of study in the field of study	VI
ECTS credits, divided into contact/non-contact hours	2 (1,4/0,6)
Academic title/degree, name of the person responsible for the module	dr. n. wet. Krzysztof Buczek
Unit teaching the module	Department of Epizootiology and Clinic of Infectious Diseases
Module objective	The purpose of this course is to familiarise a student with the current knowledge of threats posed to productive insects (honeybees, bumblebees, solitary bees, silkworms, and the so-called feeder insects) and ways to eradicate them. Introduction to basic infectious diseases of bees and other mentioned beneficial insects, their etiology, pathogenesis, clinical course; teaching methods of diagnosis and proceedings in case of finding a given disease entity, learning of differentiation, treatment and prevention of infectious diseases; acquainting students with ex officio eradicated diseases found in beneficial insects and with administrative procedures aiming at their elimination and limitation of their spread in the country and in EU member states.
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 how to conduct a clinical interview for insect diseases, what factors to focus on. In the case of suspicion of a disease of beneficial insects that is controlled by law, the student is able to communicate this information to the staff of the veterinary inspection and is able to cooperate with them to eliminate the threat.
	K2. The student understands the limitations of not using antibiotics in apiary production to improve food quality.
	K3. The student understands the impact of climate change, animal transport (bees) on the emergence of new disease entities.
	Skills:
	S1. The student is able to perform a clinical interview for diseases of beneficial insects, and knows what factors are important for a proper diagnosis.
	S2. The student is able to retrieve diagnostic material from a family, properly secure it, describe it, and transfer it to a diagnostic laboratory.
	Social competences:

	C1. In case of recognition of dangerous diseases subject to obligatory eradication or registration in the territory of Poland, the student undertakes appropriate actions.
	C2. In case of suspicion of a disease controlled by law the student is able to communicate this information to the staff of the veterinary inspection and to cooperate with them in order to eliminate the threat.
Preliminary and additional requirements	according to the Sequence ofsubjects
Module programme content	• Discussion of the major representatives of bees, bumblebees, solitary bees, silkworms, and food insects, • the biology of the bee colony and the earth bumblebee, • Fundamentals of honeybee anatomy and physiology, • Discussing the basics of husbandry, apiary management and apiary equipment, • Pathogenesis of selected non-infectious entities and developmental anomalies of insects • the way of spread of infectious diseases and their etiological agents • methods of prevention and control of infectious and invasive diseases of beneficial insects • methods of dealing with cases of officially controlled diseases • methods of appropriate collection of material for laboratory testing • interpretation of laboratory test results • types of bee products • Practical classes in the apiary - performing a family review • Practical classes in the laboratory - testing of bees and brood, and comb evaluation.
List of basic and supplementary literature	1. Honeybee Veterinary Medicine: *Apis Mellifera* L., Nicolas Vidal-Naquet, 2015 2. Honey Bee Medicine for the Veterinary Practitioner, Cynthia M. Faux, Terry Ryan Kane. 2021 3. Managing Bee Health: A Practical Guide for Beekeepers. John Carr. 2016
Planned forms/activities/teaching methods	Multimedia presentations, videos and photos. Practical classes - performing a clinical examination of a bee colony and laboratory tests of winter swarm and submitted material from apiaries

<table>
<tr><td>Verification methods and ways of documenting the achieved learning outcomes.</td><td colspan="3">K - Written exam - 5 open-ended questions to answer; a correct answer to 3 questions, which represents 60%, is required to obtain a positive grade.
Students may earn 2 points per question.
Evaluation criteria:
0 - 5 grade 2
6 grade 3
7 grade 3+
8 grade 4
9 grade 4+
10 grade 5
S - practical testing of a family's material in laboratory classes.
C - participation in class discussion.
Grading scale according to Book of Education Quality
A student must not have more than 1 absence from the classes.
Students must participate in at least one practical classes.
The condition for passing is obtaining a positive grade from the exam</td></tr>
<tr><td rowspan="11">ECTS credits</td><td colspan="3">CONTACT</td></tr>
<tr><td></td><td>Hours</td><td>ECTS</td></tr>
<tr><td>Lectures</td><td>15</td><td>0,6</td></tr>
<tr><td>Practical classes</td><td>14</td><td>0,56</td></tr>
<tr><td>consultations</td><td>3</td><td>0,12</td></tr>
<tr><td>Credit/retake</td><td>3</td><td>0,12</td></tr>
<tr><td>TOTAL</td><td>35</td><td>1,4</td></tr>
<tr><td colspan="3">NON-CONTACT HOURS</td></tr>
<tr><td>preparation for classes</td><td>7,5</td><td>0,3</td></tr>
<tr><td>exam preparation</td><td>7,5</td><td>0,3</td></tr>
<tr><td>TOTAL</td><td>15</td><td>0,6</td></tr>
<tr><td rowspan="5">The workload of activities that require direct participation of an academic teacher</td><td>Attendance at lectures</td><td>15</td><td>0,6</td></tr>
<tr><td>Attendance at practical classes</td><td>14</td><td>0,56</td></tr>
<tr><td>consultations</td><td>3</td><td>0,12</td></tr>
<tr><td>credit/retake</td><td>3</td><td>0,12</td></tr>
<tr><td>TOTAL</td><td>35</td><td>1,4</td></tr>
<tr><td>Relation of module learning outcomes to major learning outcomes</td><td colspan="3">K1 - WE_W19 +++
K2 - WE_W22 +++
K3 - WE_W20++; WE_W22 ++; WE_W23 ++
S1 - WE_U14 +++
S2 - WE_U19 +++
Sc1 - WE_K1 +++
Sc2 - WE_K 6 ++
Sc3. WE_K 9 +++</td></tr>
<tr><td>Elements and values affecting final grade</td><td colspan="3">Final grade:
Practical credit - 10% weight
Exam - 90% weight</td></tr>
</table>