



## Diseases of beneficial insects

ECTS: 2.00

### SUBJECT MATTER CONTENT

#### LECTURE

Lectures contain information about the history of beekeeping in Poland and world, get acquainted with the races of bees, biology of the bee colony, breeding silkworms and bumble bees, with the wider economy in apiary and bee products. The main content of the lectures is to acquaint students with illnesses of brood and adult bees, poisoning and pests of bees.

#### AUDITORIUM CLASSES

Students are familiarized with the morphology of bees and silkworms, equipment, beekeeping, bee products and the types of diseases, mainly the methods of their identification and control. They have the opportunity to familiarize themselves with the current cases of diseases detected in apiaries. They master the basics of disease control under the Act - the eradication of infectious diseases of bees. Practical classes are held in the apiary.

#### PRACTICAL CLASSES

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#### TEACHING OBJECTIVE

The aim is to get to know the latest news on the biology of utility insects, their diseases and threats other than diseases, as well as methods of their control and prevention.

#### DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF THE SECOND LEVEL LEARNING OUTCOMES FOR QUALIFICATIONS AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR FIELDS OF STUDY:

**Symbols for outcomes related to the discipline:**

R/WA\_P7S+++

**Symbols for outcomes related to the field of study:**

A.W17. +, A.U11. +, K.1.+ , K.3.+ , A.W12. +, A.U16. +, A.U10. +

#### LEARNING OUTCOMES:

##### Knowledge:

W1 – The student knows and understands: disease entities, knows the biology of a bee colony, can differentiate diseases.

##### Skills:

U1 – The student is able to recognize and name disease entities, can explain their etiology, pathogenesis, prescribe and administer drugs, take samples for laboratory tests, and decide on the further procedure in the case of finding infectious diseases.

##### Social competence:

**Legal acts specifying learning outcomes:**  
**682/2020**  
**Disciplines:** Veterinary science  
**Status of the course:**Obligatoryjny  
**Group of courses:**B - przedmioty kierunkowe  
**Code:** ISCED 0841  
**Field of study:**Veterinary Medicine  
**Scope of education:**  
**Profile of education:** General academic  
**Form of studies:** full-time  
**Level of studies:** uniform master's studies  
**Year/semester:** 4/8

**Types of classes:** Lecture, Auditorium classes, Practical classes  
**Number of hours in semester:**Lecture: 15.00, Auditorium classes: 12.00, Practical classes: 3.00  
**Language of instruction:**Polish  
**Introductory subject:** Biology, histology, physiology, pathomorphology, pharmacology  
**Prerequisites:** using a light microscope

**Name of the organisational unit conducting the course:**Katedra Parazytologii i Chorób Inwazyjnych  
**Person responsible for the realization of the course:**dr hab. wet. Maria Iller, prof. UWM, prof. dr hab. wet. Rajmund Sokół  
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maria.michalczyk@uwm.edu.pl

**Additional remarks:**

K1 – The student is ready to act in accordance with the principles of professional ethics, to show sensitivity to animal suffering, to cooperate with breeders and state administration bodies, to use the correct medical and apiary nomenclature.

### **TEACHING FORMS AND METHODS:**

Lecture(W1;U1;K1):Lecture on a multimedia presentation, discussion

Auditorium classes(W1;U1;K1):Laboratory exercises, practical exercises in the apiary.

Practical classes(W1):Acquainting with independent work with bees in an apiary.

### **FORM AND CONDITIONS OF VERIFYING LEARNING OUTCOMES:**

Lecture (Evaluation of the work and cooperation in the group) - 100% attendance at lectures -

Auditorium classes (Competention test) - At the end of the semester, a written competence test will be carried out. To pass an item, you must obtain at least 65% of the possible points.

The grading of ratings is based on point thresholds described in the faculty procedure "Principles of student assessment". The student may attempt to improve the test twice.

The condition for obtaining a credit for the final course is to obtain a positive mark from the test and a practical test in the apiary. In the event of a top-down suspension of classroom classes and the need for distance learning, the methods of verifying the achievement of learning outcomes declared in the syllabus, i.e. the forms of passing the exam and exercises, may change in a way adequate to the situation. -

Practical classes (Evaluation of the work and cooperation in the group) - evaluation of practical work -

### **BASIC LITERATURE:**

1. Sokół R., Michalczyk M., Pluta P., *Choroby owadów użytkowych*, Tom 1, Wyd. Wydawnictwo Uniwersytetu UWM w Olsztynie, R. 2020, s. 127

### **SUPPLEMENTARY LITERATURE:**

