



## Veterinary vaccinology

ECTS: 2.00

### SUBJECT MATTER CONTENT

#### LECTURE

History and importance of immunoprophylaxis. New directions in the development of medical biotechnology: bio preparations, immunomodulators. Biotechnology of vaccine antigens. Molecular mechanisms of response to vaccine antigens. Types, production, control, and safety of vaccines. Methods of assessing the harmlessness and effectiveness of vaccines. Principles, techniques, and vaccination schemes of different species of livestock, companion, and domestic animals. Contraindications to vaccinations, vaccination in risk groups. Preventive vaccinations in lower and higher vertebrates. Vaccine market and distribution. Legal and ethical problems of vaccinations, supervision over the market and distribution of vaccines in Poland, the EU, and in the world.

#### CLASSES

Methods of determining the specific immune response to the vaccine antigen (cellular and humoral). Methods of collecting, preparing, and storing material for immunological tests. Laboratory "in vitro" methods for assessing the harmlessness and efficacy of vaccines. Vaccination principles, techniques, and schedules for different species of livestock, companion and domestic animals, carnivores, free-living animals, birds, and lower vertebrates. Preparation of animals for vaccination taking into account the specificity of breeding and technological group. Limitations on the use of immunoprophylaxis.

#### TEACHING OBJECTIVE

Acquiring new knowledge and supplementing the existing knowledge, mainly in the field of specific immunoprophylaxis, production, evaluation and use of vaccines as well as the rules, techniques and schedules of vaccination in various animal species.

#### 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.W10. +, A.U16. +, A.U21. ++, K.8.+, C.U2. +, B.U1. ++, K.10.+, A.W9. +, B.U21. +, A.W22. +, K.4.+, B.U9. +, C.W2. +, K.2.++, A.U19. ++, B.U20. +, K.1.++, B.W22. +, A.W11. +, A.U12. +, C.U3. +

#### LEARNING OUTCOMES:

##### Knowledge:

W1 – The student knows the conditions ensuring the welfare of animals.

W2 – The student describes and interprets the principles of production economics.

**Legal acts specifying learning outcomes:**  
**682/2020**  
**Disciplines:** Veterinary science  
**Status of the course:** Fakultatywny  
**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:** 5/9

**Types of classes:** Lecture, Classes  
**Number of hours in semester:** Lecture: 10.00, Classes: 20.00  
**Language of instruction:** Polish  
**Introductory subject:** Microbiology, Immunology, Infectious diseases of animals.  
**Prerequisites:** Knowledge of basic concepts and issues in microbiology, immunology and epizootiology is required.

**Name of the organisational unit conducting the course:** Katedra Mikrobiologii i Immunologii Klinicznej  
**Person responsible for the realization of the course:** dr hab. wet. Roman Wójcik, prof. UWM  
**e-mail:** brandy@uwm.edu.pl

**Additional remarks:**

**Skills:**

U1 – The student is able to interpret the responsibility of a veterinarian in relation to the animal and its owner.

U2 – The student is aware of the need to maximize the use of professional skills in order to improve the quality of veterinary care, animal welfare and public health.

U3 – The student is able to develop and introduce preventive programs appropriate for individual species of animals.

**Social competence:**

K1 – The student is ready to show responsibility for decisions made towards people and animals.

K2 – The student has the habit of constantly expanding knowledge and improving skills.

K3 – The student puts the patient's welfare in the first place.

**TEACHING FORMS AND METHODS:**

Lecture(W1;W2;U1;U2;U3;K1;K2;K3;):Multimedia presentations

Classes(W1;W2;U1;U2;U3;K1;K2;K3;):Multimedia presentations and laboratory classes

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

Lecture (Written exam) - To pass the final exam not less than 65% of possible points should be obtained. The grading is based on the score principles described in the faculty procedure "Principles of grading students". The student may take the exam improvement twice. In the case of top-down suspension of stationary classes and the need for distance learning, the methods of verifying the achievement of learning outcomes declared in the syllabus, i.e. forms of passing the exam and classes, may change in a manner appropriate to the situation. -

Classes (Colloquium test) - One written test is planned during the semester, on the basis of which the final grade for passing the exercises is determined. To pass the test, you should obtain min. 65% of the points available. The grading of grades is based on the score thresholds described in the faculty procedure "Principles of grading students". The student may attempt to correct the test twice. The condition for receiving the final pass from the exercises is to obtain a positive mark from the test taking place during the classes. 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 manner appropriate to the situation. -

**BASIC LITERATURE:**

1. Mrożek-Budzyn D., *Wakcynologia praktyczna*, Tom 1, Wyd. Alfa Medica Press, R. 2018

2. Kita J., Kaba J., *Podstawy epidemiologii weterynaryjnej*, Tom 1, Wyd. SGGW, R. 2009

3. Gołąb J., Jakóbisiak M., Lasek W., Stokłosa T., *Immunologia*, Tom 1, Wyd. Wydawnictwo Naukowe PWN S.A., R. 2017

4. Chapel H., Haeney M., Misbah S., Snowden N., *Immunologia kliniczna*, Tom 1, Wyd. Czelej Sp. z o.o., R. 2009

**SUPPLEMENTARY LITERATURE:**

1. Szweda W., A.K. Siwicki, *Wakcynologia weterynaryjna - nowe wyzwania XXI wieku: praca zbiorowa*, Tom 1, Wyd. Studio Przygotowawcze Wydawnictw "Edycja", R. 2005