



## Pathophysiology

ECTS: 7.00

### SUBJECT MATTER CONTENT

#### LECTURE

General and systemic pathophysiology. General problems of nosology, etiology and pathogenesis, general disturbances (inflammation, oedema, pyrexia, allergy, avitaminoses, metabolic and electrolyte disturbances). Systemic pathophysiology of nervous, hormonal, hematopoietic, circulatory, respiratory, alimentary and genitourinary systems

#### AUDITORIUM CLASSES

Disturbances in cell biology, influence of physical factors on the organism, oedema, inflammation, allergy, stress, hormonal disturbances, avitaminoses, disturbances in general and local circulation.

#### PRACTICAL CLASSES

Disturbances in cell biology, influence of physical factors on the organism, oedema, inflammation, allergy, stress, hormonal disturbances, avitaminoses, disturbances in general and local circulation.

#### TEACHING OBJECTIVE

Providing knowledge about general concepts related to nosology, etiology and pathogenesis, i.e. the sciences of the mechanisms of formation, development and descent of disease processes, falling within the scope of general and specific pathophysiology, constituting a bridge between basic medical sciences such as anatomy, physiology and biochemistry of animals and clinical (obstetrics, internal diseases, surgery, diagnostics).

#### 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:

B.U12. +, A.W7. +++, B.W10. +, K.3.+, A.W11. +++, K.9.++,  
B.U14. +, A.W4. +++, A.U1.++, K.7.++, C.U4. +, A.W12. +++,  
A.U23. +, B.W1. +++, B.U16. +, A.W3. +++, A.W10. +++,  
B.W2. +++, A.W2. +++, K.5.++, K.6.++, B.U1. +, A.U12. ++,  
K.8.++, A.W13. +++, A.U7. +, A.U14. ++, A.W5. +++, A.U13.  
++, A.U4. +, K.2.++, A.U15. ++, A.W8. +++, A.U19. +, K.1.++,  
A.U5. +, B.U11. +, A.W9. +++, A.W1. +++, A.W20. +++,  
K.4.++, A.U21. +, K.10.++

#### LEARNING OUTCOMES:

Knowledge:

**Legal acts specifying learning outcomes:**  
**682/2020**  
**Disciplines:** Veterinary science  
**Status of the course:** Obligatoryjny  
**Group of courses:** A - przedmioty podstawowe  
**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:** 3/5

**Types of classes:** Lecture, Practical classes, Auditorium classes  
**Number of hours in semester:** Lecture: 60.00, Practical classes: 9.00, Auditorium classes: 36.00  
**Language of instruction:** Polish  
**Introductory subject:** animal anatomy, histology and physiology, biochemistry  
**Prerequisites:** sequential subject - completion of the second year of studies in the field of veterinary medicine

**Name of the organisational unit conducting the course:** Katedra Patofizjologii, Weterynarii Sądowej i Administracji  
**Person responsible for the realization of the course:** prof. dr hab. wet. Krzysztof Wąsowicz  
**e-mail:** wasowicz@uwm.edu.pl

**Additional remarks:** no

W1 – knows and interprets pathophysiological changes in organs and systems as well as biological (including immunological) and pharmacological mechanisms enabling recovery  
W2 – describes, explains and interprets the principles and mechanisms underlying animal health, the emergence of diseases and their therapy - from the cell level, through the organ, animal, herd of animals to the entire animal population  
W3 – knows the relationship between factors disturbing the balance of biological processes in an animal organism and physiological and pathophysiological changes

**Skills:**

U1 – demonstrates the ability to work in a multidisciplinary team  
U2 – performs an assessment of the formation and descent of lesions and makes their diagnosis on the prepared live and post-mortal animal material  
U3 – the ability to perform simple procedures on live and dead animals, necessary for further training in the profession of a veterinarian

**Social competence:**

K1 – readiness to act under conditions of uncertainty and stress  
K2 – the ability of creative "medical thinking", necessary in the practice of veterinary medicine

**TEACHING FORMS AND METHODS:**

Lecture(W1;W2;W3;U2;):problem-focused lectures supported by audiovisual techniques  
Practical classes(W1;W2;W3;U1;U2;U3;K1;K2;):laboratory and seminar classes, multimedial presentation  
Auditorium classes(W1;W2;W3;U2;):multimedial presentation

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

Lecture (Written exam) - To pass the final exam, you must obtain a positive grade for each of the received exam questions. The final grade for the exam is issued on the basis of the arithmetic mean value of the grades obtained for each question. The rounding of the rating is based on the following ranges: mean  $\geq 4.76$ : very good (5.0); average in the range of 4.26 - 4.75: good plus (4.5); average in the range: 3.76 - 4.25: good (4.0); average in the range of 3.26 - 3.75: sufficient plus (3.5); mean  $\leq 3.25$ : satisfactory (3.0). The student may take the exam improvement twice. In the event of a top-down suspension of classroom classes and the necessity of distance learning, the methods of verifying the achievement of learning outcomes declared in the syllabus, i.e. the forms of passing the exam and classes, may change in a manner appropriate to the situation. -

Practical classes (Colloquium test) - Verification of the achievement of learning outcomes in the field of the material discussed in practical classes is an integral part of the test conducted as part of the auditorium classes, hence the description of the form and conditions for passing the auditorium classes also apply to the completion of the practical classes. -

Auditorium classes (Colloquium test) - There are 2 written tests per semester (multiple choice test, short-answer questions). To pass the test, the student must obtain at least 65% of the possible points. The grading of grades is based on the established score thresholds, i.e. assigning the grade to a specific percentage of points that can be obtained. These thresholds are as follows: 94-100%, grade: very good (5.0); 87-93%, good plus (4.5); 80-86%, evaluation: good (4.0); 73-79%, grade: sufficient plus (3.5); 66-72%, evaluation: satisfactory (3.0); 65%, assessment: insufficient (2.0). The student may attempt to correct the test twice. The condition for receiving the final pass from the classes is to obtain positive marks from all tests taking place in the course of the classes. In case of passing all the tests, the final grade for the classes is issued on the basis of the arithmetic mean value of all the grades obtained from the tests (including failing grades). The rounding of the evaluation is done on the basis of the above-mentioned ranges of values. Failure to pass any of the tests is tantamount to obtaining an unsatisfactory final grade in 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 classes, may change in a manner appropriate to the situation. -

**BASIC LITERATURE:**

1. Fitko R., *Patofizjologia zwierząt.*, Wyd. PWRiL, R. 1991

2. Fitko R., *Zarys patofizjologii zwierząt.*, Wyd. Wydawnictwo ART, Olsztyn, R. 1998
3. Maśliński S., Ryżewski R., *Patofizjologia.*, Tom 1 i 2, Wyd. PZWL, R. 2013
4. Zachary J.F., *Pathologic basis of veterinary disease.*, Wyd. Mosby, R. 2016
5. Dunlop R.H., *Veterinary pathophysiology.*, Wyd. Blackwell Publishing, R. 2004
6. Kumar V., Abbas A.K., Aster J.C., *Robbins basic pathology.*, Wyd. Elsevier, R. 2017

**SUPPLEMENTARY LITERATURE:**

1. Guzek J.W., *Patofizjologia człowieka w zarysie.*, Wyd. PZWL, R. 2002
2. Freeman K.P., Klenner S., *Veterinary clinical pathology - a case-based approach.*, Wyd. Crc Press\_Taylor Francis Group, R. 2015
3. Cowell R.L., *Veterinary clinical pathology secrets.*, Wyd. Elsevier, R. 2004
4. Stockham S.L., Scott M., *Fundamentals of veterinary clinical pathology.*, Wyd. Blackwell Publishing, R. 2008
5. Huether S.E., McCance K.L., *Understanding pathophysiology.*, Wyd. Mosby, R. 2016

