



SZKOŁA GŁÓWNA  
GOSPODARSTWA  
WIEJSKIEGO

## Clinical and laboratory diagnostics (1)

### Educational subject description sheet

#### Basic information

<b>Field of study</b> Veterinary Medicine	<b>Didactic cycle</b> 2023/24	
<b>Speciality</b> -	<b>Subject code</b> WETFVMS_D.510K.633d37e591185.23	
<b>Organizational unit</b> Faculty of Veterinary Medicine	<b>Lecture languages</b> english	
<b>Study level</b> long-cycle	<b>Mandatory</b> Obligatory subjects	
<b>Study form</b> full-time studies	<b>Block</b> Major subjects	
<b>Education profile</b> General academic	<b>Disciplines</b> Veterinary medicine	
<b>Coordinator</b>	Karol Pawłowski	
<b>Teacher</b>	Karol Pawłowski, Marek Kulka	
<b>Period</b> Semester 5	<b>Examination</b> Pass with grade	<b>Number of ECTS points</b> 3
	<b>Activities and hours</b> Lecture: 30 Laboratory exercises: 6 Field exercises: 16 Clinical classes: 8	

## Goals

Code	Goal
C1	The student learns the basic methods of general clinical examination, including species differences, to apply these methods in the diagnosis of diseases in individual animals and in the herd. They learn to collect biological material for laboratory tests along with the principles of its storage and transport to the laboratory to confirm the initial diagnosis. They learn to collect information from an anamnesis and a clinical exam as well as the results of laboratory tests and write them in a document called "medical history"

## Entry requirements

Passing the courses: Topographic anatomy, Animal physiology, Biochemistry

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	basic nomenclature used in clinical and laboratory diagnostics	B.W1, B.W11, B.W13, B.W2, B.W4, B.W5, B.W6, B.W9	Written credit
W2	the relationship between the clinical examination methods of organ systems and proper choice of laboratory tests.	B.W1, B.W11, B.W13, B.W2, B.W4, B.W5, B.W6, B.W9	Written credit
W3	the basic principles of work in the analytical laboratory keeping in mind proper ethical values.	B.W1, B.W11, B.W13, B.W2, B.W4, B.W5, B.W6, B.W9	Written credit
<b>Skills - Student can:</b>			
U1	fill out the patient „clinical chart“ specific for each species with information gathered from the interview and the clinical examination. use the indices of production, laboratory parameters and wellness parameters for the assessment of herd health status and diagnosis of subclinical disease states	B.U1, B.U2, B.U3, B.U5, B.U6, B.U7	Written credit
U2	perform the whole clinical examination, including the medical interview, general and detailed physical examination with special attention to standards of ethics	B.U1, B.U2, B.U3, B.U5, B.U6, B.U7	Written credit
U3	use the indices of production, laboratory parameters and wellness parameters for the assessment of herd health status and diagnosis of subclinical disease states	B.U1, B.U2, B.U3, B.U5, B.U6, B.U7	Written credit
<b>Social competences - Student is ready to:</b>			
K1	prepared to assess biological laboratory samples (blood, urine) useful for laboratory tests	KS.1, KS.2, KS.5	Written credit
K2	prepared to read and identify results of laboratory tests with respect to reference values.	KS.1, KS.2, KS.5	Written credit

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	<p>LECTURE TOPICS:</p> <p>1. Basic nomenclature concepts used in clinical and laboratory diagnostics, also in relation to applicable law, including management principles and laboratory quality.</p> <p>2. Methods of subjective and physical examination, including laboratory tests, principles of clinical documentation, animal identification and registration systems, principles and elements of general examination of individual animal species with particular emphasis on disease and environmental history.</p> <p>3. Basic concepts used in diagnostics and detailed clinical and laboratory procedures in the study of the skin</p> <p>4. Basic concepts used in diagnostics and detailed clinical and laboratory management for cardiovascular examination</p> <p>5. Basic concepts used in diagnostics and detailed clinical and laboratory management during examination of respiratory system</p> <p>6. Laboratory diagnostics - basic nomenclature, errors that may affect the results of laboratory tests (pre-laboratory, laboratory and post laboratory errors), haematological parameters</p> <p>CLASSES:</p> <p>1. Comprehensive clinical trial based on the "medical history", which includes the description of the species, anamnesis, current status examination (general exam) This study applies to such species as dog, cat, horse, cow.</p> <p>2. Detailed examination of the cardiovascular and respiratory systems and indicates additional tests that can be performed in the diagnosis of these systems</p> <p>3. Exercises in the veterinary diagnostic laboratory - the student becomes familiar with the practical assessment of the biological material sent to the laboratory (on the example of blood and urine), prepares it for the determination of basic haematological and biochemical parameters, as well as reads the results obtained and compares them with reference values</p> <p>The content of lecture education is a supplement to the content of exercise education</p>	W1, W2, W3, U1, U2, U3, K1, K2	Lecture, Laboratory exercises, Clinical classes, Field exercises

### Course advanced

Activities	Methods of conducting classes
Lecture	Lecture, Presentation
Laboratory exercises	Laboratory (experiment), learning by experiment, Measurement
Field exercises	Discussion, Individual work, Observation, Field observations
Clinical classes	Discussion, Individual work, Observation, Measurement

Activities	Examination method	Percentage
Lecture	Written credit	25%

Activities	Examination method	Percentage
Laboratory exercises	Written credit	25%
Field exercises	Written credit	25%
Clinical classes	Written credit	25%

Activities	Credit conditions
Lecture	Attendance to the classes is mandatory, student can be absent on 20% of labs or according to the current academic regulations. The final grade entered in the eHMS is issued on the basis of the test at the end of the semester, from which you can get 30 points graded on a scale: 0-20 points niedostateczny (not pass 2,0), 21-22 points dostateczny (3,0), 23-24 points dostateczny plus (3,5), 25-26 points dobry (4,0), 27-28 points dobry plus (4,5), 29-30 points bardzo dobry (5,0)
Laboratory exercises	Attendance to the classes is mandatory, student can be absent on 20% of labs or according to the current academic regulations. The final grade entered in the eHMS is issued on the basis of the test at the end of the semester, from which you can get 30 points graded on a scale: 0-20 points niedostateczny (not pass 2,0), 21-22 points dostateczny (3,0), 23-24 points dostateczny plus (3,5), 25-26 points dobry (4,0), 27-28 points dobry plus (4,5), 29-30 points bardzo dobry (5,0)
Field exercises	Attendance to the classes is mandatory, student can be absent on 20% of labs or according to the current academic regulations. The final grade entered in the eHMS is issued on the basis of the test at the end of the semester, from which you can get 30 points graded on a scale: 0-20 points niedostateczny (not pass 2,0), 21-22 points dostateczny (3,0), 23-24 points dostateczny plus (3,5), 25-26 points dobry (4,0), 27-28 points dobry plus (4,5), 29-30 points bardzo dobry (5,0)
Clinical classes	Attendance to the classes is mandatory, student can be absent on 20% of labs or according to the current academic regulations. The final grade entered in the eHMS is issued on the basis of the test at the end of the semester, from which you can get 30 points graded on a scale: 0-20 points niedostateczny (not pass 2,0), 21-22 points dostateczny (3,0), 23-24 points dostateczny plus (3,5), 25-26 points dobry (4,0), 27-28 points dobry plus (4,5), 29-30 points bardzo dobry (5,0)

## Literature

### Obligatory

1. Diagnostic techniques in equine medicine: a textbook for students and practitioners describing diagnostic techniques applicable to the adult horse. Ed. by F.G.R. Taylor, T. J. Brazil, M.H. Hillyer. Saunders/Elsevier, 2010
2. Blackwell's five-minute veterinary consult: laboratory tests and diagnostic procedures: canine & feline. S. L. Vaden et al., Wiley-Blackwell 2009
3. Veterinary Clinical Examination and Diagnosis. WS Saunders 2000

### Optional

1. Ruminant diagnostic medicine. R.J. Allan. WB Saunders 2007
2. Diagnostic cytology and hematology of the dog and cat 3rd ed.. R.L. Cowell et al. Mosby 2008.

## Calculation of ECTS points

Activity form	Activity hours*
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Lecture	30
Laboratory exercises	6
Field exercises	16
Clinical classes	8
Self-study on the content covered in class	15
Preparation for exercises	10
<b>Student workload</b>	<b>Hours</b> 85
<b>Number of ECTS points</b>	<b>ECTS</b> 3

\* hour means 45 minutes

## Effects

Code	Content
KS.1	Absolwent jest gotów do wykazywania odpowiedzialności za podejmowane decyzje wobec ludzi, zwierząt i środowiska przyrodniczego
KS.2	Absolwent jest gotów do prezentowania postawy zgodnej z zasadami etycznymi i podejmowania działań w oparciu o kodeks etyki w praktyce zawodowej oraz do wykazywania tolerancji dla postaw i zachowań wynikających z odmiennych uwarunkowań społecznych i kulturowych
KS.5	Absolwent jest gotów do formułowania wniosków z własnych pomiarów lub obserwacji
B.U1	Absolwent potrafi bezpiecznie i humanitarnie postępować ze zwierzętami oraz instruować innych w tym zakresie
B.U2	Absolwent potrafi przeprowadzić wywiad lekarsko-weterynaryjny w celu uzyskania dokładnej informacji o pojedynczym zwierzęciu lub grupie zwierząt oraz jego lub ich środowisku bytowania
B.U3	Absolwent potrafi przeprowadzać pełne badanie kliniczne zwierzęcia
B.U5	Absolwent potrafi oceniać stan odżywienia zwierzęcia oraz udzielać porad w tym zakresie
B.U6	Absolwent potrafi pobierać i zabezpieczać próbki do badań oraz wykonywać standardowe testy laboratoryjne, a także prawidłowo analizować i interpretować wyniki badań laboratoryjnych
B.U7	Absolwent potrafi stosować aparaturę diagnostyczną, w tym radiologiczną, ultrasonograficzną i endoskopową, zgodnie z jej przeznaczeniem i zasadami bezpieczeństwa dla zwierząt i ludzi oraz interpretować wyniki badań uzyskane po jej zastosowaniu
B.W1	Absolwent zna i rozumie zaburzenia na poziomie komórki, tkanki, narządu, układu i organizmu w przebiegu choroby
B.W2	Absolwent zna i rozumie mechanizmy patologii narządowych i ustrojowych
B.W4	Absolwent zna i rozumie zasady postępowania diagnostycznego, z uwzględnieniem diagnostyki różnicowej, oraz postępowania terapeutycznego
B.W5	Absolwent zna i rozumie zasady przeprowadzania badania klinicznego i monitorowania stanu zdrowia zwierząt
B.W6	Absolwent zna i rozumie sposób postępowania z danymi klinicznymi i wynikami badań laboratoryjnych i dodatkowych
B.W9	Absolwent zna i rozumie zasady zapewniania dobrostanu zwierząt
B.W11	Absolwent zna i rozumie rasy w obrębie gatunków zwierząt oraz zasady chowu i hodowli zwierząt
B.W13	Absolwent zna i rozumie zasady żywienia zwierząt z uwzględnieniem różnic gatunkowych i wieku