NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES OF UKRAINE

Department of internal diseases of animals

“CONFIRMED”
Faculty of veterinary medicine
“_04_” ___06____ 2025

CURRICULUM OF ACADEMIC DISCIPLINE
Special propedeutics, therapy and prevention of internal animal diseases

Field of knowledge 21 «Veterinary medicine»

Specialty 211 – «Veterinary medicine» _
Academic programme Veterinary medicine
Faculty of Veterinary Medicine

Authors: Sharandak P.V., d. vet. sci, professor
Zemliansky A.O., pHD of vet sci, as. prof.

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Description in the course Special propedeutics, therapy and prevention of internal animal diseases

Area of knowledge, specialty, academic programme, academic degree		
Academic degree	Master	
Specialty	21 – «Veterinary medicine»	
Academic programme	«Veterinary medicine»	
Characteristics of the course		
Type	Compulsory	
Total number of hours	120	
Number of ECTS credits	4	
Number of modules	2	
Course project (work) (if any)	–	
Form of assessment	Credit, Credit	
Indicators of the discipline for full-time and part-time forms of university study		
	Full-time form of study	Part-time form of study
Year of study	6	–
Term	11	–
Lectures s	15 hr.	–
Practical clases and seminars	–	–
Laboratory classes	15 hr.	–
Self-study	90 hr.	–
Number of hours per week for full-time students	2 hours	

1. Aim, objectives, competences and expected learning outcomes of the discipline

Aim of the educational discipline "Special propaedeutics, therapy and prevention of internal diseases of animals" is to improve and deepen theoretical knowledge and obtain practical skills in the recognition of internal diseases of animals, organization of preventive and therapeutic measures depending on the chosen direction, as well as to prepare the master's student for independent work in the chosen discipline .

Objectives of the discipline:

• master modern methods of clinical and laboratory research for diagnosis and differential diagnosis of animal diseases;

• master modern methods of treatment and prevention of the most common internal diseases of animals;

• to acquire the skills of analysis, generalization of the material from the selected problem while writing the master's thesis.

Competences acquired:

Integral competence (IC):

– IC 1 The ability to solve complex tasks and problems in the field of veterinary medicine, which involves conducting research and/or implementing innovations and is characterized by the uncertainty of conditions and requirements.

General competence (GC):

- GC 1. Ability to conduct research at an appropriate level.
- GC2 Ability to make informed decisions.

Special (professional) competence (SC):

– SC 1. Ability to plan, organize and implement measures for the treatment of animals of various classes and species suffering from non-contagious, infectious and invasive diseases.
– SC 2. The ability to develop strategies for the prevention of diseases of various etiologies.

Expected Learning outcomes (ELO):

- To establish a connection between the clinical manifestations of the disease and the results of laboratory studies.

- Develop quarantine and health measures, methods of therapy, prevention, diagnosis and treatment of diseases of various etiologies.

- Carry out educational activities among industry workers and the population.

First day conpetences

Act in a way that shows understanding of the ethical and legal framework within which veterinarians should work, including professional-, animal welfare-, client-, public health-, societal- and environmental -related aspect.

Promote, monitor and contribute to maintaining health and safety of oneself, patients, clients, colleagues and the environment in the veterinary setting; demonstrate knowledge about the principles of quality assurance; apply principles of risk management in practice.

Prepare accurate clinical and client records, and case reports when necessary, in a form satisfactory to the relevant audiences.

Work effectively as a member of a multi-disciplinary team in the delivery of services and recognise the contribution of all team members.

Be able to review and evaluate literature and presentations critically.

Understand and apply principles of One Health to ensure veterinary Good Clinical Practice, and research-based and evidence-based veterinary medicine.

Demonstrate ability to critically analyse evidence, cope with incomplete information, deal with contingencies, and adapt knowledge and skills to varied scenarios and contexts.

Obtain an accurate and relevant history of the individual animal or animal group, and its/their husbandry and environment.

Develop appropriate treatment plans and administer treatment in the interests of the animals under their care with regard to the resources available and to appropriate public health and environmental considerations.

Attend in an emergency and perform first aid in common animal species. Prioritise situational urgency and allocate resources accordingly.

Use basic diagnostic equipment and carry out an examination effectively as appropriate to the case, in accordance with good health and safety practice and current regulations. Understand the contribution of digital tools and artificial intelligence in veterinary medicine.

Prescribe and dispense medicines correctly and responsibly in accordance with legislation and latest guidance.

Advise on and implement preventive and eradication programmes appropriate to the disease and species, in line with accepted animal health, animal welfare, public health and environmental health standards.

2. Programme and structure of the discipline

Modules and topics	Number of hours						
	Full-time form						
	Weeks	total	Also include				
			l	p	lab	ind	self
1	2	2	3	4	5	6	7
Module 1. ***Special propedeutics.***							
Topic 1. Special propedeutics animals with heart pathology.	1-2	15	2		2		11
Topic 2. Special propedeutics animals with diseases of alimentary system.	3-4	15	2		2		11
Topic 3. Special propedeutics animals with diseases of kidney and urinary tract.	5-6	15	2		2		11
Topic 4. Special propedeutics animals with diseases of endocrine organs.	7–8	15	2		2		11
Total for module 1	60		8		8		44
Module 2. ***Diseases of cardiovascular and pulmonary system.***							
Topic 5. Immunopathology. Mechanism of development, methods of diagnosis and treatment.	9-10	15	2		2		11
Topic 6. Cardiorespiratory syndromes. The mechanism of their occurrence, methods of diagnosis and treatment.	11-12	15	2		2		11
Topic 7. Neurology. General principles of diagnosis, treatment and prevention.	13-14	15	2		2		11
Topic 8. Special propedeutics, diagnostics, therapy and prevention for allergic and autoimmune skin diseases.	15	15	1		1		13
Total for module 2	60		7		7		46
Total hours	**120**		**15**		**15**		**90**

3. Topics of lectures.

№ order	Topics	Hours
1	Physiological foundations of the ECG and its diagnostic significance.	2
2	Special propaedeutics for diseases of the digestive system in young children.	2
3	Instrumental research of animals for kidney and bladder diseases.	2
4	Endocrinopathies of animals. Mechanism of development, methods of diagnosis and treatment.	2
5	Immunopathology. Mechanism of development, methods of diagnosis and treatment.	2
6	Cardiorespiratory syndromes. The mechanism of their occurrence, methods of diagnosis and treatment.	2
7	Neurology. Functional diseases of the nervous system in animals.	2
8	General characteristics, mechanisms of development, diagnosis of allergic and autoimmune skin diseases.	1

4. Topics for laboratory classes

№ order	Name of topics	Hours
Module 1. Special propedeutics.		
1.	Special propedeutics of animals with heart failure. Cardiomyopathies.	2

2.	Special propedeutics of animals for diseases of the stomach and intestines.	2
3.	Special propedeutics of animals with kidney failure.	2
4.	Special propedeutics of animals for diseases of endocrine organs.	2
Module 2. Special therapy and prophylaxis.		
5.	Special propedeutics, diagnostics, therapy and prevention for immunodeficiencies in animals.	2
6.	Special propedeutics, diagnostics and therapy for emergency conditions. Types of shock. Cardiogenic shock. Anaphylactic shock. Emergency aid.	2
7.	Special propedeutics, diagnostics, therapy and prevention for diseases of the brain and spinal cord.	2
8.	Special propedeutics, diagnostics, therapy and prevention for allergic and autoimmune skin diseases.	1
Total		15

5. Topics of self-study

№	Topic title	Hours
1	ECG changes due to heart pathology (myocarditis, myocardial dystrophy, pericarditis, arrhythmias).	15
2	Special propedeutics of animals with hepatobiliary pathology.	15
3	Analysis of the results of clinical and laboratory studies for kidney pathology.	15
4	Differential diagnosis of endocrinopathies.	15
5	Analysis of the results of clinical and laboratory studies for immunodeficiencies.	15
6	Emergency care for diseases of the respiratory system.	15
Total		90

6. Methods of assessing expected learning outcomes:

- verbal method (lecture, explanation, discussion, instruction, conversation);
- practical method (laboratory, practical classes, statistical processing);
- visual method (explanation, discussion, instruction, conversation);
- work with educational and methodical literature (summarizing, summarizing, annotating, reviewing, writing an essay);
- video method (distance, multimedia, web-oriented classes);
- independent work (task performance).

7. Teaching methods.

- problem-based learning method;
- practice-oriented learning method;
- case study method;
- project-based learning method;

– flipped classroom, blended learning method;
– learning through research method;
– teaching through discussion and debate method;
– method of educational discussions and debates;
– method of teamwork,
– brainstorming;
– method of gamified learning.

8. Results assessment

The assessment of higher education applicants' knowledge is based on a 100-point scale and is converted into a national grade in accordance with the current 'Regulations on Examinations and Tests at the National University of Life and Environmental Sciences of Ukraine'.

8.1 Distribution of points by type of educational activity

Form of teaching activity	Results of teaching	Assessment
Module 1. **Special propedeutics**		
Topic 1. **Special propedeutics animals with heart pathology**		
Lection 1. Special propedeutics animals with heart pathology.	The master should know the main symptoms, syndromes and principles of diagnosis and treatment of cardiorespiratory diseases Master the techniques of ultrasound of the heart and conduct electrocardiography in animals	**-**
Laboratory work 1. Special propedeutics of animals with heart failure. Cardiomyopathies.		**10**
Self work 1. ECG changes due to heart pathology (myocarditis, myocardial dystrophy, pericarditis, arrhythmias).		**2**
Topic 2. **Special propedeutics animals with diseases of alimentary system.**		
Lection 2. Special propedeutics animals with diseases of alimentary system	The master should know the main symptoms, syndromes and principles of treatment for diseases of the digestive organs of animals.	**-**
Laboratory work 2. Special propedeutics of animals for diseases of the stomach and intestines/		**15**
Self work 2. Special propedeutics of animals with hepatobiliary pathology.		**5**
Topic 3. **Special propedeutics animals with diseases of kidney and urinary tract.**		
Lection 3. Instrumental research of animals for kidney and bladder diseases.	The master should know the topographical anatomy and structure of the urinary system in animals, as well as the principles of animal ultrasound for kidney and bladder diseases.	-
Laboratory work 3. Special propedeutics of animals with kidney failure.		**5**
Self work 4. Analysis of the results of clinical and laboratory studies for kidney pathology.		**5**
Topic 4. **Special propedeutics animals with diseases of endocrine organs.**		
Lection 4 Endocrinopathies of animals. Mechanism of development, methods of diagnosis and treatment.	The master must know the main symptoms, syndromes and principles of diagnosis and treatment of diseases of the endocrine organs of animals. To master modern methods of diagnosing the pathology of the endocrine system in animals.	**-**
Laboratory work 5. Special propedeutics of animals for diseases of endocrine organs.		**15**
Self work 4. Differential diagnosis of endocrinopathies.		
Module control work 1.		**30**
Total for module 1		**100**
Module 2. **Diseases of cardiovascular and pulmonary system.**		
Topic 5. **Immunopathology. Mechanism of development, methods of diagnosis and treatment**		

Lection 5 Immunopathology. Mechanism of development, methods of diagnosis and treatment.	The master should know the main symptoms, syndromes and principles of diagnosis and treatment of immunodeficiency and autoimmune diseases of animals.	-
Laboratory work 6. Special propedeutics, diagnostics, therapy and prevention for immunodeficiencies in animals.		**10**
Self work 5. Analysis of the results of clinical and laboratory studies for immunodeficiencies.		
Topic 6. **Cardiorespiratory syndromes. The mechanism of their occurrence, methods of diagnosis and treatment.**		
Lection 6 Cardiorespiratory syndromes. The mechanism of their occurrence, methods of diagnosis and treatment.	The master must know the main cardiorespiratory syndromes and the principles of diagnosis and treatment of heart and lung diseases in animals.	-
Laboratory work 8 Special propedeutics, diagnostics and therapy for emergency conditions. Types of shock. Cardiogenic shock. Anaphylactic shock. Emergency aid.		**7**
Topic 7. **Neurology. General principles of diagnosis, treatment and prevention.**		
Lecture 7 Neurology. Functional diseases of the nervous system in animals.	The master should know the main symptoms, syndromes and principles of diagnosis and treatment of neurological diseases in animals.	-
Laboratory work 10. Special propedeutics, diagnostics, therapy and prevention for diseases of the brain and spinal cord.		**10**
Topic 8. **Special propedeutics, diagnostics, therapy and prevention for allergic and autoimmune skin diseases.**		
Lecture 8 General characteristics, mechanisms of development, diagnosis of allergic and autoimmune skin diseases..	The master should know the main symptoms, syndromes and principles of diagnosis and treatment of non-contagious dermatological diseases in animals.	-
Laboratory work 8. Special propedeutics, diagnostics, therapy and prevention for allergic and autoimmune skin diseases.		**10**
Self work 8. Emergency care for diseases of the respiratory system.		**2**
Module control work 2.		**30**
Total for work 2		**100**
Educational work		**(M1 + M2)/2*0,7 ≤ 70**
Examinatio		**30**
Total for course		**(Educational work + examination) ≤ 100**
Course project		**100**

8.2 Scale for assessing student's knowledge

Student rating, points	National mark for the assembly results	
	exam	credits
90-100	excellent	pass
74-89	good	
60-73	satisfactorily	
0-59	unsatisfactorily	fail

8.3 ASSESSMENT POLICY

Deadlines and Reschedule Policy:	Works that are submitted late without valid reasons will be assessed with a lower grade. Module tests may be retaken with the permission of the lecturer if there are valid reasons (e.g. a sick leave).	A g

		w e
Academic Integrity Policy:	Cheating during tests and exams is prohibited (including using mobile devices). Term papers and essays must have correct references to the literature used	C n r
Attendance Policy:	Attendance is compulsory. For good reasons (e.g. illness, international internship), training can take place individually (online by the faculty dean's consent)	A i o

9. Teaching and learning aids

- e-learning course of the discipline (https://elearn.nubip.edu.ua/course/view.php?id=1795*)*;
- lectures and presentations (in electronic form);
- textbooks, manuals, tutorials;
- guidelines for studying a discipline by full-time and part-time students;

internship programmes of the discipline (if included in the curriculum).

10. Recommended sources of information.

Basic

1. Спеціальна пропедевтика, терапія і профілактика внутрішніх хвороб тварин : навч. посібник / М. І. Цвіліховський та ін.; за ред. М. І. Цвіліховського. Київ : НУБіП України, 2023. 248 с.

2. Special propedeutics, therapy and prevention of internal animal diseases / M.I. Tsvilikhovskii, P.V. Sharandak, V.M. Kostenko et al. ; ed be P.V. Shatrandak. Kyiv^ NPE Yamchynskyi O.V., 2014, 231 p.

Secondary

1. Stephen J. Ettinger, Edward C. Feldman, Etienne Cote Textbook of Veterinary Internal Medicine. Elsevier Health Sciences, 2016. 2736 p.

2. R.A. McPherson, M.R. Pincus Henry's Clinical diagnosis and management by laboratory methods. Elsevier. 2022. 1663 p.

3. Richard W. Nelson, C. Guillermo Couto Small Animal Internal Medicine. Elsevier; 6th edition, 2019. 1608 p.

4. Leah Cohn, Etienne Cote Cote's Clinical Veterinary Advisor: Dogs and Cats. Mosby, 2019. 1680 p.

5. Шарандак П.В., Розумнюк А.В., Дробот М.В. Міокардіодистрофія у високопродуктивних корів. Київ: НУБіП України, 2023. 166 с.

6. Зміни структури і функцій еритроцитів за бронхопневмонії телят / А.В. Розумнюк, Шарандак П.В., В.М. Костенко, Грушанська Н.Г. // Житомир: ПП «Євро-Волинь», 2023, 125 с.

7. Grushanska N., Sharandak V. Ecological statement of the west part of Ukraine and spreading of internal pathology of sheep. Achievements and research prospects in animal husbandry and veterinary medicine: Scientific monograph. Riga, Latvia:

«Baltija Publishing». 2023. P. 433–452.

8. Biochemical parameters of blood in cats with cardiogenic arterial thromboembolism and acute heart failure / Zhak Yu., Sharandak P., et al. Ukrainian Journal of Veterinary Sciences, 2023. – Vol.14, # 1. – P. 74–89.

9. Шарандак П.В. Функціональний стан печінки й нирок у вівцематок. Житомир: ПП «Євро-Волинь», 2022. – 170 с.

10. Drobot M., Sharandak P., Druz N. Prevention of bronchopneumonia by the aerosol method and its influence on calf production indicators. ScienceRise: Biological Science, 2022, Is. 2 (31). P. 18–23.

11. Information resourses

1. http://dspace.nubip.edu.ua:8080/jspui/ – Electronic library of NUBiP of Ukraine
2. http://www.nbuv.gov.ua/e-journals/nd/ – Scientific reports of the National University of Bioresources and Nature Management of Ukraine
3. http://www.nbuv.gov.ua/ – National Library of Ukraine named after V.I. Vernadskyi
4. https://www.merckvetmanual.com/Merck Veterinary Manual