

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

SUMY NATIONAL AGRARIAN UNIVERSITY

FACULTY OF VETERINARY MEDICINE

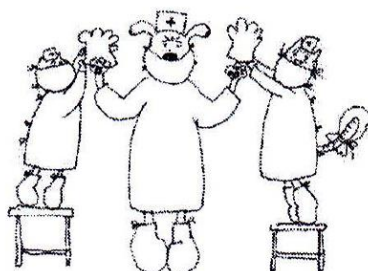
Department of Internal medicine, Pharmacy and Biochemistry

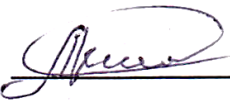
Work program (syllabus) of the educational component

THERAPEUTIC TECHNIQUES AND CLINICAL RESEARCH

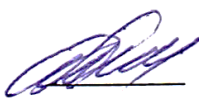
selective

Specialty	211 VETERINARY MEDICINE
Educational program	VETERINARY MEDICINE
Level of higher education second	(master's) level of higher education

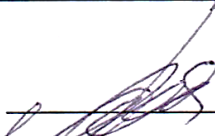


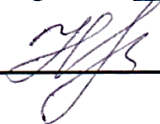
Developers:  O.S. Kisterna, Candidate of Veterinary Sciences,
Associate Professor

 O.V. Musienko, Candidate of Veterinary Sciences,
Associate Professor

Considered, approved and approved at the meeting of the department internal medicine, pharmacy and biochemistry	<u>Prot 11</u> <u>01.06.2026</u>
	Head Department <u></u> Oleksandr Nechyporenko

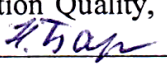
Agreed:

Guarantor of the Academic program 

Dean of the Faculty  (Liudmyla Nahorna)

Review of the work program provided: 



Methodist of the Department of Education Quality,
licensing and accreditation  (N. Baranik)

Registered in the electronic database: date: 30.06 2026

Information on reviewing the work program (syllabus):

Academic year in which changes are made	Number of the appendix to the work program with a description of the changes	Changes reviewed and approved		
		Date and number of the department meeting minutes	Head of the Department	Educational program guarantor

1. GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

1.	Name OK	THERAPEUTIC TECHNIQUES AND CLINICAL RESEARCH		
2.	Faculty/department	Faculty of Veterinary Medicine; Department of Internal medicine, Pharmacy and Biochemistry		
3.	Status OK	professional elective discipline No. 4		
4.	Program/ Specialties (programs) that include OC for <i>mandatory OC</i>	Educational and professional program of the second master's level in specialty 211 "Veterinary Medicine" Master of Veterinary Medicine		
5.	NRC level	Level 7		
6.	Semester and duration of study	12th semester		
7.	Number of ECTS credits	5 credits		
9.	Total hours and their distribution	Contact work (classes)		Independent work
		Lectures	Laboratory	
		-	-	46
		150		104
8.	Language of instruction	English		
11	Teacher/ OK coordinator	Kisterna O.S. O.V. Musiienko candidate of veterinary sciences, associate professor		
	Contact information	Lesya_sumy2008@ukr.net ; 050 60 77 825 https://vet.snau.edu.ua/kafedri/kafedra-terapii-farmakologii-klinichnoi-dagnostiki-ta-ximii/sklad-kafedri/kisterna-olesya-sergiivna/		
12	General description OK	OK "Therapeutic Techniques and Clinical Research in Small Animals" is a regulatory subject for the professional training of veterinary doctors who plan to specialize in small animal care. This course will provide an opportunity to master and improve basic therapeutic techniques and acquire practical skills in basic clinical research used in the diagnosis, manipulation, and treatment of small animals.		
13	Purpose of the educational component	Acquisition of elementary practical skills in diagnostic and therapeutic research techniques in small animals. The main goal of the discipline is to know and perform basic therapeutic techniques and manipulations: clinical and dermatological examination, features of fixation of small animals, otoscopy, ophthalmoscopy, injections, droppers, blood sampling, enemas, gastric lavage, application of surgical sutures and dressings for first aid, detoxification. To know and be able to perform methods of blood, urine, feces examination,		

		stabilization of blood and other pathological material, sampling for antibiotic sensitivity. To know and be able to interpret the results obtained. The objective of the discipline is to master the basic practical skills and techniques of popular research applied to small animals.
14	Prerequisites for studying OK, connection with other educational components of OP	The OK is based on the OPP (educational and professional program for specialty 211 "Veterinary Medicine" of the second master's level and is based on the results of studying with the OK: anatomy - body structure; physiology, path. physiology - concepts of endogenous and exogenous factors; inflammation, types of allergies; principles of wound healing; cytology - processes in cells and their structure, biochemical processes in the body; clinical diagnostics- collection of anamnesis and clinical studies microbiology, virology: types of pathogens (microorganisms, viruses, protozoa) and their effect on the body; obstetrics: hormonal processes in the body; pharmacology - knowledge of drugs, groups, selection of treatment regimens depending on the course of the disease. OK "Diagnosis and therapy of internal diseases of small animals" is an additional component in the study of the following OKs: Clinical diagnostics, Internal diseases of animals, Clinical pharmacology, Epizootology, Parasitology, Obstetrics, Surgery, taking into account the peculiarities of teaching disciplines in the specialization "Small animals".
15	Academic Integrity Policy	SNAU Code of Academic Integrity: http://docs.snau.edu.ua/documents/education/quality/kodeks_akadem_dobrochesnosti.pdf Preparation of the workbook - -plagiarism is not allowed, the work is canceled with the right to resubmit. Preparation of the video presentation - basic design is allowed ("base" of the video presentation - faculty, department, name of the discipline) using the SNAU brand.
16	Distance learning course, Moodle: Therapeutic techniques and clinical studies in small animals	VET 3rd year; VET 3rd year course. https://cdn.snau.edu.ua/moodle/course/view.php?id=1736

2. LEARNING OUTCOMES BY EDUCATIONAL COMPONENT AND THEIR RELATIONSHIP WITH PROGRAM LEARNING OUTCOMES

Learning outcomes for OK: After studying the educational component, the student is expected to be able to...	How is RND assessed?
DRN 1. Know, clearly understand and use the basic terms used in the diagnosis and treatment of small animals	1. Testing platform Moodle).
DRN 2. Study and be able to analyze information from various sources regarding the development of diagnostic and treatment strategies for diagnosing diseases of small animals.	1. Testing (Moodle platform).
PRN 3. Be able to conduct a comparative analysis of the results of studies in normal and pathological conditions.	1. Testing (Moodle platform). 2. Practicing practical skills during animal admission, tests, and diagnostic procedures. 3. Keeping a workbook, recording research results.
DRN 4. Gain practical experience in the specifics of collecting anamnesis during registration and examination of animals, developing an animal examination scheme and conducting clinical studies, making decisions on choosing diagnostic and treatment schemes for small animals	1. Testing (Moodle platform). 2. Keeping a workbook, recording research results. 3. Analysis and discussion of situational tasks during classes (oral).
DRN 5. Analyze the clinical manifestations of the disease and the results of tests obtained during laboratory tests	4. Practicing practical skills during animal admission, tests, and diagnostic procedures. 5. Individual work (video presentation/project) demonstrating acquired practical experience in classical and/or specific diagnostic methods or manipulations.
DRN 10. Analyze the application of innovative research methods and problem situations that require experimental approaches to solving.	
PRN 17. Know the rules and requirements of biosafety, bioethics, and animal welfare.	1. Testing (Moodle platform).
DRN 18. Carry out accounting reporting of documentation, journals used during the reception of animals in veterinary clinics.	1. Testing (Moodle platform). 2. Keeping a workbook, recording research results.

2. CONTENT OF THE EDUCATIONAL COMPONENT (COURSE PROGRAM)

Topic. List of questions, that will be discussed within the topic	Distribution within the overall time budget		Recommen- ded literature
	Audit work		
	LPZ	CRC	
1. Fundamentals of therapy and prevention of internal diseases of small animals. Personal hygiene, safety techniques during the examination and treatment of small animals. Use of pharmacological methods of correcting animal behavior. Methods of fixation and taming small animals.	4	4	1-50
2. Clinical documentation of the clinic. Requirements for disinfection and regimes of sanitation, tailoring, and operation of premises.	2	2	1-50
3. Features of clinical research of small animals. Techniques and approaches.	2	-	1-50
4. Features of the assessment of newborn animals. Neonatal profile of newborns.	-	4	1-50
5. Fundamentals of therapy and prevention of internal diseases of small animals. Breed characteristics of diseases of small animals.	2	-	1-50
6. Features of dosing of drugs for small animals. Examples of drugs and calculation of doses. Writing prescriptions for drugs used for the treatment of small animals.	2	10	1-50
7. Blood sampling technique. Types of test tubes. Blood testing. Preparation of blood smears.	2	4	1-50
8. Blood tests. Clinical, biochemical tests. Blood stabilization. Interpretation of test results.	2	4	1-50
9. Urine collection technique. Types of urine collection. Urine analysis. Interpretation of results.	2	4	1-50
10. Urine analysis. Clinical, biochemical analyses. Sediment analysis. Interpretation of analyses.	2	4	1-50
11. Examination of animal intestinal washes. Staining. Examination of fecal sediment. Interpretation of analyses.	2	4	1-50
12. Dermatological examination of the animal. Skin scrapings. Skin biopsy.	2	4	1-50
13. Conducting tests during endocrinological studies. Determination of glucose, features of the test in normal and pathological conditions.	2	4	1-50
14. Selection of pathological material for histo- and cyto-examination.	2	2	1-50

15. Selection of pathological material for determining sensitivity to antibiotics.	2	2	1-50
16. Otoscopy. Technique.	2	2	1-50
17. Ophthalmoscopy. Technique.	2	2	1-50
18. Types of detoxification of the body. Methods of removing toxins. Techniques for inducing vomiting, performing enemas.	2	2	1-50
19. First aid in critical conditions. Drug allergy, allergy to exogenous and endogenous factors. Drug aid.	2	2	1-50
20. First aid for surgical injuries. Features of applying bandages to the body and head of small animals. Stopping bleeding. Wounds.	2	4	1-50
21. Technique of applying surgical sutures to the skin and muscles.	2	10	1-50
22. Types of injections for small animals. Droppers. Features of infusions through simple systems and infusion machines.	2	10	1-50
23. Conducting X-ray examinations.	2	10	1-50
24. Conducting sonographic studies.	-	5	1-50
25. Theoretical foundations of MRI (magnetic resonance imaging), CT (computed tomography).	-	5	1-50
Total per semester	46	104	

4. TEACHING AND LEARNING METHODS

DRN No.	Teaching methods (work that will be carried out by the teacher <u>during classroom lessons</u> , consultations)	Number of hours	Teaching methods (what types of learning activities should <u>the student perform independently</u>)	Number of hours
DRN 1. Know, clearly understand and use the basic terms used in the diagnosis and treatment of small animals	1. Lecture, story, explanation, instruction, work with books and other sources. 2. Demonstration of visual materials, animal examination algorithm, and diagnostic examination and manipulation schemes. 3. Demonstration of conducting a clinical examination of an animal, research analyses, and manipulation techniques.	10	1. Learn terms and concepts, rules and research schemes.	10
DRN 2. Study and be able to analyze information from various sources regarding the development of diagnostic and treatment strategies for diagnosing diseases of small animals.		10	2. Prepare workbook, record research results during classes and patient appointments. 2. Analyze and discuss situational tasks during classes (orally).	10
PRN 3. Be able to conduct a comparative analysis of the results of studies in normal and pathological conditions.		10	3. Practice practical skills when receiving an animal, conducting tests, and diagnostic procedures.	10
DRN 4. Gain practical experience in the specifics of collecting anamnesis during registration and examination of animals, developing an animal examination scheme and conducting clinical studies, making decisions on choosing diagnostic and treatment schemes for small animals		10	4. Prepare individual work (video presentation/project) to demonstrate acquired practical experience in classical and/or specific methods of diagnosis or manipulation of small animals.	10
DRN 5. Analyze the clinical manifestations of the disease and the results of tests obtained during laboratory tests		10		10
DRN 10. Analyze the application of innovative research methods and problem situations that		10		10

require experimental approaches to solving.				
PRN 17. Know the rules and requirements of biosafety, bioethics, and animal welfare.		10		10
DRN 18. Carry out accounting reporting of documentation and journals used when receiving animals in clinics.		5		5
Approximate distribution of hours for 5 credits (150 hours)		75		75

5. EVALUATION BY EDUCATIONAL COMPONENT

5.1. Summative assessment:

No.	Summative assessment methods	Points / Weight in the overall score	Date of compilation
1	Studying theoretical questions and checking their knowledge during testing on the Moodle platform	20 points/10%	at the end of each topic
2	Keeping a workbook, recording research results.	10 points/10%	
3	Analysis and discussion of situational tasks during classes (oral).	10 points/10%	
4	Practicing practical skills during animal admission, tests, and diagnostic procedures.	25 points/10%	
5	Individual work (video presentation/project) demonstrating acquired practical experience in classical and/or specific diagnostic methods or manipulations.	20 points/10%	
6	Intermediate certification (multiple choice test)	15 points/15%	according to schedule
<i>Form of control – credit, total</i>		<i>60-100 points/60-100%</i>	

5. 2. EVALUATION CRITERIA

N o.	Component	Unsatisfactorily	Satisfactorily	Good	Perfectly
1	Studying theoretical questions and checking their knowledge during testing, Moodle	Task requirements not met	Correct answers in 50-69% of tasks	Correct answers in 70-90% of tasks	Correct answers in 91-100% of tasks
2	Analysis and discussion of situational tasks during classes (oral).	Task requirements not met	In the process of discussing topics, sometimes enters into the discussion	In the process of discussing topics, he constantly enters into the discussion, operates with theoretical knowledge	In the process of discussing topics, he constantly enters into the discussion, uses theoretical knowledge, and supports it with practical examples.
3	Keeping a workbook, recording research results.	Task requirements not met	Individual component elements of the tasks are missing.	All the component elements of the tasks are present, and the names of drug groups are present.	All the constituent elements of tasks, drug names, and groups are present.
4	Practicing practical skills during animal admission, tests, and diagnostic procedures.	Task requirements not met	Partially worked out.	Fully worked out, diagnostic studies are completed without interpretation of stages and results.	Fully completed, diagnostic tests are completed with an interpretation of all stages and results.
5	Preparation of an individual assignment (video work/project) on the topic of diagnosis or treatment of diseases of small animals. It is recommended to	Task requirements not met	A layout for a thematic video was used, highlighting the main points of the topic.	A layout for a thematic video is used, the main points of the topic are highlighted, examples are given, description.	The layout for the thematic video is used, the main points of the topic are highlighted, the given examples are given, Description. The features of the

	use the acquired practical skills, theoretical knowledge on the individual topic.				practical skill and its need are separately highlighted.
6	Intermediate certification	Task requirements not met	Correct answers in 50-69% of tasks	Positive responses in 70-90% of tasks	Positive responses in 91-100% of tasks

5.3. Formative assessment:

(for self-analysis and assessment of learning progress)

No.	Elements of formative assessment	Date /semester
1	Studying theoretical questions and checking their knowledge during testing on the Moodle platform	throughout semester
2	Keeping a workbook, recording research results.	
3	Analysis and discussion of situational tasks during classes (oral).	
4	Practicing practical skills during animal admission, tests, and diagnostic procedures.	
5	Individual work (video presentation/project) demonstrating acquired practical experience in classical and/or specific diagnostic methods or manipulations.	
6	Intermediate certification (multiple choice test)	according to schedule

6. LEARNING RESOURCES (LITERATURE)

6.1. Main sources (textbooks, manuals):

1. Atlas of animal helminths / I.S. Dakhno, A.V. Berezovsky, V.F. Galat and others. – K.: Vetinform, 2022. – 118 p.
2. Diseases of dogs and cats: Study guide / S.V. Starchenkov. - St. Petersburg: Lan, 2022. - 560 p.
3. Internal diseases of animals: Workshop / M.I. Tsvilikhovsky, V.I. Bereza, V.S. Sichkar and others; – K.: Aristei, 2024.- 140 p.
4. Golubev O.V., Rimsky V.V. Fundamentals of clinical radiology. – Dnipro, 2024. – 156 p.

6.2. Auxiliary

5. Kravtsiv R.Y., Kolesnyk A.V. Directory "Modern means of veterinary medicine for dogs and cats". Kharkiv: IPC "Contrast", 2024. 284 p.
6. M.D. Mashkovsky Medicines. Handbook for doctors. - 15th edition. Moscow: LLC "Izdatelstvo Novaya Volna", 2025. 1200 p.: ill.
7. Olga Polatayko. Veterinary anesthesia: practice. allowance Kyiv: "VD "Periscope". 2024. 408 p.
8. Plumb Donald K. Pharmacological preparations in veterinary medicine. Moscow: Aquarium, 2022. 856 p.

6.3. Methodological support:

1. Kysterna O.S., Musienko O.V. Diagnostics and therapy of internal diseases of small animals and fur animals. Course of lectures for students of the Faculty of Veterinary Medicine 2-3 -years, 4 years of the educational degree "bachelor", "master", specialties 211 - "Veterinary medicine", 212 "Veterinary hygiene, sanitation and expertise" - Sumy, 2022. - 64 p.
2. Kysterna O.S., Musienko V.M., Ulko L.G., Sklyar O.I., Dolbanosova R.V., Mospanova O.V., Serbin A.G., Delyan E.P. Scientific and methodological support of the educational process: methodological manual "Rational choice of antibiotics" / editor. -Sumy, 2022. – 100 p.

6.4. Additional sources:

21.	Complete catalog of veterinary drugs registered in Ukraine. VET.in.UA – Veterinary information resource of Ukraine http://vet.in.ua/menu/drugs.php
22.	Kanyuka O.I., Faytelberg-Blank V.R., Lyzogub Y.P. et al. Clinical Veterinary Pharmacology: Textbook PDF. Textbook for students of higher agricultural institutions in the specialty "Veterinary Medicine" www.twirpx.com/file/820440
23.	State Veterinary and Phytosanitary Service of Ukraine. http://www.vet.gov.ua
24.	Veterinary medicine in the country . Veterinary information and analytical resource of Ukraine. http://www.vet.in.ua
25.	Everything for a student. http://www.twirpx.com
26.	Scientific Center for Preventive Toxicology, Food and Chemical Safety named after Academician L. I. Medved, Ministry of Health of Ukraine. http://www.medved.kiev.ua
27.	Bayer electronic catalog http://www.bayer.ua/products/products-from-a-to-z/
28.	Electronic catalog "Zoetis" http://www.zoetis.ru/products/
29.	Electronic catalog "UVT" http://uvt.kh.ua/catalog/

30.	Electronic catalog "Ukrvetprompostach" http://www.vetsnab.com.ua/ru/katalog
31.	Electronic catalog "Brovapharma" https://brovapharma.ua/ru/ausil-20g

6.5. Information resources for non-formal education (additional):

32. International Group. School of Veterinary Cytology-
<https://www.facebook.com/groups/cytovetschool/>
33. International Group. School of Hematology
- <https://www.facebook.com/groups/morpholis/>
34. Ukraine. [Veterinary Laboratory Diagnostics of Ukraine](https://www.facebook.com/groups/5239316902827290/?ref=share) -
<https://www.facebook.com/groups/5239316902827290/?ref=share>
35. Ukraine. Royal Canin. <https://www.royalcanin.com/ua>
36. Ukraine. Royal Canin. Diets. https://petslike.net/brand/royal-canin?gclid=Cj0KCQiAjJOQBhCkARIsAEKMtO25P6Tas7QE9vtNEfCgipa2kTd1KT3bgOORDGJwGAnglaQAWkDGNZcaAg3aEALw_wcB .
37. Ukrainian Cytology Group. <https://www.facebook.com/groups/1470568050047530>
38. Svetlana Bilova International Group (Tallinn). VET Derm Group -
<https://www.facebook.com/groups/VETDERM2013/?ref=share>
39. International group. VET-Neurology – Veterinary Neurology -
<https://www.facebook.com/groups/nevrovet/>
40. International Group. VET Anesthesiology -
<https://www.facebook.com/groups/1570269903237328/>
41. International group. Announcement of veterinary events -
<https://www.facebook.com/groups/vetanons/>
42. Ukraine. Vet Bio Pharm Portal- <https://www.facebook.com/groups/140185769884186/>
43. International Group. Veterinary Dermatology and Allergology-
<https://www.facebook.com/groups/vetdermallergology/>
44. International group. Veterinary cardiology. Veterinary cardiology -
<https://www.facebook.com/groups/veterinarycardiology/>
45. International Group. Veterinary Nephrology and Urology -
<https://www.facebook.com/groups/vetnephro/>
46. Ukraine. Laboratory diagnostics Group -
<https://www.facebook.com/groups/348373445662202/>
47. International group. Laboratory diagnostics in veterinary medicine -
<https://www.facebook.com/groups/vetlaboratoria/>

6.6. Resources for distance learning:

48. Distance learning course SNAU, Moodle DTHDT :
<https://cdn.snau.edu.ua/moodle/course/view.php?id=1736>
49. SNAU DTHDT (dog, cat):
<https://www.facebook.com/groups/1970437679646916/?source=unknown>
50. [SNAU Vet pharm for foreign students:](https://www.facebook.com/groups/1757475244370215/)
<https://www.facebook.com/groups/1757475244370215/>