



MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
STATE BIOTECHNOLOGICAL UNIVERSITY
Faculty of Veterinary Medicine

APPROVED by
Head of the Pharmacology and
Parasitology Department



(signature) O.V. Nikiforova
(surname and initials)

«20» June 2025 p

PHARMACOLOGY AND PARASITOLOGY DEPARTMENT
(name of the department)

WORKING PROGRAM
OF EDUCATIONAL DISCIPLINE
MC VETERINARY PARASITOLOGY
(code and name of academic discipline)

Level of higher education	The second level of higher education (master's) _____ (name)
Branch of knowledge	21 Veterinary medicine _____ (code and name)
Specialty	211 Veterinary medicine _____ (code and name)
Educational program	educational and professional program "Veterinary Medicine" _____ (name)

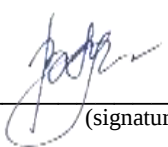
Compilers candidates of veterinary sciences, associate professors: O. V.
: Nikiforova, O. V. Mazannyi
(academic title, position, surname and initials)

The working program of the academic discipline was approved at the extended
meeting of the "Pharmacology and Parasitology" department
(name of department)

Minutes dated: the 20 of June, 2025 No. 21.

The working program has been agreed

Guarantor of the educational program "Veterinary Medicine"
(name of OPP)

June the 23^d 2025 () Naumenko S.V.
(signature) (surname and initials)

Translated and layout created by O.V. Nikiforova, cand. of vet. sci., associate
professor, Head of the Department of Pharmacology and Parasitology of SBTU

The validity period has been extended to:

" ____ " ____ 20 ____ · Minutes № ____ from ____ " ____ 20 ____ p.
head of the department (name of department) (signature) (surname and initials)

" ____ " ____ 20 ____ · Minutes № ____ from ____ " ____ 20 ____ p.
head of the department (name of department) (signature) (surname and initials)

" ____ " ____ 20 ____ · Minutes № ____ from ____ " ____ 20 ____ p.
head of the department (name of department) (signature) (surname and initials)

1 Description of the academic discipline

Name of indicators	Characteristics of the academic discipline			
	full-time education			
Number of credits <u>11</u>	Discipline status:			
	mandatory			
Sections - 2	Year of training:			
	<u>4</u> -th	<u>4</u> -th	<u>5</u> -th	<u>5</u> -th
	Semester			
The hours' amount of discipline <u>330</u>	<u>7</u> -th	<u>8</u> -th	<u>9</u> -th	<u>10</u> -th
	Lectures			
	<u>16</u> hours	<u>14</u> hours	<u>14</u> hours	<u> </u> hours
	Laboratory			
	30 hours	30 hours	<u>32</u> hours	<u> </u> hours
	Self-study			
	44 hours	<u>46</u> hours	<u>44</u> hours	<u> </u> hours
	Educational practice			
	<u> </u> hours	<u>30</u> - hours	<u> </u> hours	- hours
	Term paper			
	<u> </u> hours	<u> </u> hours	<u> </u> hours	<u>30</u> hours
Weekly hours for full-time education: classrooms – 136 independent work of the acquirer - 134	Type of control:			
	Credit (undifferentiated)	Credit (undifferentiated)	Final exam	Term paper

2 Purpose and tasks of the discipline

The purpose of the discipline "Veterinary Parasitology" is to provide students with thorough knowledge of the diagnosis, treatment and prevention of parasitic diseases of animals, to acquire practical skills in the implementation of anti-parasitic measures in livestock farms and to prepare graduate students for work in industrial conditions.

The task of studying the discipline consists in learning the clinical signs, diagnostics, peculiarities of epizootology, treatment and prevention of parasitic diseases in agricultural, industrial, domestic and exotic animals.

The subject of study of the educational discipline is parasitic diseases of animals.

The basic disciplines for successful assimilation of the program material of the discipline are (from the structural and logical scheme of the educational program for mandatory disciplines) clinical diagnosis of animal diseases, veterinary clinical biochemistry, pathological anatomy and dissection, pathological physiology, veterinary immunology, veterinary pharmacology.

This educational discipline ensures the formation of the following program learning outcomes: (from the educational program for mandatory disciplines):

PLO4. Collect anamnestic data during registration and examination of animals, make decisions on the choice of effective methods of diagnosis, treatment and prevention of animal diseases;

PLO 5. Establish a link between the clinical manifestations of the disease and the results of laboratory examinations;

PLO 6. Develop quarantine and health measures, methods of therapy, prevention, diagnosis and treatment of diseases of various etiologies;

PLO 7. Formulate conclusions on the effectiveness of selected methods and means of keeping, feeding and treatment of animals, prevention of infectious and non-communicable diseases, as well as production and technological processes in enterprises for keeping, breeding or operation of animals of different classes and species;

PLO 8. Conduct the monitor the causes of the spread of diseases of various etiologies and biological pollution of livestock waste, as well as materials and veterinary products;

PLO 9. Develop measures to protect the population from diseases common to animals and humans;

PLO 10. To offer and use expedient innovative methods and approaches of the decision of problem situations of a professional origin.

3 Program of the academic discipline

Chapter 1 General zooparasitology. Veterinary protozoology and animal protozoa.

Topic 1 General zooparasitology

Brief content of the topic. Basic issues of general parasitology of animals, special terminology and basic concepts of the discipline, biological foundations of parasitology, doctrine of invasive diseases.

Recommended reading (links)

<https://drive.google.com/file/d/1FsH3G7ZjRx18GHFBS8iQmHBqW7JeW1al/view>
https://drive.google.com/file/d/1FdnF-msyYWU8PtRfeBwcvG9m_-EqI7sg/view
<https://drive.google.com/file/d/1acWAtFfWYAyAoPEsnBMVMsNd89IShvSvf/view>
https://drive.google.com/file/d/1GTrFvf1yL8TqsQ67ZvEOjO_bPUv0VH6V/view?usp=sharing
<https://drive.google.com/file/d/105IFOqfbwqncuLBmnHyfodLWpxv3KDJY/view>
https://drive.google.com/file/d/10_z5S2WICJR77OVjO6V3v97PClHmYvNI/view
https://drive.google.com/file/d/1ellFOPMB9Qq50_O1Sw4LhcSEgicEJwzk/view

Topic 2 Veterinary protozoology and animal protozoa

Brief content of the topic. General information about protozoa, veterinary protozoology and animal protozoan diseases: definition, epizootic features, pathogenesis, clinical signs, diagnosis and differential diagnosis, control measures (treatment), ways of prevention.

Recommended reading (links)

<https://drive.google.com/file/d/1FsH3G7ZjRx18GHFBS8iQmHBqW7JeW1al/view>
https://drive.google.com/file/d/1FdnF-msyYWU8PtRfeBwcvG9m_-EqI7sg/view
<https://drive.google.com/file/d/1acWAtFfWYAyAoPEsnBMVMsNd89IShvSvf/view>
https://drive.google.com/file/d/1GTrFvf1yL8TqsQ67ZvEOjO_bPUv0VH6V/view?usp=sharing
<https://drive.google.com/file/d/105IFOqfbwqncuLBmnHyfodLWpxv3KDJY/view>
https://drive.google.com/file/d/10_z5S2WICJR77OVjO6V3v97PClHmYvNI/view
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Chapter 2 Veterinary trematodology and trematodoses of animals. Veterinary cestodology and cestodoses of animals

Topic 3 Veterinary trematodology and animal trematodes

Brief content of the topic. General helminthology and, in particular, veterinary trematodology and animal trematodes: definition, epizootic features, pathogenesis, clinical signs, diagnosis and differential diagnosis, control measures (treatment), ways of prevention.

Recommended reading (links)

<https://drive.google.com/file/d/1FsH3G7ZjRx18GHFBS8iQmHBqW7JeW1al/view>
https://drive.google.com/file/d/1FdnF-msyYWU8PtRfeBwcvG9m_-EqI7sg/view
<https://drive.google.com/file/d/1acWAtFfWYAyAoPEsnBMVMsNd89IShvSvf/view>
https://drive.google.com/file/d/1GTrFvf1yL8TqsQ67ZvEOjO_bPUv0VH6V/view?usp=sharing
<https://drive.google.com/file/d/105IFOqfbwqncuLBmnHyfodLWpxv3KDJY/view>

https://drive.google.com/file/d/10_z5S2WICJR77OVjO6V3v97PClHmYvNI/view
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Topic 4 *Veterinary cestodology and cestodoses of animals*

Brief content of the topic. Veterinary cestodology and cestodoses of animals, in particular, diseases caused by tapeworms in both adult and larval stages: definition, epizootic features, pathogenesis, clinical signs, diagnosis and differential diagnosis, control measures (treatment), ways of prevention.

Recommended reading (links)

<https://drive.google.com/file/d/1FsH3G7ZjRx18GHFBS8iQmHBqW7JeW1al/view>
https://drive.google.com/file/d/1FdnF-msyYWU8PtRfeBwcvG9m_-EqI7sg/view
<https://drive.google.com/file/d/1acWAtFfWYyAoPEsnBMVMsNd89IShvSvf/view>
https://drive.google.com/file/d/1GTrFvf1yL8TqsQ67ZvEOjO_bPUv0VH6V/view?usp=sharing
<https://drive.google.com/file/d/105IFOqfbwqncuLBmnHyfodLWpxv3KDJY/view>
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Chapter 3 *Veterinary nematodology and animal nematodes (Part 1)*

Topic 5 *Veterinary nematodology and animal nematodes (Part 1).*

Brief content of the topic. Veterinary nematodology and nematodes of animals caused by roundworms of the suborders oxyurata, ascaridata, strongylata: definition, epizootic features, pathogenesis, clinical signs, diagnosis and differential diagnosis, control measures (treatment), ways of prevention.

Recommended reading (links)

<https://drive.google.com/file/d/1FsH3G7ZjRx18GHFBS8iQmHBqW7JeW1al/view>
https://drive.google.com/file/d/1FdnF-msyYWU8PtRfeBwcvG9m_-EqI7sg/view
<https://drive.google.com/file/d/1acWAtFfWYyAoPEsnBMVMsNd89IShvSvf/view>
https://drive.google.com/file/d/1GTrFvf1yL8TqsQ67ZvEOjO_bPUv0VH6V/view?usp=sharing
<https://drive.google.com/file/d/105IFOqfbwqncuLBmnHyfodLWpxv3KDJY/view>
https://drive.google.com/file/d/10_z5S2WICJR77OVjO6V3v97PClHmYvNI/view
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Chapter 4 *Veterinary nematodology and animal nematodes (Part 2)*

Topic 6 *Veterinary nematodology and animal nematodes (Part 2).*

Brief content of the topic. Veterinary nematodology and animal nematodes caused by roundworms of the trichurata, spirurata, filariata and rhabditata and acanthocephalus suborders: definition, epizootic features, pathogenesis, clinical signs, diagnosis and differential diagnosis, control measures (treatment), ways of prevention.

Recommended reading (links)

<https://drive.google.com/file/d/1FsH3G7ZjRx18GHFBS8iQmHBqW7JeW1al/view>
https://drive.google.com/file/d/1FdnF-msyYWU8PtRfeBwcvG9m_-EqI7sg/view
<https://drive.google.com/file/d/1acWAtFfWYyAoPEsnBMVMsNd89IShvSvf/view>

https://drive.google.com/file/d/1GTrFvf1yL8TqsQ67ZvEOjO_bPUv0VH6V/view?usp=sharing
<https://drive.google.com/file/d/105IFOqfbwqncuLBmnHyfodLWpxv3KDJY/view>
https://drive.google.com/file/d/10_z5S2WICJR77OVjO6V3v97PCLHmYvNI/view
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Chapter 5 *Veterinary acarology and animal acarosis*

Topic 7 *Veterinary acarology and animal acarosis*

Brief content of the topic. Veterinary acarology and animal acarosis: definition, epizootic features, pathogenesis, clinical signs, diagnosis and differential diagnosis, control measures (treatment), ways of prevention.

Recommended reading (links)

<https://drive.google.com/file/d/1FsH3G7ZjRx18GHFBS8iQmHBqW7JeW1al/view>
https://drive.google.com/file/d/1FdnF-msyYWU8PtRfeBwcvG9m_-EqI7sg/view
<https://drive.google.com/file/d/1acWAtFfWYAyAoPEsnBMVMsNd89IShvSvf/view>
https://drive.google.com/file/d/1GTrFvf1yL8TqsQ67ZvEOjO_bPUv0VH6V/view?usp=sharing
<https://drive.google.com/file/d/105IFOqfbwqncuLBmnHyfodLWpxv3KDJY/view>
https://drive.google.com/file/d/10_z5S2WICJR77OVjO6V3v97PCLHmYvNI/view
https://drive.google.com/file/d/1ellFOPMB9Qq50_O1Sw4LhcSEgicEJwzk/view

Chapter 6 *Veterinary entomology and entomoses of animals*

Topic 8 *Veterinary entomology and animal entomosis*

Brief content of the topic. Veterinary entomology and entomosis of animals: definition, epizootic features, pathogenesis, clinical signs, diagnosis and differential diagnosis, control measures (treatment), ways of prevention.

Recommended reading (links)

<https://drive.google.com/file/d/1FsH3G7ZjRx18GHFBS8iQmHBqW7JeW1al/view>
https://drive.google.com/file/d/1FdnF-msyYWU8PtRfeBwcvG9m_-EqI7sg/view
<https://drive.google.com/file/d/1acWAtFfWYAyAoPEsnBMVMsNd89IShvSvf/view>
https://drive.google.com/file/d/1GTrFvf1yL8TqsQ67ZvEOjO_bPUv0VH6V/view?usp=sharing
<https://drive.google.com/file/d/105IFOqfbwqncuLBmnHyfodLWpxv3KDJY/view>
https://drive.google.com/file/d/10_z5S2WICJR77OVjO6V3v97PCLHmYvNI/view
https://drive.google.com/file/d/1ellFOPMB9Qq50_O1Sw4LhcSEgicEJwzk/view

4 The structure of the academic discipline

Name chapters and topics	Number of hours					
	Full-time					
	The total amount	classroom hours			Independent work	
		altogether	including			
	lectures		laboratory	practical		
1	2	3	4	5	6	7
Chapter 1 <u>General zooparasitology. Veterinary protozoology and animal protozoa.</u>						
Topic 1 <u>General zooparasitology</u>	12	-	-	-	-	12
Topic 2 <u>Veterinary protozoology and animal protozoa</u>	33	18	6	12	-	15
<i>Together by section1</i>	45	18	6	12	-	27
Chapter 2 <u>Veterinary trematodology and trematodoses of animals. Veterinary cestodology and cestodoses of animals</u>						
Topic 3 <u>Veterinary trematodology and animal trematodes</u>	22	12	4	8	-	10
Topic 4 <u>Veterinary cestodology and cestodoses of animals</u>	23	16	6	10	-	7
<i>Together by section2</i>	45	28	10	18	-	17
Chapter 3 <u>Veterinary nematodology and animal nematodes (Part 1)</u>						
Topic 5 <u>Veterinary nematodology and animal nematodes (Part 1).</u>	45	22	8	14	-	23
<i>Together by section3</i>	45	22	8	14	-	23
Chapter 4 <u>Veterinary nematodology and animal nematodes (Part 2)</u>						
Topic 6 <u>Veterinary nematodology and animal nematodes (Part 2).</u>	45	20	6	16	-	23
<i>Together by section4</i>	45	20	6	16	-	35
Chapter 5 <u>Veterinary acarology and animal acarosis</u>						
Topic 7 <u>Veterinary acarology and animal acarosis</u>	45	22	8	16	-	21
<i>Together by section5</i>	45	22	8	16	-	21
Chapter 6 <u>Veterinary entomology and entomoses of animals</u>						
Topic 8 <u>Veterinary entomology and animal entomosis</u>	45	22	6	16	-	23
<i>Together by section6</i>	45	22	6	16	-	23
Hours in total	270	134	44	92	-	134

5 THEORETICAL LESSONS (LECTURES)

N by order	The name of the topic of the lecture	Hours
		d/f
7 th semester		
Chapter 1 <u>General zooparasitology. Veterinary protozoology and animal protozoa.</u>		
	Fundamentals of general parasitology. The doctrine of invasive disease.	Self-study
1.	Characteristics of protozoa. Piroplasmidoses of animals.	2
2.	Characteristic of coccidiida. Eimerioses of hens, rabbits and ruminants. Isoporinoses of animals (toxoplasmosis, sarcocystosis, cystoisosporoses of animals).	2
3.	Zoomastigophoroses of animals (ciliophoroses, trichomonosis of cattle, histomonosis of turkeys).	2
Chapter 2 <u>Veterinary trematodology and trematodoses of animals. Veterinary cestodology and cestodoses of animals</u>		
4.	Veterinary helminthology and helminthoses of animals. Trematodoses of ruminants: fasciolosis and paramphistomidoses. Dicrocoeliosis and eurytremosis of ruminants.	2
5.	Trematodoses of birds (prostogonimosis, echinostomatidoses, notocotylidoses) and carnivorous (opisthorchosis, etc.).	2
6.	Veterinary cestodology and cestodoses of animals. Larval cestodoses of animals: cysticercoses, coenurosis, echinococcosis.	2
7,8	Imaginal cestodoses of carnivorous - taenioses, dipylidiosis, diphyllbothriosis. Imaginal cestodoses of ruminants, horses and waterfowl.	4
8 th semester		
Chapter 3 <u>Veterinary nematodology and animal nematodes (Part 1)</u>		
9.	Veterinary nematodology and nematodoses of animals. Oxyuratoses of animals: oxyurosis of horses, passalurosis of rabbits, skrjabinemosis of sheep, heterakosis of birds.	2
10.	Ascaridatoses of animals: ascarosis of swine, parascariosis of horses, neoascariosis of calves, Ascaridatoses of carnivorous and ascaridiosis of poultry. Anisakidoses of fish and poultry.	2
11.	Strongylatoses of the digestive tract of animals: ruminants (chabertiosis, oesophagostomosis, bunostomosis, nematodirosis, haemonchosis), strongylidoses of horses. Strongylatoses of the digestive tract of swine, carnivorous and geese.	2
12.	Strongylatoses of respiratory tract of animals: dictyocaulosis of ruminants, metastrongylosis of swine, muelleriosis of sheep and goats, syngamosis of poultry.	2
Chapter 4 <u>Veterinary nematodology and animal nematodes (Part 2)</u>		
13.	Trichuratoses of animals: trichurosis of pigs, ruminants and carnivorous, trichinelosis of pigs, capillarioses of animals.	2

14.	Spiruratoses of animals: thelaziosis of cattle, tetramerosis, streptocarosis and echinuriasis of waterfowl.	2
15.	Filariatoses of animals: parafilariosis of horses, onchocercoses and setarioses of cattle and horses. Dirofilariosis of dogs.	2
	Acanthocephaloses of animals: macracanthorhynchosis of pigs, polymorphosis and filicollis of poultry.	Self-study
9 th semester		
Chapter 5 <i>Veterinary acarology and animal acarosis</i>		
16.	Veterinary acarology and acaroses of animals. Parasitiformes ticks: Ixodidae, Argasidae and Dermanyssidae.	2
17.	Acariformes mites and acaroses of animals. Sarcoptidoses of animals: sarcoptosis and notoedrosis.	2
18.	Psoroptidoses of animals: psoroptosis, chorioptosis and otodectosis.	2
19.	Demodecosis of animals. Knemidocoptosis of birds.	2
Chapter 6 <i>Veterinary entomology and entomoses of animals</i>		
20.	Veterinary entomology and entomoses of animals. Botfly invasions: hypodermosis of cattle, oestrosis of sheep, rhinoestrosis and gastrophilosis of horses.	2
21.	Dipterous blood-sucking insects (Midges): clegs, blood-sucking flies, blackflies, punkies, mosquitoes, sandflies, horse ked (forest fly). Zoophilous flies – blood-sucking and non-blood-sucking, their role in the pathology of animals.	2
22.	Wingless insects: melophagosis of sheep, siphunculatoses, mallophagoses and siphonapteroses of animals.	2
Total lectures: 44 hours		

6 LABORATORY CLASSES

N by order	The name of the topic of the lesson	Hours
		d/f
7 th semester		
Chapter 1 <i>General zooparasitology. Veterinary protozoology and animal protozoa</i>		
	Introductory lesson	Self-study
1	Diagnostics and differential diagnosis of babesiidoses of ruminants, horses, dogs and cats	2
2	Diagnostics and differential diagnosis of coccidiidoses (eimeriosis) of poultry, rabbits, ruminants and fish	2
3	Diagnostics and differential diagnosis of animals' isosporinoses - toxoplasmosis, sarcocystosis, cystoisosporosis	2
4	Testing equipment of laboratory diagnostics of animals' blood parasite protozooses Testing equipment of laboratory diagnostics of animals' coccidiosis	2
5	Diagnostics and differential diagnosis of animals' zoomastigophoroses –	2

	trichomonosis of cattle and histomonosis of poultry and trypanosomosis of solipeds	
6	Diagnostics and differential diagnosis of pigs' balantidiosis, ruminants' anaplasmosis, poultry's borreliosis	2
Chapter 2 <i>Veterinary trematodology and trematodoses of animals. Veterinary cestodology and cestodoses of animals</i>		
7	Characteristics of the class Trematoda. Diagnostics and differential diagnosis of fasciolosis and paramphistomidoses in ruminants	2
8	Diagnostics and differential diagnosis of dicrocoeliosis, eurytremosis in ruminants Diagnostics and differential diagnosis of carnivorous' opisthorchidoses	2
9	Diagnostics and differential diagnosis of poultry's trematodoses: prosthogonimosis, echinostomatidoses and notocotylidoses	2
10	Testing equipment of lifetime and post-mortem diagnostics of helminthous invasions of animals	2
11	General characteristic of Cestoda class. Type of Cestoda's larvae. Diagnostics and differential diagnosis of cysticercoses bovis and cellulose in animals	2
12	Diagnostics and differential diagnosis of cysticercoses tennuicolis and pisiformis in animals Diagnostics and differential diagnosis of coenurosis, echinococcosis and alveococcosis larvae in animals	2
13	Diagnostics and differential diagnosis of imaginal cestodoses of taeniidoses and diphyllbothriosis in carnivorous	2
14	Diagnostics and differential diagnosis of anoplocephalatoses in solipeds Diagnostics and differential diagnosis of anoplocephalatoses in ruminants	2
15	Diagnostics and differential diagnosis of cestodoses of waterfowl and land birds	2
8 th semester		
Chapter 3 <i>Veterinary nematodology and animal nematodes (Part 1)</i>		
16	Characteristics of nematodes of superfamily Oxyuroidea. Diagnostics and differential diagnosis of solipeds' oxyurosis, rabbits' passalurosis	2
17	Characteristics of nematodes of superfamily Oxyuroidea. Diagnostics and differential diagnosis of skrjabinemosi of small cattle, heterakidoses of poultry	2
18	Characteristics of nematodes of superfamily Ascaridoidea. Diagnostics and differential diagnosis of ascarosis of pigs, ascaridatoses of carnivorous	2
19	Diagnostics and differential diagnosis of solipeds' parascaris and calves' neoascaris Diagnostics and differential diagnosis of ascaridiosis of poultry, anisakidoses of fish and poultry	2
20	Characteristics of nematodes of superfamily Strongyloidea. Diagnostics and differential diagnosis of strongylidoses of digestive tract in solipeds Diagnostics and differential diagnosis of strongylatoses of digestive tract in ruminants	2
21	Diagnostics and differential diagnosis of ancylostomatidoses of	2

	carnivorous, oesophagostomosis of pigs and amidostomosis of geese	
22	Diagnostics and differential diagnosis of strongylatosis of respiratory tract in ruminants, pigs and poultry	2
Chapter 4 <i>Veterinary nematology and animal nematodes (Part 2)</i>		
23	Characteristics of nematodes of superfamily Trichuroidea. Diagnostics and differential diagnosis of animals' trichoroses and capillariosis	2
24	Diagnostics and differential diagnosis of animals' trichinelosis.	2
25	Characteristics of nematodes of superfamily Spiruroidea. Diagnostics and differential diagnosis of thelaziosis of cattle and spiruratoses of poultry (tetramerosis, streptocariosis, echinuriasis)	2
26, 27	Characteristics of nematodes of superfamily Filarioidea. Diagnostics and differential diagnosis of onchocercoses and setarioses, parafilariosis of ruminants and horses and dirofilariosis of carnivorous	4
28	Characteristics of nematodes of superfamily Rhabditoidea. Diagnostics and differential diagnosis of strongyloidosis of young animals	2
29, 30	General characteristics of helminthes of Acanthocephala class. Diagnostics and differential diagnosis of macracanthorhynchosis of pigs, poultry's polymorphosis and filicollis	4
9 th semester		
Chapter 5 <i>Veterinary acarology and animal acarosis</i>		
31, 32	Characteristics of Arthropoda of subclass Acari. Ticks' taxonomy. Parasitiformes ticks. Morphological identification of Ixodides to the genus and their biological classification	4
33	Morphological identification of Argasidae and Dermanyssidae ticks to the genus. Diagnostics and differential diagnosis of acaraposis and varroosis of bees	4
34	Acariformes mites. Sarcoptoidosis of animals. Diagnostics and differential diagnosis of sarcoptosis and notoedrosis	2
35	Psoroptoidosis of animals: diagnostics and differential diagnosis of psoroptosis.	2
36	Psoroptoidosis of animals: diagnostics and differential diagnosis of chorioptosis and otodectosis	2
37	Trombidiformes mites. Diagnostics and differential diagnosis of poultry' knemidocoptosis and demodocosis of animals	2
Chapter 6 <i>Veterinary entomology and entomoses of animals</i>		
38	Characteristics of Arthropoda of Class Insecta. Botfly invasions of animals: diagnostics and differential diagnosis of cattle's hypodermosis.	2
39	Botfly invasions of animals: diagnostics and differential diagnosis of cattle's oestridosis (oestrosis, crivelliosis, cephenomyosis)	2
40	Botfly invasions of animals: diagnostics and differential diagnosis of rhinoestrosis and gastrophilosis of soliped	2
41	Blood-sucking Diptera insects (Midges): morphological and biological identification of clegs, blackflies, punkies, mosquitoes and sandflies	2
42	Zoophilous flies: morphological and biological identification of family	2

	Muscidae, Sarcophagidae, Calliphoridae, Glossinidae	
43	Diagnostics of simuliotoxicosis and animals' myiasis (Wohlfahrtiosis, Luciliosis)	2
44	Wingless insects –permanent ectoparasites of animals: melophagosis of sheep (keds), Siphunculatoses of animals	2
45	Wingless insects – permanent ectoparasites of animals (Mallophagoses and Siphonapteroses of mammals and poultry)	2
Total classes: 90 hours		

7 SELF-STUDY WORK

N by order	Control questions and tasks for self-study	Hours
Chapter 1 <i>General zooparasitology. Veterinary protozoology and animal protozoa</i>		
1	Features of epizootology of protozooses, helminthoses, acaroses and entomoses of animals. Teaching of E.N. Pavlovsky of the natural peculiarity of transmissible diseases. Features of immunity with protozooses, helminthoses, acaroses and entomoses of animals. Fundamentals of prevention of invasive diseases.	12
2	Nosematoses and amebiosis of bees: their definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	7
3	Fish ciliatoses (chilodenelosis, trichodinosis, and ichthyophthiriosis). Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	8
Chapter 2 <i>Veterinary trematodology and trematodoses of animals. Veterinary cestodology and cestodoses of animals</i>		
4	Trematodoses of carnivorous (Clonorchosis, Metorchosis, Pseudamphistomosis, Alariosis, Metagonimosis, Paragonimosis, Heterophyosis, Schistosomosis). Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	7
5	Trematodoses of fish: diplostomosis and postdiplostomosis. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	2
6	Mesocetoidoses of carnivorous, hydatigerosis of cats, amoebotenisosis and choanotaeniosis of hens. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	4
7	Ligulidoses of fish: definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	1
8	Bothryocephalosis fish. Carriosis, Caryophyllosis. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	3

Chapter 3 <i>Veterinary nematodology and animal nematodes (Part 1)</i>		
9	Habronemosis and draschiosis of solipeds. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	23
Chapter 4 <i>Veterinary nematodology and animal nematodes (Part 2)</i>		
10	Capillariosis and Thominxosis of fur animals and poultry. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	23
Chapter 5 <i>Veterinary acarology and animal acarosis</i>		
11	Listrophorosis of rabbits. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	8
12	Acarological disease of bees. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	8
13	Cheiletiosis of dogs and rabbits. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	7
Chapter 6 <i>Veterinary entomology and entomoses of animals</i>		
14	Dermatobiosis, oedemagenosis, cephalopinosi and pharyngomiosis of ruminants. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	8
15	Braulosis, senotainiosis, and conopidoses of bees. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	7
16	Hyppobosciosis, lipoptenosis, and linognathosis of ruminants. Definition, characteristics of pathogens, epizootological data, clinical sings, diagnostics, treatment and preventive measures.	8
In total		136

8 Teaching methods

(According to the structure of the academic discipline)

1. Lecture classes: lecture, story, explanation, illustration, conversation.
2. Laboratory classes: conversation, explanation, demonstration, illustration, laboratory method, practical work, work with a book.
3. Self-study: work with a book.

**The content of the section is of a recommendatory nature and is adjusted according to the content of the academic disciplines.*

9 Control methods

- ❖ oral interview;
- ❖ test control;
- ❖ credit;

❖ exam.

During the current and final control, the means of assessing the results of learning in the discipline are standardized computer tests.

The final semester control (credit) is determined by the sum of the actually scored rating points from the current control and the individual educational and research task.

Current control is carried out during the semester by means of a survey (oral or test), as well as checking the quality of mastering the topics of independent work.

When choosing the criteria for assessing the assimilation of the discipline program by the applicant, the implementation of the program and the assimilation of the material in terms of lecture and laboratory classes, as well as the implementation of the independent work provided for by the program, were taken into account.

All types of control (oral interview, written interview, test interview) are closely related and organized in such a way as to stimulate the effective independent work of applicants and ensure an objective assessment of the level of their knowledge.

After completing the study of the discipline (part of the discipline), the final control is carried out in the form of an exam (test) and the applicant can score from 60 to 100 points inclusive during the semester at the control points.

**The content of the section is of a recommendatory nature and is adjusted in accordance with the content of the academic discipline.*

10 Distribution of points received by applicants (credit)

In the process of studying the course, the success of applicants is determined by conducting ongoing and final controls (credit and exam).

Current testing, answers in class and control of independent work							Total points
Chapter 1		Chapter 2		Chapter 3	Chapter 4	Chapter 5	Chapter 6
T <u>1</u>	T <u>2</u>	T <u>3</u>	T <u>4</u>	T <u>5</u>	T <u>6</u>	T <u>7</u>	T <u>8</u>
0-100	0-100	0-100	0-100	0-100	0-100	0-100	0-100
Overall rating score (ORS = R+E)							0-100

T __, T __... T __ – topics of chapters.

The grade that a higher education applicant receives for conducting an intermediate (current) control (CurC) consists of the points that the applicant receives during testing (T), which are 30%; the points that the applicant receives during activity in classes (Cl), which are 40%; and the points for mastering the independent work block (InW), which are 30%.

$$\text{CurC} = \text{T} \times 0,3 + \text{Cl} \times 0,4 + \text{InW} \times 0,3$$

In each section of the educational component, current control is carried out (**current control** - CurC).

For applicants in the fall (spring) semester, when the final knowledge test is completed with an undifferentiated credit (UDC), the final sum of points (UDC points) is the arithmetic average of the points of the four current tests of the fall (spring)

semester:

$$\text{UDC points} = (\text{CurC 1} + \text{CurC 2} + \text{CurC 3} + \text{CurC 4}) / 4$$

Based on the results of the semester control, the applicant's transcript is assigned a "pass/fail" grade on the national scale.

11 Distribution of points received by applicants (exam)

Current testing, answers in class and control of independent work								Total points	
Chapter 1		Chapter 2		Chapter 3	Chapter 4	Chapter 5	Chapter 6	According to the results of the chapters (R)	Exam (E)
T <u>1</u>	T <u>2</u>	T <u>3</u>	T <u>4</u>	T <u>5</u>	T <u>6</u>	T <u>7</u>	T <u>8</u>	((T1+T2+... T8)/n)x60%	Ex40%
0-100	0-100	0-100	0-100	0-100	0-100	0-100	0-100		
Overall rating score (ORS = R+E)								0-100	

T1, T2... T8 – topics of chapters, n – number of topics.

The final control of the academic performance of applicants is carried out in the form of an exam based on the results of computer testing. The exam grade for the educational component (discipline) is determined on a 100-point scale.

The exam grade (EG) is 40% of the total final grade (FG).

$$\text{EG} = \text{ETS} \times 0,4$$

where: ES – exam score; ETS– exam testing scores, which account for 40% of the points scored during exam testing.

The final grade for the discipline is given on a 100-point scale. It is calculated as the average arithmetic value (AAV) of all the grades received by the student from the current control (CurC) of the assimilation of the material of the sections, with their subsequent conversion into points according to the following formula:

$$\text{AAV} = (\text{CurC chapter1} + \text{CurC chapter.2} + \text{CurC chapter.3} + \text{CurC chapter.4}) / 4$$

$$\text{CurCS} = \text{AAV} \times 0,6$$

where: CurCS – current control scores, which make up 60% of the total final score; AAV is the arithmetic average value of all grades received by the student from the current control

The applicant can score up to 60 points inclusive at the control points of the mastery of the sections within 2 semesters.

Thus, the final grade (FG) is calculated using the formula:

$$\text{FG} = \text{EG} + \text{CurCS}$$

The results of the tests are displayed in the DBTU Moodle system. All forms of control are included in the 100-point assessment scale.

12 Performance of term paper (case history)

In the assessment, the maximum number of points for term paper (case history) is 100 points. According to Table 1, the total number of points is distributed according to the following criteria: for the completion of the theoretical part, the design of the work and the knowledge of the applicant during the defense of the work.

Table 1

Grade for term paper (case history) (maximum possible)

Term paper assessment components (case history)	Maximum points
Theoretical content	30*
Work design (presence / absence of errors)	20*
Content of answers during defense (oral commission (at least 3 NPP))	50
Total for term paper	100

* – if the student disagrees with the number of points that the teacher assigned for the theoretical content and design of the course work, then this issue is considered during the commission defense.

13 Scale: national and ECTS and assessment criteria for determining the level of knowledge and skills

The control of students' knowledge and skills in the discipline is carried out in accordance with the use of the European system of transfer and accumulation of ECTS credits.

Basic provisions:

The total number of current control measures that a student must pass in the discipline is determined taking into account the number of credits in the discipline.

Based on the results of the current control measure, the student's level of assimilation of the educational material is assessed according to the national scale and the ECTS scale.

The number of points received by the student in the assessment of the final control is correlated with the marks on the national scale and the ECTS scale in accordance with Table

1. Rating scale

100-point scale	National scale	interpretation	ECTS scale
90 – 100	excellent	Excellent - excellent answer, the work is fulfilled with only a small number of errors	A
82 – 89	good	Very well - above average with a few errors	B
74 – 81		Well - in general the correct answer, the	C

		work with a certain number of serious errors	
64 – 73	satisfactory	Satisfactorily – not bad, but with big number of errors	D
60 – 63		Quite satisfactorily – the work meets the minimum criteria	E
35– 59	unsatisfactory	Unsatisfactorily – with the possibility to pass again	FX
0-34		Unsatisfactorily – with compulsory passing of the work once again	F

Passing current tests is mandatory. A section is considered passed if the student has scored the minimum required number of points or more.

The results of the rating for the section are brought to the attention of students no later than the third working day after the control event and, in the absence of claims from the students, are considered final.

If the student does not agree with the decision to assign him rating points for the section, then he must immediately after their announcement file a written appeal to the head of the department and, within the specified period, take an oral attestation for the section before the commission. The composition of the appeal commission in each specific case is determined by the head of the department. The decision of the commission is final.

A student who did not appear for the current test has the right to take the missed current test during the assessment week.

The final rating of current performance in the discipline is calculated by averaging the ratings from all sections. The semester grade is given to the student taking into account the results of the final and current tests. The maximum number of points that a student can receive when studying a discipline is 100.

The exam involves a final test. If permission is granted for automatic exam enrollment, a student who has passed all current tests on time and has been certified with an "excellent" grade based on their results can receive a credit automatically. The semester grade in this case is the average grade for the sections.

The teacher is required to submit the completed credit and examination report to the academic department within the following deadline: for the exam - no later than the next business day after its completion.

The mastery of the independent work block is assessed on a scale according to the following regulations (Table 2)

Table 2.

Assessment criteria (100-point system, oral interview).

The level of formation of a student's knowledge and skills in the academic discipline, both during the final and current control, is assessed on a 100-point scale with subsequent conversion of grades into the national scale and the ECTS grading scale.

№	Criteria	Maximum number of	Description
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		points	
1	Completeness of the answer	30 points	The answer covers all the main aspects of the question, reveals its content in accordance with the curriculum.
2	Correctness and accuracy of presentation	20 points	The answer does not contain factual, logical or terminological errors.
3	Consistency and logic	10 points	The answer is logically structured, without inconsistent or chaotic fragments.
4	Language and style of presentation	10 points	The expression is competent, clear, using professional terminology.
5	Independent thinking	10 points	The student demonstrates the ability to draw his own conclusions, analyze, compare, give examples.
6	Additional knowledge (outside the main program)	10 points	The answer contains references to modern sources, interdisciplinary connections, and the latest data.
7	Ability to answer additional questions	10 points	The student confidently responds to the teacher's clarifying or in-depth questions, provides additional arguments or examples.

The conversion of grades on a 100-point scale to the national scale and ECTS scale is carried out according to the table:

Total points for all types of learning activities	Mark according to ECTS scale	Mark according to national scale
90 – 100	A	excellent
82 – 89	B	good
74 – 81	C	
64 – 73	D	satisfactory
60 – 63	E	
35 – 59	FX	unsatisfactory
0 – 34	F	

Activity in classes is assessed on a scale with a maximum of 100 points in

accordance with the following regulations (Table 3)

Table 3.

ACTIVITY ASSESSMENT SCALE IN CLASSES

ECTS scale	National scale	Points	Score interpretation
A	Excellent	90-100	the student works actively during classes, provides complete answers to the teacher's questions and shows a deep mastery of the material, is able to express his own opinion when discussing situational tasks, demonstrates the ability to independently and reasonably present the material, analyze phenomena and facts, make independent generalizations and conclusions, correctly completes educational tasks, has a full synopsis of theoretical material, regularly visits the Moodle system
B	Very well	82-89	the student works actively during the lessons, the questions are covered in full, the presentation of the material is logical, substantiated by facts, with references to literary sources, the coverage of the questions is completed with conclusions, the student has shown the ability to analyze facts and events, as well as to complete educational tasks. However, there are inaccuracies in the answers, some minor errors, the presence of a full summary of the theoretical material, regular visits to the Moodle system
C	Well	74-81	the student works actively during the lessons, the questions are covered in full, the presentation of the material is logical, substantiated by facts, with references to literary sources, the coverage of the questions is completed with conclusions, the student has shown the ability to analyze facts and events, as well as to complete educational tasks. However, there are inaccuracies in the answers, some minor errors, there is insufficient reasoning when presenting the material, there is an incomplete synopsis of the theoretical material, partial access to the Moodle system
D	Satisfactorily	64-73	The student has generally mastered the essence of the issues on the topic, demonstrates knowledge of the lecture material and educational literature, tries to analyze facts and events, draw conclusions and solve situational problems. However, in class he behaves passively, responds only to the teacher's call, gives incomplete answers to questions, makes gross mistakes when covering theoretical material, incomplete notes on theoretical material, partial access to the Moodle system
E	Quite	60-	the student lacks understanding of the main essence of the

	satisfactorily	63	questions, conclusions, generalizations, demonstrated inability to solve situational problems, incomplete note-taking of theoretical material, partial access to the Moodle system
FX, F	Unsatisfactorily	0-59	lack of desire to participate in the discussion of issues, lack of notes, irregular visit to the Moodle system

Example: a student wrote the test tasks of the current control for 85 points. Multiply by 0.3. The result for the tests is 25.5 points. For independent work, the student received 88 points. Multiply by 0.3. The result for it is 26.4 points. For activity in classes - the student received 74 points. Multiply by 0.4. We get 29.6. In total, the number of points for the current control is 81.5 points. We average towards a larger number and get 82 points, which is equal to good B.

Regarding the final certification of the student, the result obtained for the student's current work (average value for 4 sections, multiplied by 0.6) and the final test work (multiplied by 0.4) is taken into account.

Example: Section I – 83 points, Section II – 95 points, Section III – 73 points, Section IV – 88 points. The sum of the points for the sections is $339 / 4 = 84.75$ (85) points – this is the average value. Next, $85 \times 0.6 = 51$ points. The student wrote the final exam with 91 points. $91 \times 0.4 = 36.4$ points. Therefore, the total number of points for the discipline is $51.0 + 36.4 = 87.4$. We average towards a smaller number and get 87 points, which is equal to a good or B grade.

14 Methodological supports

1. Veterinary Parasitology Part I. Workbook for laboratory classes / O.V. Nikiforova, O.V. Mazanny, Kh., SBTU, 2023. 83 p.
2. Veterinary Parasitology Part III. Workbook for laboratory classes / O.V. Nikiforova, O.V. Mazanny, Kh., SBTU, 2023. 58 p.
3. Veterinary Parasitology Part II. Workbook for laboratory classes / O.V. Nikiforova, O.V. Mazanny, Kh., SBTU, 2024. 64 p.
4. Veterinary Parasitology: methodological guidelines for performing a term paper «Case history» for students of V course of the second (master's) level of higher education on the basis of complete general secondary education in specialty 211 - Veterinary Medicine/ O.V. Nikiforova, O.V. Mazanny. Kh., 2024. 30 pp.

15 RECOMMENDED BOOKS

1. Domenico Otranto, Richard Wall. Veterinary parasitology. John Wiley & Sons Ltd, 5th edition 2024, 896 p.
2. Timothy M. Goater, Cameron P. Goater, Gerald W. Esch. Parasitism. The diversity and ecology of animal parasites. Second edition, Cambridge, University Press, 2001, 2014, 524 p.
3. Gregory v. Lamann. Veterinary parasitology. Nova biomedical Press, Inc. New York, 2010, 323 p.

4. G.M.Urquhart, J.Armour, J.L.Duncan at all. Veterinary parasitology. The faculty of veterinary medicine, the University of Glasgow, Scotland, 2nd edition 1996, 307 p.
5. Dwight D. Bowman Charles M. Hendrix David S. Lindsay Stephen C. Barr. Feline Clinical Parasitology. Iowa State University Press. 2002. 469 p.
6. Principles and Practices of Canine and Feline Clinical Parasitic Diseases. Edited by Tanmoy Rana. Department of Veterinary Clinical Complex West Bengal University of Animal & Fishery Sciences Kolkata, West Bengal, India. 2024 by John Wiley & Sons, 301 p.

16 ELECTRONIC INFORMATION RESOURCES

(Link)

<http://moodle.btu.kharkiv.ua/course/view.php?id=1291>

<https://repo.btu.kharkiv.ua/home>

17 Changes and additions

(to methodological support and recommended literature)

What is being removed from the work program	What is being added to the work program	Date of consideration by the department