

**NATIONAL UNIVERSITY OF LIFE
AND ENVIRONMENTAL SCIENCES OF UKRAINE
Department of Veterinary Epidemiology and Animal Health Protection**

"APPROVED"
Faculty of Veterinary Medicine
"04" June 2025

**WORK PROGRAMME
OF THE DISCIPLINE
"Parasitology and invasive diseases of animals"
(full-time)**

Field of knowledge 21 "Veterinary medicine"

Speciality 211 "Veterinary medicine"

Educational programme "Veterinary Medicine"

Faculty (Institute) of Veterinary Medicine

Developers: Doctor of Sciences (Veterinary Medicine), Professor Maryna Galat
(position, academic degree, academic title)

Kyiv - 2025

Description of the subject

"Parasitology and invasive diseases of animals" (full-time)

Parasitology is a complex science that studies zoonotic parasites, diseases caused by them and measures to combat them. It is one of the main clinical disciplines that forms a specialist in veterinary medicine. The main role of the discipline is to learn the structure and development of pathogens of invasive diseases and treatment and prevention measures in farms of various types. The main focus is on zoonoses - diseases common to humans and animals.

Field of knowledge, speciality, educational programme, educational degree		
Educational degree	master's degree	
Speciality	211 "Veterinary medicine"	
Educational programme	"Veterinary medicine"	
Characteristics of the discipline		
Type	compulsory	
Total number of hours	165	
Number of ECTS credits	6	
Number of content modules	4	
Course project (work) (if any)	+	
Form of control	exam / test	
Indicators of academic discipline for full-time and part-time forms of higher education		
	Form of higher education	
	full-time	part-time
Course (year of study)	3,4	
Semester	6,7	
Lecture classes	45 hours	hrs.
Practical, seminar classes	hours	hours
Laboratory classes	75 hours	hours.
Independent work	45 hours.	hours.
Number of weekly classroom hours for full-time higher education	4 hours.	

1. Purpose, competences and programme outcomes of the discipline

The purpose of the curriculum is to acquire theoretical and practical knowledge of diagnosis, treatment and prevention of invasive animal diseases, to acquire practical skills in conducting antiparasitic measures in livestock farms and to prepare students for independent practical work.

Acquisition of competences:

Integral competence (IC): the ability to solve complex problems and issues in the field of veterinary medicine, which involves research and/or innovation and is characterised by uncertainty of conditions and requirements.

General competences (GC):

GC 2. Ability to apply knowledge in practical situations.

GC 7. Ability to conduct research at the appropriate level.

GC 11. Ability to evaluate and ensure the quality of work performed.

special (professional) competences (SC):

SC 1. Ability to establish the features of the structure and functioning of cells, tissues, organs, their systems and apparatus of the body of animals of different classes and species - mammals, birds, insects (bees), fish and other vertebrates.

SC 2. Ability to use tools, special devices, instruments, laboratory equipment and other technical means to carry out the necessary manipulations during professional activities

SC 4. Ability to conduct clinical research to formulate conclusions about the condition of animals or to establish a diagnosis.

SC 5. Ability to apply methods and techniques of pathological and anatomical diagnosis of animal diseases to establish a final diagnosis and causes of death.

SC 6. Ability to select, pack, fix and send samples of biological material for laboratory research.

SC 7. Ability to organise and conduct laboratory and special diagnostic tests and analyse their results.

SC 8. Ability to plan, organise and implement measures for the treatment of animals of different classes and species suffering from non-contagious, infectious and invasive diseases.

SC 19. Ability to carry out educational activities among industry workers and the public.

First day competences (DLC):

KD 1. Demonstrate an understanding of the ethical and legal framework within which the veterinarian must work, including professional aspects, aspects related to animal welfare, animal owners, public health, social and environmental aspects related to professional activities.

PLO 2. Understand the methods of scientific research, the contribution of basic and applied research to science and the implementation of the 3Rs principle (Replacement, Reduction, Refinement).

KPI 4. Promote and monitor the health and safety of themselves, patients, animal owners, colleagues and the environment during professional activities; demonstrate knowledge of the principles of quality assurance; apply the principles of risk management in practice.

PLO 9. To be able to think critically, review and evaluate references and presentations.

PLO 10. Understand and apply the principles of the One Health concept to ensure good clinical practice in veterinary medicine, as well as evidence-based and evidence-based veterinary medicine

KPI 12. To use professional abilities to contribute to the development of veterinary knowledge and the implementation of the One Health concept in order to promote the health, safety and welfare of animals, humans and the environment, as well as to achieve the UN Sustainable Development Goals.

KPI 19. To develop appropriate patient treatment plans and provide treatment in the best interests of each animal in care, using available resources, and to provide relevant own considerations for the protection of animal and human health and the environment.

KPI 20. Provide emergency and first aid to animals of common species. Prioritise and allocate resources according to each specific situation.

KPI 22. Collect, store and transport specimens, select appropriate diagnostic tests, perform interpretations and understand the limitations of test results.

KPI 25. Recognise signs of possible reportable animal diseases, zoonoses and animal cruelty and take appropriate action, including reporting to the relevant authorities.

KPI 27. Prescribe and dispense medicines to patients correctly and responsibly in accordance with the Law and the latest guidelines.

KPI 35. Conduct pre-slaughter inspection of animals used for food purposes, paying attention to welfare aspects, record observations, take tissue samples after slaughter, store and transport them for research.

KPI 36. Conduct food and feed inspections to correctly identify conditions affecting the quality and safety of products of animal origin, including associated food processing.

KPI 38. To advise the public and implement disease prevention and eradication programmes in accordance with the disease and animal species, accepted standards of animal health, welfare, public health and environmental protection

Programme learning outcomes (PLOs):

PLO 1. To know and correctly use the terminology of veterinary medicine.

PLO 3. To determine the essence of physicochemical and biological processes that occur in the body of animals in normal and pathological conditions.

PLO 5. To establish the relationship between clinical manifestations of the disease and the results of laboratory tests.

PLO 18. To carry out accounting reporting in the course of professional activity.

2. Programme and structure of the discipline

- of the full-time full-time study

№	Title of the topic	Number of hours
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n/a		weeks	Total hours	Lecture	Lab.	Self-study.
Content module 1: Trematodoses, cestodoses of animals						
1.	Topic 1: The doctrine of invasive diseases	1	4	2		2
2.	Topic 2. Helminthological research methods	2	4		2	
3	Topic 3. General characteristics of trematodes. Fasciolosis of animals. Paramphistomatidoses of ruminants. Opisthorchiasis of animals.	3	8	2	2	2
4.	Topic 4. Dicrocoeliosis. Echinostomatidosis of poultry. Identification of molluscs to species.	4	4		2	2
5.	Topic 5. General characteristics of cestodes. Cysticercosis of animals.	5	6	2	2	2
6.	Topic 6. Echinococcosis of animals. Cenurosis of sheep.	6	6	2	2	
7.	Topic 7. Moniasis, tisaniasis of ruminants. Anoplocephalosis of horses.	7	6		2	2
8.	Topic 8: Dipylidiosis of carnivores. Hymenolepidiosis of poultry	8	4		2	2
Content module 2. Animal nematodes						
9	Topic 9: General characteristics of nematodes. Ascariasis of animals.	9	6	2	2	
10	Topic 10. Pulmonary strongyloidiasis. Gastrointestinal strongyloidoses of animals.	10	6	2	2	2
11	Topic 11. Strongyloidiasis of horses. Amidostomosis of geese	11	4		2	2
12	Topic 12: Animal trichuriases. Trichinosis.	12	6	2	2	2
13	Topic 13. Spiruriases of animals and poultry.	13	2		2	2
14	Topic 14: Animal filariasis.	14	4	2	2	2
15	Topic 15: Animal acanthocephalosis.	15	4		2	2
Content module 3. Arachnoentomoses of animals						
16	Topic 16. General characteristics of the class Insecta. Vegetable diseases of animals.	1	6	2	4	2
17	Topic 17. Zoophilous flies.	2	5	2	2	2
18	Topic 18: Abomination.	3	6	2	2	2
19	Topic 19: Wingless insects.	4	4	2	2	2
20	Topic 20: General characteristics of the class Acarina. Sarcoptic mites.	5	8	2	4	2
21	Topic 21: Animal psoroptidoses.	6	6	2	4	2
22	Topic 22. Demodicosis of animals	7	4	2	2	
23	Topic 23: Argasic and gamma-ray mites.	8	6	2	2	2
24	Topic 24. Parasitiform mites. Ixodidoses of animals.	9	5	2	2	2
Content module 4. Animal protozoa						
25	Topic 25. General characteristics of	10	4	2	2	2

	protozoa. Pyroplasmids of animals.					
26	Topic 26. Animal babesioses	11	6		4	
27	Topic 27. Eimerioses of animals.	12	6	2	4	
28	Topic 28. Sarcocystoses of animals. Cryptosporidiosis	13	8	2	4	1
29	Topic 29: Animal toxoplasmosis Balantidiosis.	14	4	2	4	1
30	Topic 30. Basic antiprotozoal drugs. Diseases caused by prokaryotes	15	2	3	5	1
Course project (work) on (if available in the curriculum)		+				
Total hours			165	45	75	45

3. Topics of lectures (full term of study)

№ n/a	Name of the topic	Number of hours
1	Topic 1: The doctrine of invasive diseases	2
2	Topic 2. General characteristics of trematodes. Fasciolosis of animals. Paramphistomatidoses of ruminants	2
3	Topic 3. General characteristics of cestodes. Cysticercosis of animals.	2
4	Topic 4. Echinococcosis of animals.	2
5	Topic 5. General characteristics of nematodes. Ascariasis of animals.	2
6	Topic 6. Pulmonary strongyloidiasis. Gastrointestinal strongyloidoses of animals.	2
7	Topic 7. Trichuratoses of animals. Trichinosis	2
8	Topic 8. Filariasis of animals	2
9	Topic 9. General characteristics of the class Insecta. Vegetable diseases of animals.	2
10	Topic 10. Zoophilous flies.	2
11	Topic 11. The gnat.	2
12	Topic 12: Wingless insects.	2
13	Topic 13. General characteristics of the class Acarina. Sarcoptic mites.	2
14	Topic 14. Psoroptidoses of animals.	2
15	Topic 15: Demodicosis of animals	2
16	Topic 16. Argasic and gammasoid mites.	2
17	Topic 17. Parasitiform ticks. Ixodidoses of animals.	2
18	Topic 18. General characteristics of protozoa.	2
19	Topic 19: Eimeria of animals.	2
20	Topic 20: Sarcocystoses of animals. Cryptosporidiosis	2
21	Topic 21: Toxoplasmosis of animals Balantidiosis	2
22	Topic 22. Diseases caused by prokaryotes	3
	Total	45

4. Topics of laboratory classes (full term of study)

№ n/a	Name of the topic	Number of hours
1	Laboratory research methods	2
2	Paramphistomatidoses of ruminants. Dicroceliosis. Fascioliasis of animals.	2
3	General characteristics of cestodes. Cysticercosis of animals.	2

4	Identification of mollusks to the species.	2
5	Cysticercosis of animals.	2
6	Echinococcosis of animals. Cenurosis of sheep.	2
7	Moniasis, tisaniasis of ruminants. Anoplocephalosis of horses. Dipylidiosis of carnivores.	2
8	Hymenolepidiosis of poultry.	2
9	Ascariasis of animals.	2
10	Pulmonary strongyloidiasis.	2
11	Gastrointestinal strongyloidoses of animals.	2
12	Strongyloidiasis of horses. Amidostomosis of geese.	2
13	Trichuratoses of animals. Trichinosis.	2
14	Spiruratoses of animals and poultry.	2
15	Acanthocephalosis of animals.	2
16	Hypodermosis of cattle. Estrosis of sheep	2
17	Gastrophilosis of horses.	2
18	Zoophilic flies.	2
19	The gnat.	2
20	Wingless insects.	2
21	Sarcoptic mites.	2
22	Psoroptosis of animals.	2
23	Demodicosis of animals	2
24	Argasic and gammasoid ticks.	2
25	Long-bodied ixodid ticks	2
26	Short-bodied Ixodes mites	2
27	Babesiosis of cattle, sheep	2
28	Babesiosis of horses, dogs	2
29	Eimeria of chickens	2
30	Eimeria of rabbits.	2
31	Sarcocystoses of animals.	2
32	Toxoplasmosis of animals	2
33	Cryptosporidiosis of animals	2
34	Balantidiosis of animals.	2
35	Animal amoebiasis.	2
36	Diseases caused by prokaryotes. Anaplasmosis. Haemoplasmosis.	2
37	Diseases caused by prokaryotes. Borreliosis of poultry.	3
Total		75

5. Topics of independent work (full term of study)

№ n/a	Name of the topic	Quantity Hours
1	Helminthological research methods	2
2	Opisthorchiasis of animals	2
3	Identification of molluscs to species.	2
4	Cysticercosis pisiformis.	2
5	Features of differential diagnosis of shadows in dogs	2
6	Dipylidiosis of carnivores.	2
7	Hymenolepidiosis of animals	4
8	Toxoscarosis of dogs and cats	2
9	Mulleriosis of ruminants	2
10	Ruminant esophagostomosis	2
11	Equine ciathostomoses	2

12	Trichuris in carnivores	2
13	Features of the differential diagnosis of spirurats.	2
14	Polymorphosis of poultry.	2
15	Features of differential diagnosis of gadfly diseases	2
16	Flies are a thing	2
17	Wolfarthiasis of animals	2
18	Veterinary significance of gnathus representatives	2
19	Linognathosis of cobacs and cats	2
20	Demodicosis of pigs	2
21	Methods of preparation and staining of blood smears	3
22	Eimeriosis of sheep.	4
23	Isosporosis of pigs	4
Total		45

6. Methods and means of diagnosing learning outcomes:

(select all that apply or add)

- oral or written questioning;
- module tests;
- credit;
- exam

7. Teaching methods (select all that apply or add one):

- verbal (lecture, explanation, discussion, instruction, conversation);
- visual (illustration, demonstration, independent observation);
- practical (case study, laboratory work);
- visual method (method of illustrations, method of demonstrations);
- work with educational and methodological references (note-taking, thesis, annotation, reviewing, writing an abstract);
- video method (remote, multimedia, web-based, etc.);
- independent work (completion of tasks).

8. Assessment of learning outcomes.

The assessment of the knowledge of the higher education applicant is based on a 100-point scale and is converted into a national grade in accordance with the current "Regulations on Exams and Tests in NULES of Ukraine"

8.1. Distribution of points by type of learning activity

Type of learning activity	Learning outcomes	Assessment
Module 1: Trematodoses, cestodoses of animals		
Topic 1: Animal trematodes		
Lecture 1: The doctrine of invasive diseases	To know the basic principles of the doctrine of invasive diseases, the invasive process.	-
Laboratory work 1. Laboratory research methods	To understand the methods of laboratory research (flotation, sequential washing, combined methods, etc.). Definition of II, EI, EE, IE, helminthological methods of research	5
Independent work. Parasitocenoses and associative diseases of animals	To be able to analyse parasitocenoses and associated diseases of animals, recognise their structure and associated pathologies, interpret the relationships of parasites in the host body and assess their impact on animal health.	5
Lecture 2. General characteristics of	To know the characteristics of	-

trematodes. Fasciolosis of animals. Paramphistomatidoses of ruminants	representatives of the trematode class, their systematic position, morphology, developmental cycle, etc. Analyse the role of intermediate and additional hosts in the transmission of parasitic pathogens. Methods of examination of intermediate and additional hosts for the presence of larval stages of trematodes	
Laboratory work 2. Paramphistomatidoses of ruminants. Dicrocoeliosis. fascioliasis of animals.	To know the main morphological features of the causative agents of ruminant paramphistomatidoses, dicrocoeliosis and fasciolosis, to analyse their life cycles, pathogenesis and clinical signs, to interpret the results of laboratory tests and to assess the epizootic significance of these parasitic diseases.	5
Laboratory work 3. Identification of mollusks to species.	Identify mollusks to species by morphological characteristics using appropriate identifiers and laboratory methods.	5
Independent work. Identification of mollusks to species	Identify mollusks to species by morphological characteristics, using appropriate identifiers and laboratory methods.	5
Laboratory work 4. Opisthorchiasis of animals. Echinostomatidiosis of poultry.	Recognise the morphological characteristics of pathogens of animal opisthorchiasis and echinostomatidiosis of poultry, analyse their life cycles, pathogenic effects, diagnostic methods and assess their veterinary and sanitary significance.	5
Topic 2: Cestodoses of animals		
Lecture 3. General characteristics of cestodes. Cysticercosis of animals.	To know the characteristics of the representatives of the class of cestodes, their systematic position, features of morphology, developmental cycle, etc. Analyse the role of intermediate and additional hosts in the transmission of parasitic pathogens. Methods of examination of intermediate and additional hosts for the presence of larval stages of cestodes	-
Laboratory work 5. Cysticercosis of animals.	Recognise the causative agents of animal cysticercosis by morphological features, analyse the features of their development, diagnosis, pathogenesis and assess the veterinary and sanitary significance of the disease.	5
Independent work. Pisiform cysticercosis.	Identify the morphological characteristics of <i>Cysticercus pisiformis</i> , explain the features of infection and disease in rodents and carnivores, assess the risks to animal health and food safety.	5
Lecture 4. Echinococcosis of animals.	Know the structure of echinococcus,	-

	understand how animals are infected, be able to explain the symptoms and features of the disease.	
Laboratory work 6. Echinococcosis of animals. Sheep cenosis.	Determine the life cycle of echinococcosis and cenosis pathogens, analyse and recognise clinical manifestations in animals and assess their impact on health and productivity.	5
Independent work. Features of differential diagnosis of shadows in dogs	To know the main morphological features of the causative agents of tapeworms in carnivores, to analyse their life cycles, pathogenesis and clinical signs, to interpret the results of laboratory tests and to assess the epizootological significance of these parasitic diseases.	5
Laboratory work 7. Moniasis, tisaniasis of ruminants. Anoplocephalosis of horses. Dipylidiosis of carnivores.	Know the structure and life cycles of the causative agents of moniosis, tisaniasis, anoplocephaly and dipylidiosis, understand the ways of infection, clinical manifestations and be able to explain the impact of these parasitoses on animal health.	5
Independent work. Dipylidioses of carnivores	Be able to recognise the morphology of <i>Dipylidium caninum</i> , describe the life cycle, routes of infection and clinical manifestations in carnivores, especially dogs and cats.	5
Laboratory work 8. Hymenolepidoses of animals	Understand the peculiarities of hymenolepidiosis in rodents and birds, know the morphology of pathogens, ways of infection, and be able to explain the course of the disease and the risks of human infection.	5
Independent work. Hymenolepidosis of animals	Be able to identify the causative agents of hymenolepidosis, describe their life cycles, ways of infection and impact on animal health.	5
Module test 1.	Trematodoses, cestodoses of animals	30
Total for module 1		100
Module 2. Nematodoses of animals		
Topic 3 Nematodoses of animals		
Lecture 5. General characteristics of nematodes. Ascaridoses of animals	Know the morphology and biology of nematodes, understand the features of ascariasis, their pathogenesis, clinical signs, diagnosis and effects on the body of animals.	-
Laboratory work 9: Ascaridosis of animals	Identify eggs and larvae of ascaris pathogens, describes the life cycle, diagnostic methods and understands their impact on the animal body	5
Independent work. Toxascariasis in dogs and cats	Know the life cycle of <i>Toxascaris leonina</i> , recognises clinical signs of toxascariasis, explains the mechanisms of infection, pathogenesis and control measures.	5
Lecture 6. Pulmonary strongyloidiasis. Gastrointestinal strongyloidoses of animals.	Understand how strongyles affect the respiratory and digestive systems of animals, know their developmental cycles, recognise symptoms, and be familiar with diagnostic,	-

	treatment and control measures.	
Laboratory work 10. Pulmonary strongyloidiasis.	Explain the life cycles of pathogens of pulmonary strongyles, recognises the characteristic lesions of the respiratory system, knows the methods of diagnosis, treatment of animals and control of these parasitoses	5
Independent work. Mülleriosis of ruminants	Identify the morphological features of the pathogen of mulleriosis, understand the life cycle, clinical manifestations and consequences of the disease in ruminants, analyse diagnostic and preventive measures.	5
Laboratory work 11. Gastrointestinal strongyloides of animals.	Find and identify eggs of gastrointestinal strongyles in animal faeces, analyse the results of coprological examination and draw conclusions about the degree of damage.	5
Independent work. Ruminant esophagostomosis	Know the morphology and life cycle of esophagostomes, recognise clinical signs of damage, assess the impact of parasitosis on ruminant health and apply methods of diagnosis and control.	5
Laboratory work 12. Strongyloides of horses. Amidostomosis of geese.	Be able to identify eggs and larvae of equine strongyles and goose amidostomes, perform coprological analysis and explain the clinical significance of the found parasites.	5
Independent work: Equine ciathostomoses	Identify morphological features of ciathostomes, understand their life cycle, recognise clinical symptoms of infection, assess the impact of parasitosis on the horse and apply methods of diagnosis and control.	5
Lecture 7. Trichuratoses of animals. Trichinosis	Know the structure and development of trichurats, understand the mechanisms of infection and pathogenesis of trichinosis, know how to recognise clinical manifestations and apply preventive measures.	-
Laboratory work 13. Trichuratoses of animals. Trichinosis.	Be able to identify trichurates and trichinelles in laboratory samples, explain their life cycles, clinical manifestations and methods of control of infections.	5
Independent work. Trichuris of carnivores	Be able to recognise the morphological features of trichuria, understand their life cycle, clinical manifestations of infection in carnivores and the main methods of diagnosis and control.	5
Lecture 8. Filariasis of animals	Know the structure and life cycle of filariae, understand the ways of transmission, clinical signs and impact on animal health, be able to describe methods of diagnosis and prevention.	-
Laboratory work 14. Spiruratoses of animals and poultry.	Be able to identify spirurates in laboratory samples, understand their life cycle, relate to clinical signs and explain methods of	2

	diagnosis and control.	
Independent work. Features of differential diagnosis of spirurats.	Be able to compare the morphological characteristics of different types of spirurates, analyse laboratory data to accurately establish the diagnosis and justify the choice of differentiation methods.	2
Laboratory work 15: Acanthocephalosis of animals.	To be able to identify acanthocephalus in laboratory specimens, understand their life cycle, identify clinical signs and explain methods of diagnosis and control of the disease.	3
Independent work. Poultry polymorphosis	Identify the morphological features of acanthocephalic parasites of various forms in poultry, understand their life cycle, clinical manifestations of infection and methods of diagnosis and control.	3
Module test 2.	Nematodoses of animals	30
Total for module 2		100
Module 3: Arachnoentomoses of animals		
Topic 4 Entomoses of animals		
Lecture 9. General characteristics of the class Insecta. Vegetable diseases of animals.	Know the features of the structure and biology of the class Insecta, understand the mechanisms of development and pathogenesis of vegetable diseases in animals, be able to recognise symptoms and apply prevention methods.	-
Laboratory work 16. Hypodermosis of cattle. Estrosis of sheep	Be able to identify hypodermic larvae in cattle and the causative agent of estrosis in sheep, understand their life cycles, recognise clinical signs and explain methods of diagnosis and control.	4
Independent work. Features of the differential diagnosis of gadfly diseases	Be able to compare the morphological characteristics of different species of gadflies, analyse disease symptoms and justify the correct diagnosis.	4
Laboratory work 17. Gastrophyllosis of horses.	To be able to identify gastrophilic larvae in laboratory samples, understand their life cycle, recognise clinical signs in horses and know the methods of diagnosis and control of the disease.	4
Lecture 10. Zoophilic flies.	Know the morphological features and biology of zoophilic flies, understand their role in the transmission of parasitic and bacterial diseases of animals, know how to describe methods of control and prevention.	-
Laboratory work 18. Zoophilic flies.	Be able to identify the main species of zoophilic flies, understand their biology, role in disease transmission and apply methods of diagnosis and control.	4
Independent work. Flies are	To be able to describe the morphology, biology and importance of flies in parasitology, analyses their role in the transmission of animal diseases and methods	4

	of control.	
Independent work. Wolfarthiasis of animals	To be able to describe the life cycle and morphological features of the causative agent of wolfarthiasis, recognise clinical manifestations and evaluate methods of diagnosis and prevention.	4
Lecture 11. Gnathus.	To know the morphology, biology and species diversity of the fluke, understand their impact on animal health and methods of control and prevention.	-
Laboratory work 19. Fungi.	Be able to identify species of nodule by morphological characteristics, understand their life cycle, recognise symptoms of infestation and apply diagnostic and control methods.	4
Independent work. Veterinary significance of the representatives of the nodule	Analyse the impact of different species of nodules on animal health, understand the role in disease transmission and justify control methods.	4
Lecture 12. Wingless insects.	To know the morphological features of wingless insects, their biology, ecological importance and impact on animal health.	-
Laboratory work 20. Wingless insects.	To be able to identify the main species of wingless insects, understand their morphology, life cycles and veterinary importance.	4
Independent work. Linognathosis of cobacs and cats	Be able to describe the morphological characteristics of the causative agent of linognathosis, understand the life cycle, clinical manifestations in dogs and cats, and methods of diagnosis and prevention.	4
Lecture 13. General characteristics of the class Acarina. Sarcoptic mites.	To know the morphological and biological characteristics of sarcoptic mites, their classification, life cycle, pathogenic effect and veterinary significance.	-
Laboratory work 21. Sarcoptic mites.	To be able to identify sarcoptic mites, describe their morphology, conduct microscopic diagnosis and suggest a treatment regimen.	4
Lecture 14. Psoroptidoses of animals.	Understand the morphological features and biology of psoroptid mites, know their life cycle, pathogenesis of psoroptidoses, clinical manifestations, methods of diagnosis, treatment and prevention of diseases.	-
Laboratory work 22. Psoroptosis of animals.	Understand the peculiarities of psoroptotic mites development, know how to diagnose, treat and prevent the disease in animals.	4
Lecture 16. Demodicosis of animals	Know the structure, biology and life cycle of demodexes, understand the pathogenesis of demodicosis, clinical signs, methods of diagnosis, treatment and prevention in different animal species.	-
Laboratory work 23. Demodicosis of	Be able to identify the symptoms of	4

animals	demodicosis, apply methods of treatment and control of infestation	
Independent work. Demodicosis of pigs	To analyse the etiology, life cycle, clinical signs of demodicosis of pigs and methods of its treatment and prevention	4
Lecture 16. Argasic and gammasoid mites.	To know the morphology, biological characteristics, life cycle of argasic and gammasoid ticks, their impact on animal health, as well as methods of diagnosis, treatment and control.	-
Laboratory work 24. Argasic and gamma-ray ticks.	Be able to identify argasic and gamma-ray ticks, examine their morphological characteristics, study their habitats and impact on animals.	4
Lecture 17. Parasitiform ticks. Ixodidoses of animals.	To know the morphology of parasitiform mites, their life cycles, pathogenesis and clinical manifestations of ixodidosis, methods of diagnosis and control.	-
Laboratory work 25. Long-horned ixodid ticks	Identify long-bodied ixodid ticks, describe their morphology, life cycle and role in the transmission of pathogens.	5
Laboratory work 26. Short-bodied Ixodes ticks	Recognise short-bodied ixodid ticks, describe their biological characteristics and veterinary importance	5
Module test 3.	Arachnoentomoses of animals	30
Total for module 3		100
Module 4. Protozoa of animals		
Topic 6 Protozoa of animals		
Lecture 18. General characteristics of protozoa.	Describe the morphology, classification, life cycles of protozoa and their impact on animal health	-
Laboratory work 27. Babesiosis of cattle, sheep	Identify the morphology of babesia, describe clinical signs, methods of diagnosis and treatment in cattle and sheep.	5
Laboratory work 28. Babesiosis of horses and dogs	Learn the features of babesiosis in horses and dogs, including laboratory diagnosis, symptoms and control measures.	5
Independent work. Methods of preparation and staining of blood smears	To master the methods of preparing and staining blood smears for the detection of blood parasites, understand the principles and techniques of performance, as well as the importance of these methods in the diagnosis of infections.	5
Lecture 19. Eimeria of animals.	Understand the biology, morphology and life cycle of eimeria, describe the pathogenesis of eimeria, apply methods of diagnosis, treatment and prevention in animals.	-
Laboratory work 29. Eimeria of chickens	Be able to conduct microscopic examination of chicken faeces to detect eimeria oocysts, understand the life cycle and clinical manifestations of the disease.	5
Laboratory work 30. Eimeria of rabbits.	Be able to conduct a microscopic examination of rabbit faeces to detect eimeria	5

	oocysts, understands the life cycle and clinical manifestations of the disease.	
Independent work. Eimeria of sheep.	Understand the life cycle of eimeria in sheep, know how to describe clinical signs, modes of transmission and measures to prevent the disease.	5
Lecture 20. Sarcocystoses of animals. Cryptosporidiosis	Describe the morphology, life cycles and pathogenesis of sarcocystoses and cryptosporidiosis, as well as methods of diagnosis and prevention of these diseases in animals.	-
Laboratory work 31. Sarcocystoses of animals	Determine the morphological characteristics of sarcocysts, diagnose and evaluate the pathogenic effect on animals.	5
Independent work. Isosporosis of pigs	Identify the causative agent of porcine isosporosis, explain its morphological features, life cycle, pathogenic effect, methods of diagnosis, treatment and prevention.	5
Lecture 21: Toxoplasmosis of animals Balantidiosis	To have information about the morphological features, life cycle, routes of infection, pathogenesis, clinical signs, diagnosis, treatment and prevention of toxoplasmosis and balantidiosis in animals.	-
Laboratory work 32. Toxoplasmosis of animals	Identify the morphological forms of the toxoplasmosis pathogen in smears and learn methods of laboratory diagnosis of infection in different animal species.	5
Laboratory work 33. Cryptosporidiosis of animals	Identify Cryptosporidium oocysts in faecal smears, knows the methods of staining and microscopic diagnosis of cryptosporidiosis.	5
Laboratory work 34. Balantidiosis	To be able to identify the pathogen, diagnose and evaluate pathological changes in animals with balantidiosis.	5
Laboratory work 35. Amoebiasis of animals.	Be able to identify amoebic pathogens, diagnose and evaluate clinical manifestations in animals.	5
Lecture 22. Diseases caused by prokaryotes	To be able to recognise vector-borne diseases caused by prokaryotes; characterise their pathogens, vectors, pathogenesis and veterinary significance.	-
Laboratory work 36. Diseases caused by prokaryotes. Anaplasmosis. Hemoplasmosis.	Be able to identify pathogens, conduct laboratory diagnostics and assess the impact of anaplasmosis and haemoplasmosis on animal health	5
Laboratory work 37. Diseases caused by prokaryotes. Borreliosis of poultry.	Be able to identify the causative agent of borreliosis, assess the pathogenesis and apply diagnostic methods in birds.	5
Module test 4.	Protozoa of animals	30
Total for module 4		100
Educational work	(M1 + M2)/4*0.7 ≤ 70	
Exam / test		30
Total for the course	(Academic work + exam) ≤ 100	

Course project/work (if any)		100
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8.2. Scale for assessing the knowledge of a higher education student

Higher education student rating, points	Grade according to the national system (exams / credits)
90-100	excellent
74-89	good
60-73	satisfactory
0-59	unsatisfactory

8.3. Assessment policy

Policy on deadlines and retakes	<i>FOR EXAMPLE:</i> work that is submitted late without valid reasons will be assessed at a lower grade. Resitting modules is allowed with the permission of the lecturer if there are valid reasons (e.g. sick leave).
Policy on academic integrity	<i>FOR EXAMPLE:</i> Cheating during tests and exams is prohibited (including using mobile devices). Term papers, essays must have correct textual references to the references used
Attendance policy	<i>EXAMPLE:</i> Attendance is mandatory. For objective reasons (e.g. illness, international internship), training can take place individually (online in agreement with the dean of the faculty)

9. Educational and methodological support:

- e-learning course of the discipline (on the educational portal of NULES of Ukraine eLearn - <https://elearn.nubip.edu.ua/course/view.php?id=2026>);
- lecture notes and presentations;
- textbooks, manuals, workshops;
- methodological materials for studying the discipline for full-time higher education students;
- instructional and methodological materials for seminars, practical and laboratory classes;
- individual educational and research tasks;
- control works;
- methodological materials for organising students' independent work.

10. Recommended sources of information

Галат В.Ф., Березовський А.В., Сорока Н.М., Прус М.П., Євстаф'єва В.О., Галат М.В. Паразитологія та інвазійні хвороби тварин. Підручник. За ред. проф. Галат В.Ф. - Київ: Компрінт, 2022. - 338 с.

Бойко Н.І., Немова Т.В., Семенко О.В. Методи ідентифікації кровопаразитів у тварин: методичні вказівки. К. : Компрінт. 2021. 40 с.

Сорока Н.М., Прус М.П., Семенко О.В., Пашкевич І.Ю., Галат М.В., Слободян Р.О. Методичні вказівки "Лабораторна діагностика протозоозів тварин" К. : Компрінт. 2021. 56 с.

Сорока Н.М., Прус М.П., Семенко О.В., Пашкевич І.Ю., Галат М.В., Слободян Р.О. Методичні вказівки "Лабораторна діагностика гельмінтозів тварин" К. : Компрінт. 2021. 68 с.

Прус М.П., Семенко О.В., Литвиненко О.П., Зворигіна В.Є. Рекомендації з діагностики саркоцистозу тварин. К. : ДНДІЛДВСЕ, 2016. 18 с.

Галат В. Ф., Березовський А. В., Сорока Н. М., Прус М. П., Євстаф'єва В.О., Галат М. В. Інвазійні хвороби жуйних тварин: навчальний посібник; за ред. проф. В. Ф. Галата. Полтава : Укрпромторгсервіс, 2012. 144 с.

Supporting references

1. Правила передзабійного ветеринарного огляду тварин і ветеринарно-санітарній експертизи м'яса та м'ясних продуктів. Мін. Аграрної політики України, Держ. департамент

вет. медицини. Київ, 2002. 130 с.

2. Практикум із паразитології / В.Ф. Галат, Ю.Г. Артеменко, М.П. Прус та ін.; за ред. В.Ф. Галата. К. : Урожай, 2009. 192 с.

3. Пономар С.І. Рекомендації щодо застосування камери для підрахунку яєць гельмінтів. Біла Церква. 2001. 12 с.

4. Атлас гельмінтів тварин. І.С. Дахно, А.В. Березовський. В.Ф. Галат та ін. К.: Ветінформ, 2001. 118 с.

5. Сорока Н.М., Кичилук Ю.В., Пашкевич І.Ю. Еймеріоз і ізоспоров свиней. Монографія. К.: «ЦП «КОМПРИНТ», 2020. 216 с.

6. Сорока Н.М., Гончаров С.Л., Пашкевич І.Ю. Параценогонізм коропових риб. Монографія. К.: «ЦП «КОМПРИНТ», 2018. 149 с.

7. Сорока Н.М., Овчарук Н.П., Пашкевич І.Ю. Шлунково-кишкові стронгілятози великої рогатої худоби. Монографія. К.: «ЦП «КОМПРИНТ», 2017. 178 с.

8. Прус М.П., Семенко О.В., Галат М.В. Монографія. Бабезіоз собак. К.: ЦП «КОМПРИНТ», 2017. 175 с.

9. Прус М.П., Зворигіна В.Є., Семенко О.В. Монографія. Саркоцистоз тварин. К.: ЦП «КОМПРИНТ», 2019. 149 с.

10. Honcharov S. L., Soroka N. M., Halat M. V., Zhurenko O. V. Dubovyi A. I., Dzhmil V. I. Eustrongylides (Nematoda: Dioctophymatidae): Epizootology and special characteristics of the development biology. *Helminthologia*. 2022. Vol. 59 (2). P. 127–142. DOI: 10.2478/helm-2022-0013

11. Honcharov S. L., Soroka N. M., Halat M. V., Dubovyi A. I., Zhurenko V. V., Halushko I. A. Distribution of the nematode of the genus *Eustrongylides* (Nematoda: Dioctophymatidae) in the world. *Regulatory Mechanisms in Biosystems*. 2022. № 13(1), P. 73–79. doi.org/10.15421/022210

12. Honcharov S. L., Kupriianova O. M., Soroka N. M., Halat M. V., Dubovyi A. I., Zhurenko O. V. The experimental invasion of rats with *Eustrongylides excisus* (Nematoda: Dioctophymatidae) larvae during the acute course of infection. *Regulatory Mechanisms in Biosystems*. 2022. № 13(2), P. 99–104. DOI: 10.15421/022214

13. Honcharov S. L., Soroka N. M., Halat M. V., Dubovyi A. I. Cryptocotyle Lühe, 1899 (Trematoda: Heterophyidae): special characteristics of the developmental biology and epizootology. *Agricultural Science and Practice*. 2022. Vol. 9. № 1, P. 49–73. DOI: <https://doi.org/10.15407/agrisp9.01>

14. Honcharov, S. L., Soroka, N. M., Dubovyi, A. I., Semenko, O. V., Pryima, O. B., Svarchevskiy, O. A., Sobolta, A. H., & Tafiichuk, R. I. (2024). Effect of *Valipora campylancristrota* (Cestoda, Cryporinchidae) on growth parameters of silver carp (*Hypophthalmichthys molitrix*). *Regulatory Mechanisms in Biosystems*, 15(4), 837–842. <https://doi.org/10.15421/0224120>

Information resources

1. The most common invasive diseases of domestic animals
http://ir.znau.edu.ua/bitstream/123456789/2533/1/Invazijni%20hvoroby%20svijskyh%20tvaryn_2012.pdf

2. Galat VF, Berezovsky AV, Prus MP, Soroka NM, Parasitology and invasive diseases of animals. Workshop https://www.studmed.ru/view/galat-vf-berezovskiy-av-prus-mp-soroka-nm-parazitologiya-ta-nvazyn-hvorobi-tvarin-praktikum_4c269433360.html

3. Electronic atlas of helminths. <https://mmatilevichusv.wixsite.com/parasitology/elektronnij-atlas>

4. Parasitic (invasive) diseases of animals // www.referatcentral.org.ua

5. Distribution of major ruminant helminthic diseases and development of ... www.lib.ua-ru.net/diss/cont/345414.html

6. Helminthoses of animals <https://www.ncbi.nlm.nih.gov/books/NBK8282/>