NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES OF UKRAINE

Department of Veterinary Epidemiology and Animal Health

APPROVED
Faculty of Veterinary Medicine
"4" June 2026

MODULE SPECIFICATION FOR THE COURSE

«PARASITOLOGY AND INVASIVE DISEASES OF ANIMALS»

Field of knowledge "Veterinary Medicine"
Specialty 211 "Veterinary Medicine"
Educational program Veterinary Medicine
Faculty of Veterinary Medicine
Developer: Maryna GALAT, Professor of the Department of Veterinary Epidemiology and Animal Health Protection, Doctor of Sciences (Veterinary Medicine), Professor

Kyiv – 2026

Description of the discipline: Parasitology and invasive diseases of animals is a complex science that studies zooparasites, diseases caused by them and measures to combat them. This is one of the main clinical disciplines, which forms a specialist in veterinary medicine. The main role of the discipline is to master the structure and development of agents of invasive diseases and treatment and prevention measures in farms of different directions. The main focus is on zoonoses – diseases common to humans and animals.

Field of knowledge, specialty, educational program, educational degree	
Educational degree	Master
Specialty	211 «Veterinary medicine»
Educational program	Veterinary medicine
Characteristics of the discipline	
Kind	Mandatory
Total hours	180
Number of ECTS credits	6
Number of content modules	4
Course project (work) (if available)	+
Form of control	Offset, Exam
Indicators of academic discipline for full-time education	
	full-time education
Year of preparation (course)	3, 4
Semester	6, 7
Lectures	60 hours
Laboratory classes	75 hours
Individual work	45 hours
Number of weekly classrooms hours for full-time study	4 hours

1. Purpose, tasks and competencies of the discipline

Parasitology is a complex science that studies zooparasites, diseases caused by them and measures to combat them. This is one of the main clinical disciplines, which forms a specialist in veterinary medicine. The main role of the discipline is to master the structure and development of agents of invasive diseases and treatment and prevention measures in farms of different directions. The main focus is on zoonoses – diseases common to humans and animals.

The purpose of the discipline is to acquire theoretical and practical knowledge in the diagnosis, treatment and prevention of invasive animal diseases, gaining practical skills in carrying out antiparasitic measures in livestock farms and preparing students for independent practical work.

The task of studying the discipline:

Based on the qualification characteristics of the veterinarian, each student must have the following knowledge about the main invasive animal diseases:

1. Agents of disease;
2. Economic losses;
3. The cycle of development of agents;
4. Epizootological data;
5. Pathogenesis;
6. Symptoms of the disease;
7. Pathological changes;
8. Diagnosis;
9. Treatment;
10. Preventive measures;
11. Health-improving measures in farms of different directions.

The uniqueness of the discipline lies in the teaching of the following sections of the discipline: helminthiasis of horses and features of their prevention, filariasis (animal setariosis and dirofilariasis of

dogs), babesiosis, eimeriosis, toxoplasmosis, sarcocystosis of animals. According to which teachers of the department doctoral and candidate's theses are protected. Among the listed topics, new approaches in the diagnosis, treatment and prevention of these diseases are proposed, data on the spread, pathogenesis and course are studied and improved.

As a result of studying the discipline the student must

Know:

1. Agents of disease;
2. Economic losses;
3. The cycle of development of agents;
4. Epizootological data;
5. Pathogenesis;
6. Symptoms of the disease;
7. Pathological changes;
8. Diagnosis;
9. Treatment;
10. Preventive measures;
11. Health-improving measures in farms of different directions.

Be able to make an accurate diagnosis of invasive disease, to conduct laboratory studies of various materials from sick animals for the presence of agents of invasive diseases, to conduct differential diagnosis, to have modern research methods.

Acquisition of competencies:

integral competence (IC):

the ability to solve complex problems and tasks 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 1. Ability to think abstractly, analyse and synthesise information.

GC 2. Ability to apply knowledge in practical situations.

GC 4. Ability to communicate in the state language, both orally and in writing.

GC 8. Ability to learn and acquire up-to-date knowledge.

GC 9. Ability to make well-founded decisions.

GC 10. Ability to communicate with representatives of other professional groups at different levels (including experts from other fields of knowledge and areas of economic activity).

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

GC 12. Commitment to environmental protection.

GC 13. Ability to make decisions and act in accordance with the principle of zero tolerance for corruption and any other forms of academic or professional misconduct.

Special (Professional, Subject-Specific) Competences (SC)

SC 11. Ability to apply knowledge of biosafety, bioethics and animal welfare in professional practice.

SC 16. Ability to protect the environment from pollution caused by livestock waste, as well as by veterinary materials and products.

SC 17. Ability to carry out marketing and management of veterinary products and services in the field of veterinary medicine.

SC 19. Ability to carry out educational and awareness-raising activities among industry professionals and the general public.

SC 20. Ability to organise, maintain and monitor documentation and record-keeping in the course of professional activities.

First day competences (c):

D1C 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.

D1C 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).

D1C 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.

D1C 9. To be able to think critically, review and evaluate literature and presentations.

D1C 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

D1C 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.

D1C 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.

D1C 20. Provide emergency and first aid to animals of common species. Prioritise and allocate resources according to each specific situation.

D1C 22. Collect, store and transport specimens, select appropriate diagnostic tests, perform interpretations and understand the limitations of test results.

D1C 25. Recognise signs of possible reportable animal diseases, zoonoses and animal cruelty and take appropriate action, including reporting to the relevant authorities.

D1C 27: Prescribe and dispense medicines to patients correctly and responsibly in accordance with the Law and the latest guidelines.

D1C 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.

D1C 36. Conduct food and feed inspections to correctly identify conditions affecting the quality and safety of products of animal origin, including associated food processing.

D1C 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 11. Ability to summarize and analyze information regarding the effectiveness of the work performed by veterinary professionals operating under different administrative structures.

PLO 15. Knowledge of the requirements for the storage of pharmaceutical products and biological preparations, their enteral and parenteral administration routes, and understanding of their mechanisms of action, interactions, and combined effects on the animal organism.

PLO 16. Knowledge of the principles and methods of marketing and management of veterinary products and services in veterinary medicine.

PLO 19. Ability to carry out educational and awareness-raising activities among industry professionals and the general public.

Competences (knowledge, skills) which students should have after studying the course "Parasitology and Invasive Animal Diseases".

- **Epidemiology** (used partly, at the initial level of knowledge): - knowledge and understanding of the general principles of descriptive epidemiology in relation to parasitic animal diseases, including zoonoses (opisthorchiasis, trichinosis, bovine cysticercosis, pigs cysticercosis, echinococcosis, diphyllobotriasis, animal ascariasis, strongyloidiasis, toxoplasmosis, cryptosporidiosis, sarcocystosis, etc.)

Study of the nature of the disease, its causes, processes, development and consequences.

Development of a broad understanding of the fundamental principles of biomathematics, including biostatistics, research planning, planning and implementation of experimental and monitoring data collection, data management and analysis, critical evaluation of published information on parasitic diseases.

- **Zoonoses** C (P): to determine clinical signs, clinical course, transmission potential and agents associated with common zoonoses caused by parasites; use or explain the use of relevant diagnostic and therapeutic tools for common zoonoses.

Morphology and biology of endo- and ectoparasites relevant to veterinary medicine. Broad understanding of the life cycle and pathogenesis of animal parasites: immunological and pathophysiological aspects of the parasite and its carrier, severity of zoonotic parasitological infection / infection, principles and protocols for diagnosis, treatment and control of parasitological infections / infections. Methods of laboratory diagnosis and identification of important life cycles of parasites. With a focus on parasites that affect the health and well-being of animals, as well as parasites that can affect human health. In particular (opisthorchiasis, trichinosis, cysticercosis of cattle, pigs, echinococcosis, diphyllobotriasis, animal ascariasis, strongyloidiasis, toxoplasmosis, cryptosporidiosis, sarcocystosis, etc.). Veterinary health is defined by the WHO as "a set of actions aimed at protecting the physical, mental and social well-being of human beings through the understanding and application of veterinary science". The course explores the basic principles and programs of human health protection against parasites of parasitic aetiology.

- **Cross-border diseases.** Be able to identify clinical signs, leaks, transmission potential (including vectors (a significant role in this belongs to parasitic arthropods (flies, mosquitoes, gnats, mosquitoes, geese, sputum, zoophilic flies, bedbugs, cockroaches, blood-sucking permanent endoparasites), lice, bloodsuckers, gamazoid, Ixodes mites, etc.) and pathogens associated with transboundary diseases of parasitic aetiology. Study of parasites and their effects on living organisms. Laboratory and other research methods; understanding of basic parasitological principles (transmission, classification, isolation and identification), knowledge epidemiology and pathogenesis of invasions with important pathogens of each type, clinical signs and diagnosis of invasion, choice of treatment, including the judicious use of antiparasitic drugs, prognostic and diagnostic value of laboratory or clinical tests.

- **New and rapidly spreading diseases.** (A significant role in this belongs to parasitic arthropods, as carriers of these diseases).

C - identify new and rapidly spreading diseases and provide relevant care;

C - identify suspicious signs and report them to the relevant Competent Authority;

C - understand the causes / hypotheses, explain the occurrence and recurrence of diseases;

C - know where to find relevant and reliable information on new and rapidly spreading diseases.

- Programs of prevention and control of diseases of parasitic aetiology.

C - describe existing programs to prevent and control common zoonoses, communicable diseases, new diseases and rapidly spreading diseases, including animal identification, traceability and surveillance by the relevant veterinary authority.

2. Program and structure of the discipline

№	Name topics	Number of hours				
		weeks	Total	Lectures	Lab.lessons	Ind.work
Module 1. Trematodoses, cestodes of animals						
1.	Topic 1. The doctrine of infection diseases	1	2	2		
2.	Topic 2. Helminthological research methods	2	4	2	2	
3	Topic 3. General characteristics of trematodes. Fasciolosis of animals. Paramphistomatidoses of ruminants. Opisthorchiasis of animals.	3	8	2	2	4
4.	Topic 4. Dicroceliosis. Echinostomatidoses of birds. Identification of mollusks to species.	4	6	2	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	2

7.	Topic 7. Moniesiosis, tyzaniesiosis of ruminants. Anoplocephalidoses of horses.	7	8	2	4	2
8.	Topic 8. Carnivorous dipylidiosis. Hymenolepididosis of birds	8	6	2	2	2
Module 2. Nematodoses of animals						
9	Topic 9. General characteristics of nematodes. Ascariasis of animals.	9	6	2	2	2
10	Topic 10. Pulmonary strongylidosis. Gastrointestinal strongylidosis of animals.	10	6	2	2	2
11	Topic 11. Strongilidosis of horses. Goose amidostomosis	11	6	2	4	
12	Topic 12. Animal trichuratosis. Trichinellosis.	12	6	2	2	2
13	Topic 13. Spiruratosis of animals and birds.	13	6	2	2	2
14	Topic 14. Filariasis of animals.	14	4	2		2
15	Topic 15. Acanthocephalosis of animals.	15	4	2	2	
Module 3. Arachnoentomoses of animals						
16	Topic 16. General characteristics of the class Insecta. Diseases of animals.	1	6	2	4	
17	Topic 17. Zoophilus flies.	2	6	2	2	2
18	Topic 18. Bloodsucking insects.	3	6	2	2	2
19	Topic 19. Wingless insects.	4	6	2	2	2
20	Topic 20. General characteristics of the class Acarina. Sarcoptiform mites.	5	6	2	4	
21	Topic 21. Animal psoroptosis.	6	6	2	4	
22	Topic 22. Demodectic mange of animals	7	6	2	2	2
23	Topic 23. Argas and gamazoid mites.	8	6	2	2	2
24	Topic 24. Parasitic mites. Ixodidosis of animals.	9	7	2	3	2
Module 4. Protozooses of animals						
25	Topic 25. General characteristics of the simplest. Piroplasmidosis of animals.	10	5	2	2	1
26	Topic 26. Babesiosis of animals	11	8	2	4	2
27	Topic 27. Eimeriosis of animals.	12	8	2	4	2
28	Topic 28. Sarcocystosis of animals. Cryptosporidiosis	13	8	2	4	2
29	Topic 29. Toxoplasmosis of animals Balantidiosis.	14	8	2	4	2
30	Topic 30. Basic antiprotozoal drugs. Diseases caused by prokaryotes	15	4	2	2	
Course project (work) with (if available in the working curriculum)		+				
Total hours			180	60	75	45

3. Topics of lectures

№	Name topics	Quantity of hours
1	Introduction to the Parasitology	2
2	Paramphistomatidosis of ruminants. Dicrocoeliasis. Fasciolosis of animals.	4
3	Opisthorchiasis of animals. Echinostomatosis of birds.	2
4	Cysticercosis of animals.	2
5	Echinococcosis of animals. Cenurosis of sheep.	4
6	Moniesiosis, tizaniesiosis of ruminants. Anoplocephalidoses of horses.	4
7	Ascariasis of animals.	2

8	Pulmonary strongylidosis.	2
9	Gastrointestinal strongylidosis of animals.	4
10	Trichinellosis.	2
11	Cattle hypodermosis. Oestrosis of sheep	2
12	Zoophilic flies.	2
13	Bloodsucking insects.	2
14	Wingless insects.	2
15	Sarcoptiform mites.	2
16	Demodectic mange of animals	2
17	Argas and gamazoid mites.	2
18	Ixodes ticks	4
19	Babesiosis	2
20	Eimeriosis	2
21	Sarcocystosis of animals.	2
22	Toxoplasmosis of animals	2
22	Cryptosporidiosis of animals	2
23	Balantidiosis.	2
23	Diseases caused by prokaryotes. Anaplasmosis. Hemoplasmosis. Lyme disease	2
Total		60

4. Topics of the laboratory lessons

№	Name topics	Quantity of hours
1	Laboratory methods of diagnostics	2
2	Paramphistomatidosis of ruminants. Dicrocoeliasis. Fasciolosis of animals.	2
3	Opisthorchiasis of animals. Echinostomatosis of birds.	2
4	Identification of mollusks to species.	2
5	Cysticercosis of animals.	2
6	Echinococcosis of animals. Cenurosis of sheep.	2
7	Moniesiosis, tizaniesiosis of ruminants. Anoplocephalidoses of horses.	2
8	Hymenolepididosis of birds.	2
9	Ascariasis of animals.	2
10	Pulmonary strongylidosis.	2
11	Gastrointestinal strongylidosis of animals.	2
12	Horse strongylidosis. Goose amidostomy.	2
13	Animal trichuratosis. Trichinosis.	2
14	Spiruratosis of animals and birds.	2
15	Acanthocephalus of animals.	2
16	Cattle hypodermosis. Oestrosis of sheep	2
17	Gastrophilosis of horses.	2
18	Zoophilic flies.	2
19	Bloodsucking insects.	2
20	Wingless insects.	2
21	Sarcoptiform mites.	2
22	Animal psoroptosis.	2
23	Demodectic mange of animals	2
24	Argas and gamazoid mites.	2
25	Long-proboscis Ixodes mites	2
26	Short-proboscis Ixodes mites	2
27	Babesiosis of cattle, sheep	2

28	Babesiosis of horses, dogs	2
29	Eimeriosis of chickens	3
30	Eimeriosis of rabbits.	2
31	Sarcocystosis of animals.	2
32	Toxoplasmosis of animals	2
33	Cryptosporidiosis of animals	2
34	Balantidiosis.	2
35	Amoebiasis of animals.	2
36	Diseases caused by prokaryotes. Anaplasmosis. Hemoplasmosis.	2
37	Diseases caused by prokaryotes. Lyme disease of birds.	3
Total		75

5. Topics for the self-learning

№	Name topics	Quantity of hours
1	Laboratory methods of diagnostics, methods of coproscopy, blood microscopy	2
2	Methods of diagnostics of paramphistomatidosis of ruminants. Dicrocoeliasis. Fasciolosis of animals.	2
3	Methods of diagnostics, preventive measures in the case of opisthorchiasis of animals. Echinostomatosis of birds.	2
4	Identification of snails to species, different families of snails, classification	2
5	Cysticercosis of animals, distribution.	2
6	Echinococcosis of animals. Cenurosis of sheep.	2
7	Moniesiosis, tizaniesiosis of ruminants. Anoplocephalidoses of horses.	2
8	Hymenolepididosis of birds.	2
9	Ascariasis of animals.	2
10	Pulmonary strongylidosis.	2
11	Gastrointestinal strongylidosis of animals.	2
12	Horse strongylidosis. Goose amidostomy.	2
13	Animal trichuratosis. Trichinosis.	2
14	Cattle hypodermosis. Oestrosis of sheep. Gastrophilosis of horses.	2
15	Bloodsucking insects.	2
16	Wingless insects.	2
17	Sarcoptiform mites.	2
18	Animal psoroptosis.	2
19	Demodectic mange of animals	2
20	Argas and gamazoid mites.	2
21	Ixodes mites	2
22	Babesiosis of cattle, sheep, horses, dogs	2
23	Eimeriosis of chickens	1
Total		45

6. Methods and Tools for Assessing Learning Outcomes

– oral or written questioning;

– interview;

– testing;

– defence of laboratory/practical work (special drawing book for life cycles), calculation/graphical assignments, and projects;

– peer assessment and self-assessment.

7. Teaching and Learning Methods

– problem-based learning;
– practice-oriented learning;
– case-study method;
– project-based learning;
– flipped classroom and blended learning;
– research-based learning;
– educational discussions and debates;
– teamwork and brainstorming;
– gamified learning.

8. Assessment of Learning Outcomes

The knowledge and competencies of higher education students are assessed on a 100-point scale, which is subsequently converted into a national grade in accordance with the current Regulations on Examinations and Assessments of the National University of Life and Environmental Sciences of Ukraine.

8.1 Allocation of marks by type of academic activity

Type of learning activity	Learning outcomes	Assessment
Module 1: **Trematodoses, cestodes of animals**		
Lecture 1: The doctrine of infection diseases	The student should be able to determine the place of parasites in the animal kingdom, explain the main types of relationships between living organisms, distinguish between symbiosis, parasitism, mutualism and commensalism, and justify the evolutionary advantages of parasitism as a form of existence.	-
Lecture 2: Helminthological research methods	The student should be able to determine the place of parasites in the animal kingdom, explain the main types of relationships between living organisms, distinguish between symbiosis, parasitism, mutualism and commensalism, and justify the evolutionary advantages of parasitism as a form of existence.	-
Laboratory work 2: Helminthological research methods	To be able to select material for the diagnosis of entomoses and acaroses, identify pathogens by morphological features under a microscope, apply practical methods of diagnosing skin and coat lesions, select insecticidal drugs according to the type of parasite and clinical form of the lesion, justify treatment regimens taking into account the toxicity of drugs, and develop preventive measures taking into account the season, conditions of detention and sources of infection.	-
Lecture 3: General characteristics of trematodes. Fasciolosis of animals. Paramphistomatidoses of ruminants. Opisthorchiasis of animals.	To understand the biological features of the life cycle of trematodes, to explain the relationship between the parasite and the intermediate and final host, to analyse the ways of trematode penetration into the animal body, to assess the effect of the parasite on the physiological functions of the host, and to characterise the adaptive mechanisms that ensure the survival of trematodes in different phases of development.	-
Laboratory work 3: Fasciolosis of animals. Paramphistomatidoses of ruminants.	To be able to select material for the diagnosis of entomoses and acaroses, identify pathogens by morphological features under a microscope, apply practical methods of diagnosing skin and coat lesions, select insecticidal drugs according to the type of parasite and clinical form of the lesion, justify treatment regimens taking	-

Opisthorchiasis of animals.	into account the toxicity of drugs, and develop preventive measures taking into account the season, conditions of detention and sources of infection.	
Independent work. General characteristics of trematodes. Fasciolosis of animals. Paramphistomatidoses of ruminants. Opisthorchiasis of animals.	To know the basic principles of treatment of entomoses and acaroses in ruminants, to analyse the properties of modern insecticidal and acaricidal drugs, to compare their efficacy, toxicity and spectrum of action, to justify the choice of drug depending on the type of pathogen, degree of damage and animal husbandry technology, and to develop prevention schemes taking into account the seasonal activity of parasites, pathogen biology and epizootic situation in the farm.	10
Lecture 4: Dicroceliosis. Echinostomatidoses of birds. Identification of mollusks to species.	To understand the life cycle of cestodes, to describe the interaction between the parasite and the intermediate and final host, to analyse the ways of invasion and mechanisms of adaptation of cestodes to different environmental conditions, to assess the impact of parasites on the physiological state of the host, as well as to characterise the features of their development and reproduction in the animal body.	-
Laboratory work 4. Dicroceliosis. Echinostomatidoses of birds. Identification of mollusks to species.	Be able to select and prepare biological material for the diagnosis of protozoa, apply modern methods of microscopic and laboratory research, identify pathogens of protozoa by morphological and biological characteristics, interpret research results, and justify the choice of diagnostic methods depending on the type of parasite and clinical picture.	-
Independent work 4: Dicroceliosis. Echinostomatidoses of birds. Identification of mollusks to species.	To know the basic principles of treatment of protozoa in ruminants, to analyse the mechanisms of action of modern antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of pathogen, stage of disease and species of animal, and to develop schemes of treatment and prevention measures taking into account the epizootic situation and biological characteristics of parasites.	7
Lecture 5: General characteristics of cestodes. Cysticercosis of animals.	To understand the life cycle of cestodes, to describe the interaction between the parasite and the intermediate and final host, to analyse the ways of invasion and mechanisms of adaptation of cestodes to different environmental conditions, to assess the impact of parasites on the physiological state of the host, as well as to characterise the features of their development and reproduction in the animal body.	
Laboratory work 5: General characteristics of cestodes. Cysticercosis of animals.	Analyse the peculiarities of the epizootology of helminthic diseases of pigs, select and prepare biological material for diagnosis, apply modern methods of detection of pathogens, identify parasites by morphological characteristics, select effective treatment and prevention measures taking into account the type of parasite and the peculiarities of pig husbandry, as well as evaluate the effectiveness of the applied drugs and control measures.	8
Lecture 6: Echinococcosis of	To understand the life cycle of cestodes, to describe the interaction between the parasite and the intermediate and final host, to analyse the ways of invasion and mechanisms of adaptation of	

animals. Cenurosis of sheep.	cestodes to different environmental conditions, to assess the impact of parasites on the physiological state of the host, as well as to characterise the features of their development and reproduction in the animal body.	
Laboratory work 6: Echinococcosis of animals. Cenurosis of sheep.	Analyse the peculiarities of the epizootology of helminthic diseases of pigs, select and prepare biological material for diagnosis, apply modern methods of detection of pathogens, identify parasites by morphological characteristics, select effective treatment and prevention measures taking into account the type of parasite and the peculiarities of pig husbandry, as well as evaluate the effectiveness of the applied drugs and control measures.	8
Independent work 6: Echinococcosis of animals. Cenurosis of sheep.	To know the basic principles of treatment of helminthic diseases of pigs, to analyse the spectrum of action and mechanisms of action of modern anthelmintic drugs, to compare their effectiveness and safety, to justify the choice of drugs depending on the type of parasite and stage of infection, to develop schemes of treatment and preventive measures taking into account the peculiarities of pig husbandry and the epizootic situation, and to assess the risks of resistance development.	7
Lecture 7: Moniesiosis, tyzaniesiosis of ruminants. Anoplocephalidoses of horses.	To understand the life cycle of cestodes, to describe the interaction between the parasite and the intermediate and final host, to analyse the ways of invasion and mechanisms of adaptation of cestodes to different environmental conditions, to assess the impact of parasites on the physiological state of the host, as well as to characterise the features of their development and reproduction in the animal body.	
Laboratory work 7: Moniesiosis, tyzaniesiosis of ruminants. Anoplocephalidoses of horses.	Analyse the peculiarities of the epizootology of helminthic diseases of pigs, select and prepare biological material for diagnosis, apply modern methods of detection of pathogens, identify parasites by morphological characteristics, select effective treatment and prevention measures taking into account the type of parasite and the peculiarities of pig husbandry, as well as evaluate the effectiveness of the applied drugs and control measures.	8
Independent work 7: Moniesiosis, tyzaniesiosis of ruminants. Anoplocephalidoses of horses.	To know the basic principles of treatment of entomoses, acaroses and protozoa in pigs, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of pathogen, stage of infection and animal husbandry technology, to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation and biological characteristics of parasites.	7
Lecture 8: Carnivorous dipylidiosis. Hymenolepididosis of birds	To understand the life cycle of cestodes, to describe the interaction between the parasite and the intermediate and final host, to analyse the ways of invasion and mechanisms of adaptation of cestodes to different environmental conditions, to assess the impact of parasites on the physiological state of the host, as well as to characterise the features of their development and reproduction in the animal body.	
Laboratory work 8: Carnivorous	Analyse the peculiarities of the epizootology of helminthic diseases of pigs, select and prepare biological material for	8

dipylidiosis. Hymenolepididosis of birds	diagnosis, apply modern methods of detection of pathogens, identify parasites by morphological characteristics, select effective treatment and prevention measures taking into account the type of parasite and the peculiarities of pig husbandry, as well as evaluate the effectiveness of the applied drugs and control measures.	
Independent work 8: Carnivorous dipylidiosis. Hymenolepididosis of birds	To know the basic principles of treatment of entomoses, acaroses and protozoa in pigs, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of pathogen, stage of infection and animal husbandry technology, to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation and biological characteristics of parasites.	7
Module test 1.	**Trematodoses, cestodes of animals**	**30**
Total for module 1		**100**
Module 2. **Nematodoses of animals**		
Lecture 9: General characteristics of nematodes. Ascariasis of animals..	Understand the life cycle of nematodes, describe the interaction of parasites with intermediate and final hosts, analyse the pathways of invasion and adaptive mechanisms of nematodes in different environments, assess the impact of parasites on the physiological processes of the host, and characterise the features of their development, reproduction and pathogenesis of infections.	-
Laboratory work 9: General characteristics of nematodes. Ascariasis of animals.	To apply modern methods of diagnosis of entomoses, acaroses and protozooses of pigs, to analyse the effectiveness of treatment and prevention measures, to identify parasites by morphological and biological characteristics, to select modern veterinary drugs taking into account the species spectrum of pathogens, to assess the impact of measures on animal health, and to develop comprehensive schemes for the control of parasitic diseases, taking into account the epizootic situation.	-
Independent work 9: General characteristics of nematodes. Ascariasis of animals.	To know the basic principles of treatment of helminthiasis, entomoses, acaroses and protozoa of horses, to analyse the mechanisms of action of modern veterinary drugs, to compare their effectiveness, spectrum of action and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and conditions of detention, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation in the farm.	-
Lecture 10: Pulmonary strongylidosis. Gastrointestinal strongylidosis of animals.	To understand the life cycle of acanthocephalic parasites, to describe the interaction between the parasite, intermediate and final host, to analyse the pathways of invasion and mechanisms of adaptation of acanthocephalic parasites to different environmental conditions, to assess the impact of parasites on the physiological state of the host, and to characterise the features of their development, reproduction and pathogenesis of infections	-
Laboratory work 10: Pulmonary strongylidosis. Gastrointestinal	Analyse the epizootological features of helminthic, entomological, acarotic and protozoal diseases of horses, select and prepare biological material for diagnosis, apply modern methods of parasite detection, identify pathogens by	-

strongylidosis of animals.	morphological features, select treatment and preventive measures taking into account the type of parasite and animal conditions, and evaluate the effectiveness of the drugs and control measures used.	
Independent work 10: Pulmonary strongylidosis. Gastrointestinal strongylidosis of animals.	To know the basic principles of treatment of helminthic, entomological, acarotic and protozoal diseases of poultry, to analyse the mechanisms of action of modern veterinary drugs, to compare their effectiveness, spectrum of action and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and conditions of detention, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	-
Lecture 11: Strongilidosis of horses. Goose amidostomosis	To apply modern methods of diagnosis of poultry helminths, to analyse the peculiarities of their spread, to improve practical approaches to the detection of entomoses, acaroses and protozoa, to select effective veterinary drugs for treatment, to develop comprehensive preventive measures taking into account the biology of parasites and poultry conditions, and to evaluate the effectiveness of the methods used.	-
Laboratory work 11: Strongilidosis of horses. Goose amidostomosis	To be able to select and prepare biological material for the diagnosis of poultry helminthic diseases, apply modern laboratory and microscopic methods of parasite detection, improve practical skills in the diagnosis of entomoses, acaroses and protozoa, identify parasites by morphological characteristics, select effective veterinary drugs for treatment, and develop comprehensive preventive measures taking into account the conditions of poultry keeping and the epizootic situation.	**10**
Lecture 12: Animal trichuratosis. Trichinellosis.	To apply modern methods of diagnosis of poultry helminths, to analyse the peculiarities of their spread, to improve practical approaches to the detection of entomoses, acaroses and protozoa, to select effective veterinary drugs for treatment, to develop comprehensive preventive measures taking into account the biology of parasites and poultry conditions, and to evaluate the effectiveness of the methods used.	-
Laboratory work 12: Animal trichuratosis. Trichinellosis.	To be able to select and prepare biological material for the diagnosis of poultry helminthic diseases, apply modern laboratory and microscopic methods of parasite detection, improve practical skills in the diagnosis of entomoses, acaroses and protozoa, identify parasites by morphological characteristics, select effective veterinary drugs for treatment, and develop comprehensive preventive measures taking into account the conditions of poultry keeping and the epizootic situation.	**10**
Independent work 12: Animal trichuratosis. Trichinellosis.	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	**10**
Lecture 13: Spiruratosis of animals and birds.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of	-

	protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	
Laboratory work 13: Spiruratosis of animals and birds.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	**10**
Independent work 13: Spiruratosis of animals and birds.	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	**10**
Lecture 14: Filariasis of animals.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	**-**
Independent work 14: Filariasis of animals.	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	**10**
Lecture 15: Acanthocephalosis of animals.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	**-**
Laboratory work 15: Acanthocephalosis of animals.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	**10**
Module test 2.	**Nematodoses of animals**	**30**

Total for module 2		**100**
Module 3. **Arachnoentomoses of animals**		
Lecture 16: General characteristics of the class Insecta. Diseases of animals.	Understand the life cycle of nematodes, describe the interaction of parasites with intermediate and final hosts, analyse the pathways of invasion and adaptive mechanisms of nematodes in different environments, assess the impact of parasites on the physiological processes of the host, and characterise the features of their development, reproduction and pathogenesis of infections.	-
Laboratory work 16: General characteristics of the class Insecta. Diseases of animals.	To apply modern methods of diagnosis of entomoses, acaroses and protozooses of pigs, to analyse the effectiveness of treatment and prevention measures, to identify parasites by morphological and biological characteristics, to select modern veterinary drugs taking into account the species spectrum of pathogens, to assess the impact of measures on animal health, and to develop comprehensive schemes for the control of parasitic diseases, taking into account the epizootic situation.	-
Lecture 13: Zoophilus flies.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	-
Laboratory work 13: Zoophilus flies.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	-
Independent work 13: Zoophilus flies.	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	-
Lecture 18: Bloodsucking insects.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	-
Laboratory work 18: Bloodsucking insects.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify	-

	parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	
Independent work 18: Bloodsucking insects.	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	-
Lecture 19: Wingless insects.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	-
Laboratory work 19: Wingless insects.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	-
Independent work 19: Wingless insects.	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	-
Lecture 20: General characteristics of the class Acarina. Sarcoptiform mites.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	-
Laboratory work 20: General characteristics of the class Acarina. Sarcoptiform mites.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	-
Lecture 21: Animal psoroptosis.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host	-

	at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	
Laboratory work 21: Animal psoroptosis.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	**10**
Lecture 22: Demodectic mange of animals	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	**-**
Laboratory work 22: Demodectic mange of animals	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	**10**
Independent work 22: Demodectic mange of animals	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	**10**
Lecture 23: Argas and gamazoid mites.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	**-**
Laboratory work 23: Argas and gamazoid mites.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	**10**

Independent work 23: Argas and gamazoid mites.	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	**10**
Lecture 24: Parasitic mites. Ixodidosis of animals.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	**-**
Laboratory work 24: Parasitic mites. Ixodidosis of animals.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	**10**
Independent work 24: Parasitic mites. Ixodidosis of animals.	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	**10**
Module test 3.	**Arachnoentomoses of animals**	**30**
Total for module 3		**100**
Module 4. **Protozooses of animals.**		
Lecture 25: General characteristics of the simplest. Piroplasmidosis of animals.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	**-**
Laboratory work 25: General characteristics of the simplest. Piroplasmidosis of animals.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	**-**
Independent work 25: General	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and	**-**

characteristics of the simplest. Piroplasmidosis of animals.	mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	
Lecture 26: Babesiosis of animals	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	-
Laboratory work 26: Babesiosis of animals	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	-
Independent work 26: Babesiosis of animals	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	-
Lecture 27: Eimeriosis of animals.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	-
Laboratory work 27: Eimeriosis of animals.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	-
Independent work 27: Eimeriosis of animals.	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	**10**

Lecture 28: Sarcocystosis of animals. Cryptosporidiosis	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	-
Laboratory work 28: Sarcocystosis of animals. Cryptosporidiosis	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	**10**
Independent work 28: Sarcocystosis of animals. Cryptosporidiosis	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	**10**
Lecture 29: Toxoplasmosis of animals Balantidiosis.	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of reproduction, distribution and pathogenesis caused by protozoan parasites.	-
Laboratory work 29: Toxoplasmosis of animals Balantidiosis.	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	**10**
Independent work 29: Toxoplasmosis of animals Balantidiosis.	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	**10**
Lecture 30: Basic antiprotozoal drugs. Diseases caused by prokaryotes	To understand the life cycles of protozoan parasites, to analyse the mechanisms of interaction between the parasite and the host at the cellular and organ levels, to explain the adaptive properties of protozoa to the parasitic way of life, to assess their effect on the host immune system, and to characterise the features of	-

	reproduction, distribution and pathogenesis caused by protozoan parasites.	
Laboratory work 30: Basic antiprotozoal drugs. Diseases caused by prokaryotes	To know the epizootological features of the spread of helminthic diseases, entomoses, acaroses and protozoa in carnivores, to select biological material for laboratory tests, to apply modern methods of microscopic and rapid diagnostics, to identify parasites by morphological features, to select effective veterinary drugs for treatment, as well as to develop and justify comprehensive preventive measures taking into account the type of parasite and animal conditions.	**10**
Independent work 30: Basic antiprotozoal drugs. Diseases caused by prokaryotes	To know the basic principles of treatment of entomoses, acaroses and protozoa of carnivores, to analyse the properties and mechanisms of action of modern insecticidal, acaricidal and antiprotozoal drugs, to compare their efficacy and safety, to justify the choice of drugs depending on the type of parasite, stage of infection and characteristics of animal husbandry, and to develop comprehensive schemes of treatment and prevention measures taking into account the epizootic situation.	**10**
Module test 4.	**Protozooses of animals**	**30**
Total for module 3		**100**
Educational work		**(M1 + M2)/2*0.7 ≤ 70**
Exam / test	**30**	
Total for the course		**(Academic work + test) ≤ 100**
Course project/work	-	**100**

8.2 Grading scale for higher education students

Student rating, points	National assessment based on the results of the compilation
90-100	Perfectly
74-89	Fine
60-73	Satisfactorily
0-59	Unsatisfactorily

8.3. Assessment policy:

Policy on deadlines and resubmissions:	assignments submitted after the deadline without a valid reason are given a lower mark. Resubmission of modules is allowed with the lecturer's permission in the presence of valid reasons (for example, a medical certificate).
Політика щодо академічної доброчесності:	cheating during tests and examinations is prohibited (including through the use of mobile devices). Term papers and essays must contain correct in-text citations to the literature used.
Політика щодо відвідування:	відвідування занять є обов'язковим. За об'єктивних причин (наприклад, хвороба, міжнародне стажування) навчання може відбуватись індивідуально (в онлайн формі за погодженням із деканом факультету)

9. Teaching and learning support:

- electronic course of the academic discipline (on the NUBiP of Ukraine e-learning portal – link);
- links to digital educational resources;

- lecture notes and their presentations (in electronic form);
- textbooks, teaching aids and practical manuals;
- methodological materials for the study of the academic discipline for full-time, part-time and distance (if available) forms of higher education;
- syllabus of the educational (industrial) placement for the academic discipline (if it is provided for in the curriculum).

10. Recommended literature

1. 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.- Полтава: ТОВ НВП «Укрпромторгсервіс», 2014. – 338 с.
2. 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. Галат В. Ф. - Полтава: ТОВ НВП «Укрпромторгсервіс», 2012. 144 с.
3. Методичні вказівки. Методи ідентифікації кровопаразитів у тварин/Бойко Н., Немова Т., Семенко О./ Компринт.-К.-2021,-2.5 д.а.
4. Сорока Н.М., Кичилюк Ю.В., Пашкевич І.Ю. Еймеріоз і ізоспороз свиней. Монографія. К.: «ЦП «КОМПРИНТ», 2020. 216 с.
5. Сорока Н.М., Гончаров С.Л., Пашкевич І.Ю. Параценогонімоз коропових риб. Монографія. К.: «ЦП «КОМПРИНТ», 2018. 149 с.
6. Журенко В.В., Сорока Н.М., Журенко О.В. Криптоспоридіоз телят. Монографія. К.: «ЦП «КОМПРИНТ», 2017. 249 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. Сорока Н.М., Стибель В.В., Сидоренко І.В., Пашкевич І.Ю. Малофагози голубів. Монографія. К.:«ЦП «КОМПРИНТ», 2017. 160 с.
9. Прус М.П., Семенко О.В., Галат М.В. Монографія. Бабезіоз собак. – К.: ЦП «КОМПРИНТ», 2017. – 175 с.
10. Прус М.П., Зворигіна В.Є., Семенко О.В. Монографія. Саркоцистоз тварин. – К.: ЦП «КОМПРИНТ», 2019. – 149 с.
11. Методичні вказівки "Лабораторна діагностика протозоозів тварин" Сорока Н., Прус М., Семенко О., Пашкевич І., Галат М., Слободян Р./ Компринт.-К.-2021,-3.5 д.а.
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