Federal State Autonomous Educational Institution for Higher Education PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA

Agrarian and Technological Institute

WORKING COURSE SYLLABUS

Parasitology and invasive diseases

Recommended by the Methodological Council for the Education Field:

36.05.01 Veterinary medicine

2022

1. GOALS AND OBJECTIVES OF THE DISCIPLINE

The aim of studying the discipline "**Parasitology and invasive diseases**" is to provide students with theoretical and practical knowledge on issues related to parasitic diseases of animals (helminthiasis, protozoa, arachnoses and entomoses) necessary for the formation of comprehensively trained veterinarians.

2. REQUIREMENTS FOR THE RESULTS OF MASTERING THE DISCIPLINE

The development of the discipline "**Parasitology and invasive diseases**" is aimed at creating the following competencies (parts of competencies) for students:

Table 2.1. List of competencies formed by students during the development of the discipline (results of the development of the discipline)

Code	Competence	**Indicators of competence accomplishment** (within the discipline)
UK-1	The ability to carry out a critical analysis of problem situations based on a systematic approach, to develop a strategy of action.	UK-1.1 Analyzes the task, highlighting its basic components;
		UK-1.2 Defines and ranks the information required to solve the task;
		UK -1.3 Searches for information to solve the task by various types of queries;
		UK-1.4 Offers solutions to the problem, analyzes the possible consequences of their use;
		UK -1.5 Analyzes the ways of solving problems of a philosophical, moral and personal nature based on the use of basic philosophical ideas and categories in their historical development and socio-cultural context.
UK -3	The ability to organize and manage the work of the team, developing a team strategy to achieve the goal.	UK-3.1 Defines his role in the team based on the strategy of cooperation to achieve the goal;
		UK-3.2 Formulates and takes into account in its activities the peculiarities of the behavior of groups of people, identified depending on the goal;
		UK-3.3 Analyzes the possible consequences of personal actions and plans his actions to achieve the

		desired result;
		UK-3.4 Exchanges information, knowledge and experience with team members;
		UK -3.5 Argues his point of view regarding the use of the ideas of other team members to achieve the goal;
		UK -3.6 Participates in team work on the execution of assignments.
UK -8	The ability to create and maintain safe living conditions in everyday life and in professional activities for the preservation of the natural environment, ensuring the sustainable development of society, including in the event of a threat and occurrence of emergencies and military conflicts.	UK-8.1 Analyzes the factors of harmful influence on the vital activity of elements of the habitat. (technical means, technological processes, materials, buildings and structures, natural and social phenomena);
		UK -8.2 Identifies dangerous and harmful factors within the scope of the task being performed;
		UK-8.3 Identifies and eliminates problems related to safety violations in the workplace;
		UK-8.4 Explains measures to prevent emergencies;
		UK -8.5 "Explains the rules of conduct in the event of emergencies of natural and man-made origin, as well as in the event of military conflicts;"
		UK-8.6 Provides first aid, participates in recovery activities.
GPC-2	The ability to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological state of the animal organism.	GPC-2.1 Has knowledge of the influence of natural, socio-economic, genetic and economic factors on the animal body.
		GPC-2.2 He is able to establish the presence and reliability of cause-and-effect relationships between the effects of certain etiological factors on the animal's body and the development of diseases.
		GPC-2.3 Possesses methods of preventive and curative correction of the effects of adverse environmental factors that can cause deterioration of animal health.

GPC-3	The ability to carry out and improve professional activities in accordance with regulatory legal acts in the field of agro-industrial complex.	GPC-3.1 He knows modern legal norms, both state and international, regulating activities in the field of veterinary medicine, veterinary and sanitary expertise and agro-industrial complex.
		GPC-3.2 Has the skills of updating legal information, including in the field of agro-industrial complex of professional orientation.
		GPC-3.3 Carries out activities in accordance with regulatory legal acts in the field of agriculture, as well as in the field of veterinary medicine and veterinary and sanitary expertise.
GPC -4	The ability to use methods of solving problems using modern equipment in the development of new technologies in professional activity and to use modern professional methodology for conducting experimental research and interpreting their results.	GPC-4.1 Possesses the conceptual and methodological apparatus of basic natural sciences at a level sufficient for full-fledged professional activity at the modern level.
		GPC-4.2 He knows the methods of solving problems using modern equipment.
		GPC-4.3 He is ready to use modern methodology in the development and conduct of experimental research.
		GPC-4.4 Uses modern professional methodology in interpreting research results.
GPC -5	The ability to draw up special documentation, analyze the results of professional activity and submit accounting documents using specialized databases.	GPC-5.1 Has the skills to search for the necessary forms of documentation on official websites and in specialized databases.
		GPC-5.2 Possesses professional terminology and skills in filling out analytical and reporting documents of a professional orientation.
		GPC-5.3 He is able to use specialized software to analyze the results of professional activity and compile accounting documentation.
GPC -6	The ability to analyze, identify and assess the risk of the risk of the occurrence and spread of diseases.	GPC-6.1 Has knowledge in the field of etiology and pathogenesis of animal diseases of different species.

		GPC-6.2 Has the skills to diagnose non-infectious, infectious and invasive diseases, identify pathogens of infectious and invasive diseases in animals.
		GPC-6.3 He knows the patterns of the occurrence and spread of diseases in animal populations, factors predisposing to diseases and the causes of possible complications.
PC -1	The ability to collect anamnesis of life and disease of animals to identify the causes of diseases and their nature.	PC -1.1 He is able to collect an anamnesis of the animal's life and reflect this in the relevant service documentation.
		PC-1.2 He is able to collect the anamnesis of the animal's disease and reflect it in the patient's medical history.
		PC-1.3 He is able to identify possible causes of the disease in an animal, factors predisposing to the disease and concomitant conditions affecting the nature of the course of the disease and use this information when making a diagnosis.
PC -3	Ability to develop animal research programs using special (instrumental) and laboratory methods.	PC-3.1 He is able to develop individual animal research programs, including the use of special (instrumental) and laboratory methods to detect deviations from the physiological norm of the state of a living organism, conduct differential diagnosis of the detected pathology or control the course of the disease and the effectiveness of the prescribed treatment.
		PC-3.2 Capable of developing mass comprehensive animal research programs (medical examination programs) of animals, taking into account their type and purpose, both general and special.
PC -4	The ability to conduct clinical studies of animals using special (instrumental) and laboratory methods to clarify the diagnosis.	PC-4.1 Able to conduct additional animal studies using laboratory methods to clarify the diagnosis.
		PC-4.2 Able to conduct additional animal studies using special (instrumental) methods to clarify the

		diagnosis.
PC -5	The ability to make a diagnosis based on the analysis of anamnesis data, general, special (instrumental) and laboratory research methods.	PC-5.1 He is able to diagnose patients of various types based on the analysis of anamnesis data, general, special (instrumental) and laboratory research methods.
		PC -5.2 He is able to predict the risks of diseases based on anamnestic data, the results of general, special (instrumental) and laboratory studies.
PC -6	The ability to develop a treatment plan for animals based on the established diagnosis and individual characteristics of animals.	PC-6.1 Able to develop a treatment plan for animals based on the established diagnosis and individual characteristics of animals.
		PC-6.2 He is able to develop recommendations on therapeutic and preventive manipulations to prevent diseases, the high probability of which was revealed during the study of the patient.
		PC-6.3 He is able to develop recommendations for carrying out preventive and curative measures based on the results of the examination of animals carried out as part of the medical examination.
PC -7	The ability to choose the necessary drugs of chemical and biological nature for the treatment of animals, taking into account their combined pharmacological effect on the body.	PC -7.1 He is able to choose medicines of chemical and biological nature necessary for the treatment of animals, guided by the principles of evidence-based medicine, taking into account their combined pharmacological effect on the body.
		PC-7.2 He is able to justify the prescription of a drug in a certain clinical case or the impossibility of using this drug in the situation under consideration.
		PC-7.3 He is able to calculate the dose, frequency and duration of the course of application of the drug to the patient, taking into account the form of release and the characteristics of the administration of the drug to the patient.
		PC-7.4 He is able to take into

		account drug interactions when prescribing a course of treatment to an animal already receiving medications and biologically active additives due to the presence of diseases identified earlier.
		PC-7.5 He is able to take into account economic, species and age characteristics, as well as the results of laboratory studies of the patient when choosing drugs for the treatment of the patient.
PC -14	The ability to conduct repeated examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment and adjust the treatment plan of animals (if necessary) based on the results of the evaluation of the effectiveness of treatment.	PC-14.1 He is able to develop a plan of repeated studies necessary and sufficient to assess the predicted changes in the patient's health.
		PC-14.2 Able to conduct a repeated clinical examination, taking into account the specifics of diseases previously diagnosed in the patient.
		PC-14.3 Able to carry out the necessary repeated instrumental and laboratory tests.
		PC-14.4 He is able to analyze the identified changes, evaluate the effectiveness of the treatment and, if necessary, correct the prescribed course of treatment.
PC -15	Ability to organize preventive immunizations (vaccinations), therapeutic and preventive treatments of animals in accordance with the plan of antiepizootic measures.	PC-15.1 He is able to make individual and group plans of preventive immunizations (vaccinations) taking into account the epizootic situation in the territory of the animals' stay, the plan of anti-epizootic measures, as well as state and regional veterinary and sanitary rules and requirements.
		PC-15.2 He is able to organize therapeutic and preventive treatment of animals in accordance with the plan of anti-epizootic measures, as well as, if necessary, taking into account the real epizootic situation in the places where animals stay, including in conditions of agricultural production.
PC -19	The ability to perform post-mortem diagnostic examination of animals in	PC-19.1 Able to conduct a general examination of animal corpses

	order to establish pathological processes, diseases, causes of death.	before autopsy.
		PC-19.2 He is capable of performing autopsy of animal corpses using special tools and compliance with safety requirements.
		PC -19.3 He is able to establish the cause of death and a pathoanatomic diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases.
		PC-19.4 He is able to formalize the results of a postmortem diagnostic examination of an animal in the autopsy protocol.
PC -20	Ability to develop an annual plan of antiepizootic measures, a plan for the prevention of non-infectious animal diseases, a plan of veterinary and sanitary measures.	PC-20.1 Able to conduct epizootological examination of the organization, territory.
		PC-20.2 He is able to develop an annual plan of antiepizootic and antiparasitic measures, a plan for the prevention of non-infectious animal diseases, a plan of veterinary and sanitary measures.
		PC-20.3 He is able to analyze the effectiveness of measures for the prevention of animal diseases in order to improve them.
PC -22	Ability to organize measures to protect the organization from the introduction of infectious and invasive diseases in accordance with the plan of antiepizootic measures.	PC -22.1 He is able to assess the epizootic state of an organization (territory), identify risks and possible causes of epizootic foci, as well as factors affecting their spread in specific organizations, territories.
		PC-22.2 Able to choose and apply the most effective measures to protect the organization from the introduction of infectious and invasive diseases.
		PC-22.3 He is able to carry out operational control of the effectiveness of the activities carried out.
PC -23	The ability to analyze the effectiveness of measures for the prevention of animal diseases in order to improve them.	PC-23.1 He is capable of collecting and analyzing information, including veterinary statistics data, necessary to assess the effectiveness of

		preventive antiepizootic measures, prevention of non-infectious animal diseases, veterinary and sanitary measures.
		PC-23.2 Able to evaluate the effectiveness of preventive measures and methods of their implementation, including using special software.
		PC -23.3 He is able to make suggestions on the correction of measures for the prevention of animal diseases on the basis of the analysis carried out.
PC -24	Ability and willingness to promote veterinary knowledge, including in the field of prevention of animal diseases.	PC-24.1 He is able to set goals in the field of veterinary knowledge promotion, plan the strategy and tactics of upcoming events.
		PC-24.2 He is able to use computer and telecommunication facilities for the preparation and demonstration of materials used in the process of promoting veterinary knowledge.
		PC-24.3 He is able to conduct conversations, lectures, seminars for employees of the organization in order to explain the principles of work on the prevention of animal diseases.

3. COURSE IN HIGHER EDUCATION

The discipline "**Parasitology and invasive diseases**" refers to the mandatory part of block B1 of the Educational Program of Higher Education.

As part of the Educational Program of Higher Education, students also master other disciplines and /or practices that contribute to achieving the planned results of mastering the discipline "**Parasitology and invasive diseases**".

Table 3.1. List of Higher Education Program components disciplines that contribute to expected learning outcomes

Competence code	**Competence**	**Previous Disciplines (Modules)**	**Subsequent Disciplines (Modules)**

UK -1	The ability to carry out a critical analysis of problem situations based on a systematic approach, to develop a strategy of action	History Philosophy Life safety Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Veterinary and sanitary examination Organization of veterinary business Mathematics Fundamentals of Economics and Management Veterinary deontology Fundamentals of intellectual work Zoopsychology Organization of state veterinary supervision Career Management Space technologies in the service of the agro-industrial complex Reconstructive and reconstructive surgery
UK -3	The ability to organize and manage the work of the team, developing a team strategy to achieve the goal	Jurisprudence Life safety Operative surgery with topographic anatomy Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Organization of veterinary business Mathematics Fundamentals of rhetoric and communication Introduction to the specialty Fundamentals of Economics and Management Veterinary sanitation Veterinary deontology Fundamentals of intellectual work Personality psychology and professional self-determination Fundamentals of social and legal knowledge

UK -8	The ability to create and maintain safe living conditions in everyday life and in professional activity for the preservation of the natural environment, ensuring the sustainable development of society, including in the event of a threat and occurrence of emergencies and military conflicts	History Inorganic and analytical chemistry Organic Chemistry Biological physics Physical and colloidal chemistry Life safety Biological chemistry Veterinary microbiology and mycology Virology and biotechnology Veterinary Radiobiology	Epizootology and infectious diseases Organization of veterinary business General and veterinary ecology Veterinary sanitation Veterinary deontology Laboratory diagnostics of infectious and invasive diseases Organization of state veterinary supervision
GPC -2	The ability to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological state of the animal organism.	Biology with the basics of ecology Veterinary genetics Veterinary microbiology and mycology Virology and biotechnology Physiology and ethology of animals Breeding with the basics of private animal husbandry Animal health and welfare Pathological physiology Veterinary Radiobiology Pathological anatomy Instrumental diagnostic methods Toxicology Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Forensic veterinary examination and autopsy of animals Immunology General and veterinary ecology Veterinary sanitation Forage plants Zoopsychology Animal Health Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Bee diseases and entomophages Fish pathology and aquaculture Diseases of exotic animals Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology Veterinary Ophthalmology

			Animal Dentistry
GPC -3	The ability to carry out and improve professional activities in accordance with regulatory legal acts in the field of agro-industrial complex.	Jurisprudence Life safety Breeding with the basics of private animal husbandry Veterinary Pharmacology Toxicology	Epizootology and infectious diseases Organization of veterinary business General and veterinary ecology Veterinary sanitation Technology of processing livestock products Veterinary deontology Economics and organization of agricultural production Laboratory diagnostics of infectious and invasive diseases Organization of state veterinary supervision Veterinary and industrial laboratories with the basics of design Career Management Fundamentals of social and legal knowledge
GPC -4	The ability to use methods of solving problems using modern equipment in the development of new technologies in professional activity and to use modern professional methodology for conducting experimental research and interpreting their results.	Inorganic and analytical chemistry Organic Chemistry Biological physics Computer science Physical and colloidal chemistry Cytology, histology and embryology Biological chemistry Veterinary microbiology and mycology Virology and biotechnology Physiology and ethology of animals Breeding with the basics of private animal husbandry Pathological physiology	Epizootology and infectious diseases Mathematics Immunology Veterinary sanitation Technology of processing livestock products Medicinal and poisonous plants Forage plants Fundamentals of intellectual work Personality psychology and professional self-determination Clinical laboratory diagnostics Laboratory diagnostics of infectious and invasive diseases Diseases of horses

		Veterinary Radiobiology Clinical diagnosis Pathological anatomy Operative surgery with topographic anatomy Instrumental diagnostic methods Toxicology Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	Diseases of productive animals Diseases of small pets Diseases of small pets Bee diseases and entomophages Fish pathology and aquaculture Diseases of exotic animals Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology Reconstructive and reconstructive surgery Veterinary Ophthalmology Animal Dentistry
GPC -5	The ability to draw up special documentation, analyze the results of professional activity and submit accounting documents using specialized databases.	Veterinary genetics Computer science Breeding with the basics of private animal husbandry Clinical diagnosis Pathological anatomy Operative surgery with topographic anatomy Instrumental diagnostic methods Obstetrics, gynecology and andrology Internal non-infectious diseases	Epizootology and infectious diseases Veterinary and sanitary examination Organization of veterinary business Forensic veterinary examination and autopsy of animals Veterinary deontology Economics and organization of agricultural production Clinical laboratory diagnostics Laboratory diagnostics of infectious and invasive diseases Organization of state veterinary supervision Veterinary and industrial laboratories with the basics of design Anesthesiology, intensive care and intensive care

			Dermatology Cardiology Endocrinology Nephrology
GPC -6	The ability to analyze, identify and assess the risk of the risk of the occurrence and spread of diseases.	Biology with the basics of ecology Life safety Veterinary microbiology and mycology Virology and biotechnology Animal health and welfare Feeding animals with the basics of feed production Veterinary Radiobiology Clinical diagnosis Pathological anatomy Instrumental diagnostic methods Toxicology Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Veterinary and sanitary examination Organization of veterinary business Forensic veterinary examination and autopsy of animals Introduction to the specialty General and veterinary ecology Veterinary sanitation Technology of processing livestock products Medicinal and poisonous plants Forage plants Animal Health Clinical laboratory diagnostics Laboratory diagnostics of infectious and invasive diseases Organization of state veterinary supervision Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Bee diseases and entomophages

			Fish pathology and aquaculture Diseases of exotic animals Anesthesiology, intensive care and intensive care Veterinary Ophthalmology Animal Dentistry
PC -1	The ability to collect anamnesis of life and disease of animals to identify the causes of diseases and their nature	Veterinary genetics Physiology and ethology of animals Breeding with the basics of private animal husbandry Animal health and welfare Feeding animals with the basics of feed production Clinical diagnosis Toxicology Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Fundamentals of rhetoric and communication Veterinary deontology Zoopsychology Animal Health Personality psychology and professional self-determination Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Diseases of exotic animals Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology Reconstructive and reconstructive surgery Veterinary Ophthalmology Animal Dentistry

PC -3	Ability to develop animal research programs using special (instrumental) and laboratory methods.	Animal Anatomy Organic Chemistry Biological physics Physical and colloidal chemistry Biological chemistry Veterinary microbiology and mycology Virology and biotechnology Physiology and ethology of animals Pathological physiology Clinical diagnosis Pathological anatomy Instrumental diagnostic methods Toxicology Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Immunology Veterinary deontology Clinical laboratory diagnostics Laboratory diagnostics of infectious and invasive diseases Veterinary and industrial laboratories with the basics of design Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Bee diseases and entomophages Fish pathology and aquaculture Diseases of exotic animals Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology Reconstructive and reconstructive surgery Veterinary Ophthalmology Animal Dentistry
PC -4	Ability to develop animal research programs using special (instrumental) and laboratory methods	Animal anatomy Biological physics Cytology, histology and embryology Biological chemistry Veterinary microbiology and mycology Virology and biotechnology Physiology and ethology of animals Pathological	Epizootology and infectious diseases Clinical laboratory diagnostics Laboratory diagnostics of infectious and invasive diseases Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Diseases of exotic

		physiology Clinical diagnosis Pathological anatomy Instrumental diagnostic methods Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	animals Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology Veterinary Ophthalmology Animal Dentistry
PC -5	The ability to conduct clinical studies of animals using special (instrumental) and laboratory methods to clarify the diagnosis	Veterinary genetics Cytology, histology and embryology Physiology and ethology of animals Breeding with the basics of private animal husbandry Feeding animals with the basics of feed production Pathological physiology Clinical diagnosis Pathological anatomy Toxicology Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Forensic veterinary examination and autopsy of animals Zoopsychology Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Bee diseases and entomophages Fish pathology and aquaculture Diseases of exotic animals Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology Reconstructive and reconstructive surgery Veterinary Ophthalmology Animal Dentistry

PC -6	The ability to make a diagnosis based on the analysis of anamnesis data, general, special (instrumental) and laboratory research methods	Veterinary genetics Veterinary microbiology and mycology Virology and biotechnology Pathological physiology Veterinary Pharmacology Toxicology Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Mathematics Immunology Zoopsychology Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Bee diseases and entomophages Fish pathology and aquaculture Diseases of exotic animals Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology Reconstructive and reconstructive surgery Veterinary Ophthalmology Animal Dentistry
PC -7	Ability to develop an animal treatment plan based on the established diagnosis and individual characteristics of animals	Inorganic and analytical chemistry Organic Chemistry Physical and colloidal chemistry Biological chemistry Veterinary microbiology and mycology Virology and biotechnology Pathological physiology Veterinary Pharmacology Toxicology Obstetrics, gynecology and andrology Internal non-	Epizootology and infectious diseases Medicinal and poisonous plants Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Bee diseases and entomophages Fish pathology and aquaculture Diseases of exotic animals Anesthesiology, intensive care and intensive care Dermatology Cardiology

		infectious diseases General surgery Private Veterinary surgery	Endocrinology Nephrology Veterinary Ophthalmology Animal Dentistry
PC -14	The ability to choose the necessary drugs of chemical and biological nature for the treatment of animals, taking into account their combined pharmacological effect on the body	Cytology, histology and embryology Physiology and ethology of animals Pathological physiology Veterinary Pharmacology Clinical diagnosis Pathological anatomy Instrumental diagnostic methods Toxicology Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Clinical laboratory diagnostics Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Diseases of exotic animals Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology Reconstructive and reconstructive surgery Veterinary Ophthalmology Animal Dentistry
PC -15	The ability to conduct repeated examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment and adjust the treatment plan of animals (if necessary) based on the results of the evaluation of the effectiveness of treatment	Virology and biotechnology	Epizootology and infectious diseases Immunology Veterinary sanitation Bee diseases and entomophages Fish pathology and aquaculture
PC -19	Ability to organize preventive immunizations (vaccinations), therapeutic and preventive treatments of animals in accordance with the plan of	Animal anatomy Cytology, histology and embryology Life safety Pathological anatomy Toxicology Obstetrics,	Epizootology and infectious diseases Veterinary and sanitary examination Forensic veterinary examination and autopsy of animals Clinical laboratory

	antiepizootic measures	gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	diagnostics Laboratory diagnostics of infectious and invasive diseases Diseases of horses Diseases of productive animals Diseases of small pets Bee diseases and entomophages Fish pathology and aquaculture Diseases of exotic animals Dermatology Cardiology Endocrinology Nephrology Veterinary Ophthalmology Animal Dentistry
PC -20	Ability to perform post-mortem diagnostic examination of animals in order to establish pathological processes, diseases, causes of death	Veterinary microbiology and mycology Animal health and welfare Feeding animals with the basics of feed production Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Organization of veterinary business Fundamentals of Economics and Management Veterinary sanitation Economics and organization of agricultural production Animal Health Bee diseases and entomophages Fish pathology and aquaculture

PC -22	Ability to develop an annual plan of antiepizootic measures, a plan for the prevention of non-infectious animal diseases, a plan of veterinary and sanitary measures	Life safety Veterinary microbiology and mycology Virology and biotechnology Animal health and welfare Veterinary Pharmacology Private Veterinary surgery	Epizootology and infectious diseases Organization of veterinary business General and veterinary ecology Veterinary sanitation Technology of processing livestock products Animal Health Laboratory diagnostics of infectious and invasive diseases Organization of state veterinary supervision Bee diseases and entomophages Fish pathology and aquaculture
PC -23	Ability to organize measures to protect the organization from the introduction of infectious and invasive diseases in accordance with the plan of antiepizootic measures	Breeding with the basics of private animal husbandry Animal health and welfare Toxicology Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Veterinary and sanitary examination Organization of veterinary business Forensic veterinary examination and autopsy of animals Fundamentals of Economics and Management Veterinary sanitation Economics and organization of agricultural production Animal Health Organization of state veterinary supervision Bee diseases and entomophages Fish pathology and aquaculture

PC -24	Ability to analyze the effectiveness of measures for the prevention of animal diseases in order to improve them	Physiology and ethology of animals Breeding with the basics of private animal husbandry Animal health and welfare Feeding animals with the basics of feed production Pathological physiology Pathological anatomy Toxicology Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery Private Veterinary surgery	Epizootology and infectious diseases Fundamentals of rhetoric and communication Introduction to the specialty General and veterinary ecology Veterinary sanitation Veterinary deontology Economics and organization of agricultural production Medicinal and poisonous plants Forage plants Zoopsychology Animal Health Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Bee diseases and entomophages Fish pathology and aquaculture Diseases of exotic animals Dermatology Cardiology Endocrinology Nephrology Reconstructive and reconstructive surgery Veterinary Ophthalmology Animal Dentistry Foreign language for special purposes Russian for special purposes Foreign language. Translation of special texts

4. COURSE WORKLOAD AND TRAINING ACTIVITIES

Course workload of the discipline "**Parasitology and invasive diseases**" is 8 credits.

*Table 4.1. Types of academic activities during the period of the HE program mastering for **full-time** study*

Types of academic activities		**HOURS**	**Semesters**			
			7	**8**	**-**	**-**
Contact academic hours		126	72	54	-	-
including						
Lectures		54	36	18	-	-
Lab work		72	36	36	-	-
Seminars (workshops/tutorials)		-	-	-	-	-
Self-study		130	56	74	-	-
Evaluation and assessment (exam/pass/fail grading)		32	16	16	-	-
Course workload	Academic hour	**288**	**144**	**144**	-	-
	Credit unit	**8**	**4**	**4**	-	-

*Table 4.2. Types of academic activities during the period of the HE program mastering for **part-time** study*

Types of academic activities		**HOURS**	**Semesters**			
			8	**9**	**-**	**-**
Contact academic hours		72	36	36		
including						
Lectures		36	18	18	-	-
Lab work		36	18	18	-	-
Seminars (workshops/tutorials)		-	-	-	-	-
Self-study		186	26	160	-	-
Evaluation and assessment (exam/pass/fail grading)		30	10	20	-	-
Course workload	Academic hour	**288**	**72**	**216**	-	-
	Credit unit	**8**	**2**	**6**	-	-

5. CONTENT OF THE DISCIPLINE

Table 5.1 Content of the discipline (module) by type of academic work

Name of the discipline section	**Content of the section (topics)**	**Types of academic activities**

Section 1. Introduction to veterinary parasitology.	Topic 1.1. The discipline is a system of knowledge about veterinary parasitology.	Lectures, Lab work.
	Topic 1.2. A brief history of the development of parasitology. The role of Russian scientists in the development of parasitology.	Lectures, Lab work.
	Topic 1.3. Safety precautions when working with animals suspected of being infected with invasive diseases.	Lectures, Lab work.
	Topic 1.4. Economic damage caused by invasive diseases.	Lectures, Lab work.
Section 2. Veterinary protozoology.	Topic 2.1. Pathogenesis and clinical signs of piroplasmidoses of animals.	Lectures, Lab work.
	Topic 2.2. Methods of diagnosis of protozoa.	Lectures, Lab work.
	Topic 2.3. Toxoplasmosis of animals and humans. Features of the course, diagnosis, treatment and prevention.	Lectures, Lab work.
Section 3. Veterinary entomology.	Topic 3.1. Diagnosis and treatment of entomoses.	Lectures, Lab work.
	Topic 3.2. Insecticides and repellents.	Lectures, Lab work.
	Topic 3.3. Measures to combat entomoses.	Lectures, Lab work.
Section 4. Veterinary acarology.	Topic 4.1. Parasitiform mites – ectoparasites and carriers of pathogens.	Lectures, Lab work.
	Topic 4.2. Measures to combat ixodic ticks.	Lectures, Lab work.
	Topic 4.3. Diagnosis and treatment of acaroses.	Lectures, Lab work.
	Topic 4.4. Acaricides and repellents.	Lectures, Lab work.
Section 5. Veterinary helminthology.	Topic 5.1. Basic methods of diagnosis of helminthiasis. Helmintholarvoscopy, helminthoscopy, helminthoscopy.	Lectures, Lab work.
	Topic 5.2. Features of the morphology of suckers.	Lectures, Lab work.
	Topic 5.3. Methods of diagnosis of trematodoses.	Lectures, Lab work.
	Topic 5.4. Basics of prevention and treatment of trematodoses.	Lectures, Lab work.

	Topic 5.5. Larval stages of cestodes (cysticercus, cenurus, cysticercoid, echinococcus, alveococcus, strobilocercus tetratidium).	Lectures, Lab work.
	Topic 5.6. Larval teniidoses.	Lectures, Lab work.
	Topic 5.7. Imaginal teniidoses.	Lectures, Lab work.
	Topic 5.8. Diagnosis of imaginal cestodoses.	Lectures, Lab work.
	Topic 5.9. Basic methods of diagnosis of nematodes. Trichinelloscopy.	Lectures, Lab work.
	Topic 5.10. The study of the helminthological situation at livestock facilities.	Lectures, Lab work.

6. CLASSROOM INFRASTRUCTURE AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Material and technical support of the discipline

Classroom for Academic Activity Type	***Equipping the classroom***	**Specialized educational/laboratory equipment, software and materials for the development of the discipline** (if necessary)
Lecture	An auditorium for conducting lecture-type classes, equipped with a set of specialized furniture; a board (screen) and technical means of multimedia presentations.	- *Information stands.* - *Wet preparations.* - *Micro-preparations.* - *Biological microscopes.*
Laboratory	An auditorium for laboratory work, individual consultations, routine monitoring and interim certification, equipped with a set of specialized furniture and equipment.	- *Information stands.* - *Wet preparations.* - *Micro-preparations.* - *Biological microscopes.*

Self-studies	An auditorium for independent work of students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to an electronic information and educational environment.	-

7. RECOMMENDED SOURCES FOR COURSE STUDIES

Main reading:

1. Karpenko L.P. Veterinary parasitology [Text/electronic resource] : Educational and methodical manual / L.P. Karpenko, N.V. Yashina. - Electronic text data. - M. : RUDN Publishing House, 2013. - 81 p. - ISBN 978-5-209-05276-0 : 71.62. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=409610&idb=0
2. Parasitology and invasive diseases of animals : textbook for universities: in 2 volumes / D. G. Latypov, A. H. Volkov, R. R. Timerbaeva, E. G. Kirillov. — St. Petersburg : Lan, [B. G.]. — Volume 1 — 2021. — 548 p. — ISBN 978-5-8114-5786-1. — Text : electronic // Lan : electronic library system. — URL: https://e.lanbook.com/book/159484
3. Parasitology and invasive diseases of animals : textbook for universities: in 2 volumes / D. G. Latypov, A. H. Volkov, R. R. Timerbaeva, E. G. Kirillov. — Saint Petersburg : Lan, 2021 — Volume 2 — 2021. — 444 p. — ISBN 978-5-8114-5787-8. — Text : electronic // Lan : electronic library system.— URL: https://e.lanbook.com/book/162360

Additional Reading:

1. Invasive diseases transmitted to humans through meat and fish, veterinary and sanitary assessment of slaughter products [Electronic resource] : Textbook / L.V. Reznichenko [et al.]. - St. Petersburg : Publishing House "Lan", 2016. - 80 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2258-6. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465053&idb=0
2. Lutfullin M.H. Veterinary helminthology [Electronic resource] : Textbook / M.H. Lutfullin, D.G. Latypov, M.D. Kornishina. - 2nd ed., erased. - St. Petersburg : Publishing House "Lan", 2018. - 304 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-1092-7. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464873&idb=0
3. Bespalova N.S. Cestodology for veterinarians [Electronic resource] : Textbook / N.S. Bespalova, S.N. Koroleva. - St. Petersburg : Publishing House "Lan", 2017. - 216 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2662-1. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464914&idb=0
4. Latypov D.G. Protozoal diseases of animals dangerous to humans (protozoal zoonoses) [Electronic resource] : Textbook / D.G. Latypov, R.R. Timerbaeva, E.G. Kirillov. - St. Petersburg : Publishing House "Lan", 2017. - 208 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2631-7. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464930&idb=0
5. Latypov D.G. Helminthiasis of animals dangerous to humans [Electronic resource] : Textbook / D.G. Latypov. - 3rd ed., reprint. - St. Petersburg : Publishing House "Lan",

2017. - 440 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2626-3. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464941&idb=0
6. Lieberman E.L. Anaplasmosis of farm animals [Electronic resource] : Textbook / E.L. Lieberman, S.A. Kozlov. - St. Petersburg : Publishing House "Lan", 2017. - 84 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2472-6. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465003&idb=0
7. Bespalova N.S. Acarology for veterinarians [Electronic resource] : Textbook / N.S. Bespalova, E.O. Vozgorkova. - St. Petersburg : Publishing House "Lan", 2017. - 208 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2397-2. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464998&idb=0

Resources of the Internet information and telecommunication network:

1. Electronic library system of RUDN and third-party Electronic library systems to which university students have access on the basis of concluded contracts:
- Electronic library system of RUDN - ELS RUDN http://lib.rudn.ru/MegaPro/Web
- ELS "University Library online"http://www.biblioclub.ru
- ELS Yurayt http://www.biblio-online.ru
- ELS "Student Consultant"www.studentlibrary.ru
- ELS "Lan"http://eZlanbook.com/
- ELS "Trinity Bridge"http://www.trmost.com/

2. Databases and search engines:
- electronic fund of legal and regulatory and technical documentation http://docs.cntd.ru/
- search engine Yandex https://www.yandex.ru/
- search engine Google https://www.google.ru/
- abstract database SCOPUS http://www.elsevierscience.ru/products/scopus/

Educational and methodological materials for independent work of students during the development of the discipline/ module*:
1. A course of lectures on the discipline "**Parasitology and invasive diseases**".
2. Laboratory workshop on the discipline "**Parasitology and invasive diseases**".

* - All educational and methodological materials for independent work of students are placed in accordance with the current procedure on the discipline page in the **Telecommunication educational and Information System!**

8. MID-TERM ASSESSMENT

Evaluation materials and a point-rating system* for assessing the level of competence formation (part of competencies) based on the results of mastering the discipline "**Parasitology and invasive diseases**" are presented in the Appendix to this Work Program of the discipline.

* - Assessment Materials and a Point Rating System are formed based on the requirements of the relevant local regulatory act of the RUDN.

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