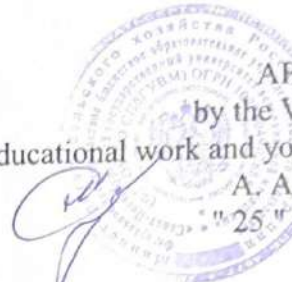


Информация о владельце:
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Должность: Проректор по учебно-воспитательной работе
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Ministry of Agriculture of the Russian Federation
Federal State Budgetary Educational Institution
higher education
"Saint-Petersburg State University
veterinary medicine"

 **APPROVED**
by the Vice-rector
for educational work and youth Policy
A. A. Sukhinin
"25" June 2024

WORK PROGRAM

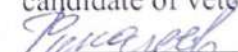
for research work

Higher education level
SPECIALTY

Specialty 36.05.01 Veterinary
Full-time education

Год The start year of training is 2024

Reviewed and accepted
at the meeting of the GEP and SIO Department
"24" June 2024
Protocol No. 10

Head of the GEP and SIO Department, Assistant,
candidate of veterinary Sciences
 E.Y. Finageev

Saint-Petersburg
2024 r.

1. RESEARCH GOALS AND OBJECTIVESHIP

The main **goal** of research work (R & D) is to develop students ' universal, general professional and professional competencies aimed at acquiring the skills of planning and organizing a scientific experiment and the skills of performing research and production and technical works using various equipment and computer technologies. R & D allows students to apply their theoretical knowledge in conducting research, develops their creative attitude to work, and helps them navigate their chosen specialty.

Задачи Research objectives:

- learn to formulate and solve problems of diagnosis and prevention of infectious and non-infectious diseases of animals, treatment of agricultural and unproductive animals;
- learn how to apply modern information and production technologies in the planning and implementation of veterinary and veterinary-sanitary measures.

2. TYPES OF PRACTICE, METHODS AND FORMS OF ITS IMPLEMENTATION

Industrial practice forms the second block of the curriculum and is divided into medical and industrial practice and research work.

The list of forms of research work for students can be specified and supplemented depending on the direction of the student's scientific activity and is carried out continuously - by allocating a continuous period of study time in the calendar curriculum.

Methods and forms of conducting practical training and research work for persons with disabilities are established taking into account the group of health restrictions and the possibility to complete the internship and research program in full.

3. A LIST OF PLANNED LEARNING OUTCOMES WHEN PERFORMING RESEARCH, CORRELATED WITH THE PLANNED RESULTS OF MASTERING THE EDUCATIONAL PROGRAM;

Research work as a type of educational work is aimed at developing practical skills and abilities, as well as forming the competencies of students in the process of performing certain types of work related to future professional activities. R & D is an integral part of training qualified specialists who are able to adapt and work successfully in specialized organizations.

The purpose of R & D is to deepen, supplement and consolidate theoretical and practical knowledge obtained in the study of specialized disciplines, apply practical skills acquired during the internship, as well as collect, process and systematize materials for performing research work of students based on the study of indicators and features of the activities of specialized organizations.

Research develops and strengthens research skills and contributes to the comprehensive formation of universal, general professional and professional competencies of students.

The subject of research work is chosen by the student independently and must be agreed with the supervisor of the supervising department.

The planned research results are:

- consolidation of acquired theoretical and practical knowledge;
- systematization and deepening of the competencies formed during the development of the program in the specialty "Veterinary Medicine", their application in solving specific scientific and practical problems;
- acquaintance and study of the object of scientific research;
- gain experience in working in teams when dealing with professional issues;
- development of independent work skills and mastering the methodology for analyzing the main organizational indicators of scientific work;

- collection, systematization, and processing of factual material on the topic of scientific work;
- obtaining additional information necessary for students' research work.

These research tasks relate to the following areas of professional activity:: 13 Agriculture, meet the types of tasks of professional activity provided for in the educational standard: medical, expert-control, scientific and educational.

Implementation of the research program should form the following competencies:

A) Learning competencies

CC-1 is able to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy

UK-1ID-1 To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis.

CC-1ID-2 To be able to acquire new knowledge based on analysis, synthesis, etc.; to collect and summarize data on current scientific problems related to the professional field; to search for information and solutions based on actions, experiments, experience, information and communication technologies.

UK-1ID-3 Master the study of the problem of professional activity using analysis, synthesis and other methods of intellectual activity, including the use of information and communication technologies; identifying problems and using adequate methods to solve them; demonstrating value judgments in solving problematic professional situations.

UK-2 is able to manage a project at all stages of its life cycle

CC-2ID-1 Know the methods of presenting and describing the results of project activities, including those based on digital technologies; methods, criteria and parameters for evaluating the results of project implementation; principles, methods and requirements for project work.

UK-2ID-2 Be able to justify the theoretical and practical significance of the results obtained; check and analyze project documentation; predict the development of processes in the project professional field; put forward innovative ideas and non-standard approaches to their solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.

UK-2ID-3 Master project management in the field of relevant professional activities, including on the basis of digital technologies; distribution of tasks and motivation to achieve goals; management of the development of the project specification, management of the implementation of specialized project work and the process of discussing and finalizing the project; participation in the development of the project specification, development of the project implementation program in professional area; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; determination of requirements for the results of project implementation.

UK-4 is able to apply modern communication technologies, including in a foreign language(s), for academic and professional interaction

UK-4ID-1 Know computer and information and communication technologies, information and digital infrastructure in the organization; communication in professional ethics; factors for improving communication in the organization, communication technologies in professional interaction; characteristics of communication flows; the importance of communication in professional interaction; methods for studying the communicative potential of an individual; modern information and communication technologies.

UK-4ID-2 To be able to create written texts of scientific and official-business speech styles on professional issues in Russian and foreign languages; to study the passage of

information on managerial communications; to determine internal communications in the organization, including using digital technologies.

UK-4ID-3 Master the principles of forming a communication system; analyze the system of communication links in the organization by performing oral and written communications, including in a foreign language; presenting plans and results of their own and team activities using communication technologies; technology for building effective communication in the organization; transfer of professional information in information and telecommunications networks using the following methods: modern means of information and communication technologies.

CC-6 is able to determine and implement priorities of its own activities and ways to improve them based on self-assessment and lifelong education

UK-6ID-1 Know the content of self-organization and self-education processes, their features and technologies of implementation, based on the goals of improving professional activity.

UK-6ID-2 To be able to independently build the process of mastering selected and structured information, including using digital technologies.

UK-6ID-3 Master the techniques of self-regulation of psychoemotional and functional states.

B) General professional competencies

OPK-2ID-3 Possess an idea of the origin of living organisms, the levels of organization of living matter, favorable and unfavorable factors affecting the body; the basis for studying the ecological knowledge of the surrounding world, the laws of development of nature and society; the skills of observation, comparative analysis, historical and experimental modeling of the impact of anthropogenic and economic factors on living objects, in particular including using digital technologies

OPK-3 is able to carry out and improve professional activities in accordance with regulatory legal acts in the field of agro-industrial complex

OPK-3ID-1 Know the basics of national and international veterinary legislation, legislation on digital technologies in the field of agriculture, specific rules and regulations governing veterinary activities at the local, national and international levels.

OPK-3ID-3 Possess the legal framework and ethical standards in the implementation of professional activities.

OPK-4 is able to use professional methods of problem solving using modern equipment in the development of new technologies and use modern professional methodology for conducting experimental research and interpreting their results

OPK-4ID-1 Know the technical capabilities of modern specialized equipment, methods for solving professional tasks.

OPK-4ID-2 Should be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained.

OPK-4ID-3 Master the skills of working with specialized equipment for the implementation of tasks set during research and development of new technologies, including digital ones

OPK-5 is able to draw up special documentation, analyze the results of professional activities and submit reporting documents using specialized databases

OPK-5ID-1 is able to apply new information technologies to solve tasks in their professional activities, work with specialized information databases.

OPK-5ID-2 Master the skills of working with the operating system, with text and table processors, with database management systems, with information and search engines on the Internet.

OPK-5ID-3 To know new information technologies for solving tasks in their professional activities, to work with specialized information databases.

C) Professional competencies

PC-1 Collecting anamnesis of animal life and disease to identify the causes of diseases, conducting a general clinical study of animals in order to establish a preliminary diagnosis and determine the further research program

PC-1ID-1 Be able to collect and analyze information about the origin and purpose of animals, the method and conditions of keeping, feeding (animal life history), including from devices – sensors, mechanisms, sensors, tags, etc.

PC-1ID-2 should be able to collect and analyze information about the occurrence and manifestation of diseases in animals, previous illnesses, epizootological conditions (anamnesis of animal diseases), including from devices – sensors, mechanisms, sensors, tags, etc.

PC-1ID-3 Be able to record animals to ensure safety during a clinical trial

PC-1ID-4 Should be able to perform a clinical study of animals using general methods: examination, palpation, percussion, auscultation and thermometry

PC-1ID-5 Be able to establish a preliminary diagnosis based on the analysis of anamnesis and clinical research using general methods

PC-1ID-7 Know the factors of animal life that contribute to the occurrence of infectious and non-communicable diseases

PC-1ID-8 Know the forms and rules for filling out the journal for registration of sick animals and the animal's medical history, including in electronic form in accordance with the requirements of veterinary reporting

PK-1ID-9 Know methods of fixing animals during their clinical examination

PC-1ID-10 Know the technique of conducting a clinical study of animals using general methods in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals

PC-2 "Development of an animal research program and conducting a clinical study of animals using special (instrumental) and laboratory methods, including to clarify the diagnosis"

PC-2ID-1 Should be able to perform animal studies using digital equipment and using special (instrumental) methods, including endoscopy, probing, catheterization, radiography, electrocardiography, and echography

PC-2ID-2 Be able to interpret and analyze data from special (instrumental) methods of animal research to verify the diagnosis

PC-2ID-3 Should be able to determine the response of the cardiovascular system of animals to various loads by the method of functional tests

PC-2ID-4 Be able to take samples of animal biological material for laboratory research

PC-2ID-5 Should be able to perform analytical preparation, storage of the studied biological material, transportation to the laboratory

PC-2ID-6 Be able to interpret and analyze data from laboratory methods of animal research to establish a diagnosis

PC-2ID-7 Know the indications for the use of digital equipment and special (instrumental) and laboratory methods of animal research in accordance with the guidelines, instructions, rules for the diagnosis, prevention and treatment of animals

PC-2ID-8 Know the Rules for safe operation of digital equipment, tools and equipment used in conducting special (instrumental) animal studies, including when conducting X-ray studies

PC-2ID-9 Know the technique of conducting animal research using digital equipment and special (instrumental) methods in accordance with methodological guidelines, instructions, rules for the diagnosis, prevention and treatment of animals

PK-2ID-10 To know methods and techniques of introduction of diagnostic and radiopaque substances into the animal's body

PK-2ID-11 Know the technique of setting up functional tests in animals

PC-2ID-12 Know the method of sampling and analytical preparation of samples of biological material for performing laboratory tests in accordance with the instructional and methodological documents regulating the sampling of biological material

PC-3 Diagnosis based on the analysis of anamnesis data, general, special (instrumental) and laboratory research methods

PC-3ID-1 Be able to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases

PC-3ID-2 Be able to use specialized information databases for the diagnosis of animal diseases

PC-3ID-3 Be able to process the results of clinical animal studies using digital technologies

PC-3ID-4 Know the methods of interpretation and analysis of data from special (instrumental) methods of animal research

PC-3ID-5 Know the norms of indicators of the state of biological material of animals of different species and the reasons that cause deviations of indicators from the norms

PC-3ID-6 Know the etiology and pathogenesis of various animal diseases

PC-3ID-7 Know the generally accepted criteria and classifications of animal diseases, approved lists of animal diseases

PC-4 Performing a post-mortem diagnostic study of animals in order to establish pathological processes, diseases, and the cause of death

PC-4ID-1 Be able to collect anamnesis of life and illness of the examined animals after death

PC-4ID-2 Be able to perform a general examination of animal corpses before autopsy

PC-4ID-3 Should be able to perform autopsies of animal corpses using special tools and comply with safety requirements

PC-4ID-4 Should be able to select and record samples of pathological material for laboratory research using digital technologies

PC-4ID-5 Be able to establish the cause of death and pathoanatomical diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases

PC-4ID-6 Should be able to formalize the results of post-mortem diagnostic examination of an animal in the autopsy protocol, including using digital technologies

PC-4ID-7 Know veterinary and sanitary requirements for the process of opening animals in accordance with the legislation of the Russian Federation in the field of veterinary medicine

PC-4ID-8 Know the rules for working with special tools when dissecting animal corpses

PC-4ID-9 To know the methods and techniques of autopsy of animal corpses of various species

PC-4ID-10 Know the method of selection and fixation of samples of pathological material for laboratory research in accordance with the rules in this area

PC-4ID-11 Know the forms and procedure for drawing up an animal autopsy report, including using digital technologies

PC-5 Development of a treatment plan for animals based on the established diagnosis and individual characteristics of animals, selection of necessary chemical and biological drugs for the treatment of animals, taking into account their combined pharmacological effect on the body

PC-5ID-1 Be able to use specialized information databases when choosing methods of animal treatment

PC-5ID-2 Be able to calculate the amount of medicines for the treatment of animals and disease prevention with the preparation of prescriptions for a certain period of time

PC-5ID-3 Be able to calculate the amount of medicines for the treatment of animals and disease prevention with the preparation of prescriptions for a certain period, including using digital technologies

PK-5ID-4 is able to inject drugs into the body of animals in various ways

PK-5ID-5 Know the methods of drug treatment of sick animals and indications for their use in accordance with the guidelines, instructions, instructions, rules for diagnosis, prevention and treatment of animals

PC-5ID-6 Know the state register of medicinal products for veterinary use

PK-5ID-7 Know the pharmacological and toxicological characteristics of medicinal raw materials, medicinal products of chemical and biological nature, biologically active additives for the prevention and treatment of animal diseases of various etiologies

PK-5ID-8 Know the technique of introducing medicinal substances into the animal's body by enteral (oral, sublingual and rectal administration) and parenteral (injections, inhalations and skin applications) methods

PC-6 Selection of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, performing therapeutic, including physiotherapy procedures using special equipment in compliance with safety rules

PC-6ID-1 Must be able to use special equipment, including digital equipment, when performing medical, including physiotherapy procedures in accordance with the instructions for its operation

PC-6ID-2 Be able to fix animals to ensure safety during medical procedures

PC-6ID-3 Be able to keep records of diseases and treatment of animals using digital technologies

PK-6ID-4 Know the types of non-drug therapy, including physiotherapy, used in veterinary medicine, and indications for their use

PC-6ID-5 Know the rules of safe operation with special equipment when performing non-drug effects on the animal body

PK-6ID-6 Know methods and techniques of non-drug effects on the animal body

PK-6ID-7 Know methods of fixing animals during their treatment

PC-6ID-8 Know the forms and rules for filling out the journal for registration of sick animals and the animal's medical history in accordance with the requirements of veterinary accounting, including in digital format

PC-7 Determination of the need to use operative and surgical methods in the treatment of animals, development of a surgical operation plan, including the choice of analgesia method

PC-7ID-1 Be able to perform anesthesia of animals before surgery using narcotic, antipsychotic and local anesthetic drugs

PC-7ID-2 To know operational methods of treatment of animals and indications for their use

PK-7ID-3 Know the drugs. used for analgesia of animals in veterinary surgery. doses and methods of their use, side effects

PC-8 Performing operative surgical intervention in the body of animals in the treatment of various diseases, castration, sterilization, for cosmetic purposes

PC-8ID-1 Be able to dissect animal tissues using surgical instruments to create operational access to the affected organ or tissues

PC-8ID-2 Be able to perform surgical intervention using surgical instruments on the affected organ or tissues to ensure the effectiveness of surgical intervention

PC-8ID-3 is able to stop bleeding using mechanical, physical, chemical and biological methods

PC-8ID-4 Should be able to connect the tissue in bloodless and bloody ways, drain cavities, apply bandages using dressing and frame materials.

- PC-8ID-5 Know the rules for using special equipment in the operating room, surgical instruments and dressings
- PC-8ID-6 Know the technique of performing surgical operations in veterinary medicine
- PC-8ID-7 Know the types and techniques of suturing and dressing used in veterinary surgery
- PC-9 Development of recommendations for special feeding of sick animals for therapeutic purposes
- PC-9ID-1 Know the types of dietary regimens, principles of feed selection using digital technologies, norms, feeding modes in animal diet therapy
- PC-10 Conducting repeated examinations and studies of animals to assess the effectiveness and safety of the prescribed treatment, adjusting the treatment plan for animals (if necessary) based on the results of evaluating the effectiveness of treatment
- PC-10ID-1 Be able to evaluate the effectiveness of treatment
- PC-10ID-2 Be able to use specialized information databases when choosing methods for treating animal diseases
- PC-10ID-3 Know the methods of drug treatment of sick animals and indications for their use in accordance with the guidelines, instructions, instructions, rules for diagnosis, prevention and treatment of animals
- PC-11 Development of an annual plan for anti-epizootic measures, a plan for the prevention of non-infectious animal diseases, and a plan for veterinary and sanitary measures
- PC-11ID-1 Be able to collect and analyze information, including data from veterinary statistics, necessary for planning preventive anti-epizootic measures, prevention of non-infectious animal diseases, veterinary and sanitary measures
- PC-11ID-2 Know methods of collecting and analyzing information in veterinary planning, including using information databases
- PC-12 Conducting preventive clinical studies of animals, checking the veterinary and sanitary condition and microclimate of livestock premises in accordance with the plan of anti-epizootic measures, the plan for the prevention of non-infectious animal diseases. plan of veterinary and sanitary measures
- PC-12ID-1 "Be able to conduct clinical studies of animals using digital technologies as part of the implementation of action plans for the prevention of animal diseases"
- PC-12ID-2 Be able to assess the impact of animal care and feeding conditions on their health as part of the implementation of action plans for the prevention of animal diseases
- PC-12ID-3 Be able to carry out veterinary quality control and preparation of animal feed in order to ensure their veterinary and sanitary safety as part of the implementation of action plans for the prevention of animal diseases
- PC-12ID-4 Know the recommended forms of the plan of anti-epizootic measures, the plan of prevention of non-infectious diseases of animals, the plan of veterinary and sanitary measures
- PC-12ID-5 Know the procedure for conducting internal control of the veterinary and sanitary condition of the facility and the microclimate of livestock premises, using digital equipment
- PC-12ID-6 Know the standard parameters of the microclimate in livestock premises
- PC-13 Organization of measures to protect the organization from the introduction of infectious and invasive diseases in accordance with the plan of anti-epizootic measures
- PC-13ID-1 Know the types of measures to ensure veterinary and sanitary safety and the requirements for their implementation in accordance with the legislation of the Russian Federation in the field of veterinary medicine

PC-14 Organization of preventive immunizations (vaccinations), therapeutic and preventive treatments of animals in accordance with the plan of anti-epizootic measures, analysis of the effectiveness of measures for the prevention of animal diseases in order to improve them

PC-14ID-1 Be able to assess the effectiveness of preventive measures and methods of their implementation, including using digital technologies

PC-14ID-2 Know the procedure for conducting a clinical study of animals when planning preventive measures

PC-14ID-3 Know the types of anti-epizootic measures and the requirements for their implementation in accordance with the guidelines, instructions, instructions, rules for the diagnosis, prevention and treatment of animals

PC-15 Organization of organizational and technical, zootechnical and veterinary measures aimed at the prevention of non-infectious diseases in accordance with the plan for the prevention of non-infectious animal diseases, analysis of the effectiveness of measures for the prevention of animal diseases in order to improve them

PC-15ID-1 Be able to assess the impact of animal care and feeding conditions on their health as part of implementing action plans for the prevention of animal diseases using digital technologies

PC-15ID-2 Should be able to assess the effectiveness of preventive measures and methods of their implementation, including using digital technologies

PC-15ID-3 Be able to carry out veterinary quality control and preparation of animal feed in order to ensure their veterinary and sanitary safety as part of the implementation of action plans for the prevention of animal diseases

PC-15ID-4 Be able to perform a diagnostic examination of animals within the framework of medical examination for timely detection of early preclinical and clinical signs of the disease

PC-15ID-5 Know the types of measures for the prevention of non-infectious animal diseases and metabolic disorders in animals and the requirements for their implementation in accordance with methodological guidelines, instructions, instructions, rules for diagnosis, prevention and treatment of animals

PC-16 Organization of disinfection and disinsection of livestock premises to ensure veterinary and sanitary well-being in accordance with the plan of veterinary and sanitary measures, analysis of the effectiveness of measures for the prevention of animal diseases in order to improve them

PC-16ID-1 Should be able to evaluate the effectiveness of preventive measures and methods of their implementation, including through end-to-end digital technologies

PC-16ID-2 Know the types of measures to ensure veterinary and sanitary safety and the requirements for their implementation in accordance with the legislation of the Russian Federation in the field of veterinary medicine

PC-17 Preparation of a medical examination plan for animals, taking into account their types and purpose, conducting medical examinations in order to preserve the health of animals and increase their productivity, developing recommendations for conducting medical and preventive measures based on the results of animal examinations conducted as part of the medical examination

PC-17ID-1 Should be able to perform a diagnostic examination of animals within the framework of medical examination, including using digital equipment, for timely detection of early preclinical and clinical signs of the disease

PC-17ID-2 Know the procedure for conducting medical examinations of animals in accordance with the guidelines in force in this area

PC-17ID-3 Know the types of measures for the prevention of non-infectious animal diseases and metabolic disorders in animals and the requirements for their implementation in accordance with methodological guidelines, instructions, instructions, rules for diagnosis, prevention and treatment of animals

The PC-18 is capable of carrying out veterinary and sanitary expertise, controlling the production and certification of livestock products, beekeeping, water fishing and feed, as well as transporting animals and cargo during export-import operations to ensure food security, and conducting a sanitary assessment of livestock premises and structures.

PC-18ID-1 Be able to conduct veterinary and sanitary pre-slaughter inspection of animals and poultry, post-slaughter veterinary and sanitary examination of carcasses and organs; correctly assess the quality and control of agricultural output; assess the suitability of controlled products by organoleptic properties and results of laboratory studies using digital technologies, control the operating parameters of all stages of processing of livestock raw materials to organize and control the loading and transportation of slaughtered animals, raw materials, products of animal and vegetable origin; to determine the species of animal meat; to conduct bacteriological analysis of meat and meat products; to use methods of technochemical control of canned products of animal and vegetable origin

PC-18ID-2 Know state standards in the field of veterinary and sanitary assessment and control of production of safe products of animal husbandry, beekeeping, water fishing and feed, as well as plant products; rules for veterinary and sanitary examination and quality control of animal food; preventive measures to prevent zoonoses; modern means and methods of disinfection, disinsection and deratization of slaughterhouses and meat processing enterprises; norms and rules for the organization and control of transportation of animals, raw materials, animal products, beekeeping products and water fisheries; biology and life cycles of animals-pathogens of zoonoses, as well as factors that favor their spread; basic concepts and terms in the field of quality assessment of animal slaughter products, their use in the production of animal products. chemical composition, nutritional value, quality factors

4. PLACE OF R & D IN THE STRUCTURE OF OBOR

Research work is a mandatory part of the second block of the curriculum (B2.O. 05(N)). The total labor intensity of R & D is 2 credits - 72 hours, the R & D program is performed by full-time students in the 10th semester, full - time and part-time students in the 12th semester, and part-time students in the 6th year in accordance with the curriculum and schedule of the educational process in the specialty 36.05.01 Veterinary Medicine.

5. RESEARCH SCOPE

5.1. Scope of research for full-time education

Type of practice	Semester	TOTAL:
	10	
Research work (obtaining primary skills of research work), h./ZE	72/2	72/2
Classroom work, h.	4	4
Independent work, h., of which:	67.7	67.7
Practical training (PP)	40	40
Control	0.3	0.3
Type of intermediate certification	Offset	
TOTAL, h. / ZE:	72/2	72/2

6. RESEARCH CONTENT

Students ' development of the research program is carried out in several stages: preparatory, experimental and final.

6.1. Research content for full-time education

#	Stages (sections) Practice stages (sections)	Content of the practice	stage (section) Competencies being formed	Labor intensity (hours/day)	Types of academic work, including independent work of students and labor intensity (in hours)				Seme ster	Form of current control and prom.Atte stations
					Classroom work, hour., of	which Independent work, hour., of which:	PP	Control		

1	preparatory	<p>Planning of research work, including familiarization with the topic of research work in this area, and the choice of research topic</p> <p>A) Educational competencies UK-1 Is able to carry out a critical analysis of problem situations based on a systematic approach, develop a strategy for the actions of CC-1ID-1 To know the methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis. CC-1ID-2 To be able to acquire new knowledge based on analysis, synthesis, etc.; to collect and summarize data on current scientific problems related to the professional field; to search for information and solutions based on actions, experiments, experience, information and communication technologies. UK-1ID-3 Master the study of the problem of professional activity using analysis, synthesis and other methods of intellectual activity, including the use of information and communication technologies; identifying problems and using adequate methods to solve them; demonstrating value judgments in solving problematic professional situations. UK-2 is able to manage a project at all stages of its life cycle UK-2ID-1 Knows the methods of presenting and describing the results of project activities, including on the basis of digital technologies; methods, criteria and parameters for evaluating the results of project implementation; principles, methods and requirements for project work. UK-2ID-2 Be able to justify the</p>	18/0. 5		1	169	10	0.075	10	Current
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			<p>theoretical and practical significance of the results obtained; check and analyze project documentation; predict the development of processes in the project professional field; put forward innovative ideas and non-standard approaches to their solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.</p> <p>UK-2ID-3 Master project management in the field of relevant professional activities, including on the basis of digital technologies; distribution of tasks and motivation to achieve goals; management of the development of the project specification, management of the implementation of specialized project work and the process of discussing and finalizing the project; participation in the development of the project specification, development of the project implementation program in professional area; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; determination of requirements for the results of project implementation.</p> <p>UK-4 Able to apply modern communication technologies, including in a foreign language(s), for academic and professional interaction</p> <p>UK-4ID-1 Know computer and information and communication technologies, information and digital infrastructure in the organization; communication in professional ethics;</p>							
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			<p>factors for improving communication in the organization, communication technologies in professional interaction characteristics of communication flows; the importance of communication in professional interaction; methods of studying the communicative potential of the individual; modern means of information and communication technologies.</p> <p>UK-4ID-2 To be able to create written texts of scientific and official-business speech styles on professional issues in Russian and foreign languages; to study the passage of information on managerial communications; to determine internal communications in the organization, including using digital technologies.</p> <p>UK-4ID-3 Master the principles of forming a communication system; analyze the system of communication links in the organization by performing oral and written communications, including in a foreign language; presenting plans and results of their own and team activities using communication technologies; technology for building effective communication in the organization; transfer of professional information in information and telecommunications networks using the following methods: modern means of information and communication technologies.</p> <p>UK-6 is able to determine and implement the priorities of its own activities and ways to improve it on the basis of self-assessment and lifelong</p>							
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			<p>education</p> <p>UK-6ID-1 Know the content of self-organization and self-education processes, their features and implementation technologies, based on the goals of improving professional activity.</p> <p>UK-6ID-2 To be able to independently build the process of mastering selected and structured information, including using digital technologies.</p> <p>UK-6ID-3 Master the techniques of self-regulation of psychoemotional and functional states.</p> <p>B) General professional competencies of OPK-2ID-3 To have an idea of the origin of living organisms, the levels of organization of living matter, favorable and unfavorable factors affecting the body; the basis for studying the ecological knowledge of the surrounding world, the laws of nature and society development; skills of observation, comparative analysis, historical and experimental modeling of the impact of anthropogenic and economic factors on live objects, including those with the use of digital technologies</p> <p>OPK-3 Able to carry out and improve professional activities in accordance with regulatory legal acts in the field of agro-industrial complex</p> <p>OPK-3ID-1 Know the basics of national and international veterinary legislation, legislation on digital technologies in the field of agro-industrial complex, specific rules and regulations governing veterinary activities at the local, national and international levels.</p>							
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			<p>OPK-3ID-3 Possess the legal framework and ethical standards in the implementation of professional activities.</p> <p>OPK-4 is able to use in professional activity methods of problem solving using modern equipment in the development of new technologies and use modern professional methodology for conducting experimental research and interpreting their results</p> <p>OPK-4ID-1 Know the technical capabilities of modern specialized equipment, methods for solving problems of professional activity.</p> <p>OPK-4ID-2 Should be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained.</p> <p>OPK-4ID-3 Possess the skills of working with specialized equipment for the implementation of tasks set during research and development of new technologies, including digital</p> <p>OPK-5 is able to draw up special documentation, analyze the results of professional activities and submit reporting documents using specialized databases</p> <p>OPK-5ID-1 Is able to apply new information technologies to solve the following tasks: perform tasks set in their professional activities, work with specialized information databases.</p> <p>OPK-5ID-2 Master the skills of working with the operating system, with text and table processors, with database management systems, with information</p>							
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			<p>and search engines on the Internet.</p> <p>OPK-5ID-3 To know new information technologies for solving tasks in their professional activities, to work with specialized information databases.</p> <p>C) Professional competencies</p> <p>PC-1 Collecting anamnesis of animal life and disease to identify the causes of diseases, conducting a general clinical study of animals in order to establish a preliminary diagnosis and determine the further research program</p> <p>PC-1ID-1 Be able to collect and analyze information about the origin and purpose of animals, the method and conditions of keeping, feeding (life history</p> <p>PC-1ID-2 Be able to collect and analyze information about the occurrence and manifestation of diseases in animals, previous illnesses, epizootological conditions (anamnesis of animal diseases), including from devices – sensors, mechanisms, tags, etc.</p> <p>PC-1ID-3 Be able to record animals to ensure safety during the clinical study</p> <p>PC-1ID-4 Be able to conduct a clinical study of animals using general methods: examination, palpation, percussion, auscultation and thermometry</p> <p>PC-1ID-5 Be able to establish a preliminary diagnosis based on the analysis of anamnesis and general methods of clinical research</p> <p>PC-1ID-7 to Know the factors of life, contributing to the emergence of infectious and non-infectious diseases</p> <p>PC-1ID-8 to Know the forms and rules</p>							
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			<p>of filling of the journal for sick animals and medical history of the animal, including electronic form, in accordance with the requirements of the veterinary reporting</p> <p>PC-1ID-9 to Know the methods of fixation of animals in the conduct of their clinical examinations</p> <p>PC-1ID-10 to Know the technique of conducting a clinical pet study using the General methods in accordance with the guidelines, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>PK-2 "development of a program of studies in animals and clinical studies of animals with the use of special (instrumental) and laboratory methods, including diagnosis"</p> <p>PC-2ИД-1 to be Able to research animals with the help of digital equipment and with the use of special (instrumental) techniques, including endoscopy, intubation, catheterization, radiography, electrocardiography, echocardiography</p> <p>PC-2ИД-2 be able to carry out the interpretation and analysis of data special (instrumental) methods animal study to verify the diagnosis of</p> <p>PC-2ИД-3 to be able to determine the reaction of the cardiovascular system of animals at various load method of functional tests</p> <p>PC-2ИД-4 to be Able to take samples of the biological material of animals for laboratory studies of</p> <p>PC-2ИД-5 to be able to perform analytical preparing, storing the studied biological material transportation to the</p>							
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			<p>laboratory</p> <p>РС-2ИД-6 to be able to carry the interpretation and analysis of data from laboratory studies of animals, the diagnosis of</p> <p>РС-2ИД-7 to Know the indications for the use of digital equipment and special (instrumental) and laboratory methods of research animals in accordance with the guidelines, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>РК-2ИД-8 to Know the Rules of safe operation with digital equipment, tools and equipment used when carrying out special (instrumental) studies of animals, including when carrying out x-ray studies of</p> <p>РС-2ИД-9 to Know the technique of conducting animal research using digital equipment and special (instrumental) methods in accordance with the guidelines, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>РК-2ИД-10 to Know the methods and technique of introducing diagnostic and radiopaque material into the animal</p> <p>РК-2ИД-11 to Know the technique of production of functional tests in animals</p> <p>РК-2ИД-12 to Know the methods of sampling and analytical sample preparation of biological material for laboratory analysis in accordance with the methodological documents regulating the sampling of biological material</p> <p>РС-3 diagnosis on the basis of the analysis of anamnesis, General, special (instrumental) and laboratory studies of РС-3ИД-1 to be able to carry out the</p>							
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			<p>diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases</p> <p>ПК-3ИД-2 To be able to use specialized information databases for the diagnosis of animal diseases</p> <p>ПК-3ИД-3 to be Able to issue the results of clinical studies of animals with the use of digital technologies</p> <p>РС-3ИД-4 to Know the interpretation and analysis of data special (instrumental) methods for the study of animal</p> <p>ПК-3ИД-5 rules to Know indicators of the status of biological material of animals of different types and causes, causes of deviations from norms</p> <p>РС-3ИД-6 to Know the etiology and pathogenesis of diseases of animals of various types of</p> <p>РС-3ИД-7 to Know the current criteria and classification of diseases of animals, approved lists of animal diseases</p> <p>ПК-4 Implementation of postmortem diagnostic studies of animals with the aim of establishing pathological processes of diseases the cause of death</p> <p>РС-4ИД-1 to be Able to collect the anamnesis of life and disease of animals examined after the death</p> <p>of the РС 4ИД-2 to be able to produce a General examination of dead animals before opening</p> <p>the РС-4ИД-3 to be Able to perform an autopsy of dead animals with the use of special tools and compliance with safety requirements</p> <p>РС-4ИД-4 be able to carry out the selection and fixation of samples of</p>							
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			<p>pathological material for laboratory research using digital technologies</p> <p>РС-4ИД-5 to be able to establish the cause of death and postmortem diagnosis in accordance with generally accepted criteria and classifications lists of animal diseases</p> <p>РК-4ИД-6 to be Able to issue the results of post-mortem diagnostic examination of the animal in the autopsy report, including with the use of digital technologies</p> <p>РС-4ИД-7 Knowing veterinary-sanitary requirements to the process of opening the animal in accordance with the legislation of the Russian Federation in the field of veterinary</p> <p>РК-4ИД-8 to Know the rules of work with special tools by opening the corpses of animals</p> <p>РК-4ИД-9 to Know the methods and techniques of autopsy of animals of different types of</p> <p>РС-4ИД-10 to Know the method of selection and fixation of samples of pathological material for laboratory testing in accordance with the rules in this area</p> <p>РС-4ИД-11 Know the procedures and Protocol of the autopsy of the animal, including using digital technology</p> <p>РК-5 Development plan for the treatment of animals on the basis of diagnosis and the individual characteristics of the animals the selection of essential drugs, chemical and biological nature to treat animals based on their cumulative pharmacological action on the body</p>							
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			<p>of the PC 5ИД-1 to be able to use specialized information databases selecting methods of treatment of animals</p> <p>is a PC-5ИД-2 to be able to count the number of medicines for the treatment and prevention of animal diseases with the preparation of recipes for a period</p> <p>ПК-5ИД-3 to be able to count the number of medicines for the treatment and prevention of animal diseases with the preparation of recipes for a period of time including using digital technologies</p> <p>PC-5ИД-4 to be Able to introduce drugs into the animal organism in various ways</p> <p>ПК-5ИД-5 to Know the methods of medical treatment of sick animals and indications for their use in accordance with the guidelines, regulations, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>ПК-5ИД-6 Know the state register of medicinal products for veterinary use</p> <p>PC-5ИД-7 to Know the pharmacological and Toxicological characteristics of pharmaceutical raw materials, medicines, chemical and biological nature of dietary supplements for the prevention and treatment of animal diseases of various etiologies</p> <p>PC-5ИД-8 to Know the technique of drug administration into the body of the animal enteral (oral, sublingual, and rectal) and parenteral (injections, pulmonary and cutaneous application) ways</p> <p>ПК-6 the Choice of methods of non-pharmacological treatments, including</p>								
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			<p>physical therapy methods for the treatment of animals, carrying out medical, including physiotherapy with the use of special equipment safety</p> <p>ПК-6ИД-1 to be able to use the special, including digital equipment, during treatment, including physiotherapy in accordance with the operating instructions</p> <p>of the РС 6ИД-2 to be able to capture animals for safety during medical procedures</p> <p>ПК-6ИД-3 be able to maintain the accounting records for diseases and treatment of the animals with the use of digital technologies</p> <p>РС-6ИД-4 to Know the types of non-pharmacological treatments including physical therapy, used in veterinary medicine, and indications for their use</p> <p>РС-6ИД-5 to Know the rules of safe work with special equipment when conducting non-pharmacological effects on the animal organism</p> <p>РС-6ИД-6 to Know the methods and techniques of non-pharmacological effects on the animal organism</p> <p>РС-6ИД-7 to Know methods of fixation of animals in their treatment of</p> <p>РС-6ИД-8 to Know the forms and rules of filling of the journal for sick animals and medical history of the animal in accordance with the requirements of veterinary accounting including in digital format</p> <p>РС-7 determine whether the use of operative-surgical methods in treatment of animals, the development plan for the surgery, including the choice of the</p>							
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			<p>method of anesthesia</p> <p>PC-7ИД-1 to be able to produce anesthesia of the animals before surgery with use of a narcotic, neuroleptic and local anaesthetic drugs</p> <p>ПК-7ИД-2 Know the operative methods of treatment of animals and the indications for their use</p> <p>PC-7ИД-3 to Know the remedies. used for analgesia of animals in veterinary surgery. doses and methods of their use, side effects</p> <p>PC-8 Performing surgical intervention in the body of animals in the treatment of various diseases, castration, sterilization, for cosmetic purposes</p> <p>PC-8ID-1 Be able to dissect animal tissues using surgical instruments to create operational access to the affected organ or tissues</p> <p>PC-8ID-2 Be able to perform surgical procedures for the treatment of various diseases. surgical intervention with the use of surgical instruments on the affected organ or tissues to ensure the effectiveness of surgical treatment</p> <p>PC-8ID-3 Be able to stop bleeding using mechanical, physical, chemical and biological methods</p> <p>PC-8ID-4 Be able to connect the tissue in bloodless and bloody ways, drain cavities, apply bandages using dressing and frame materials</p> <p>PC-8ID-5 Know the rules of use of special equipment in the operating room, surgical instruments and dressings</p> <p>PC-8ИД-6 to Know the technique of surgery in veterinary medicine</p>							
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			<p>PC-8ИД-7 to Know the types and techniques of sutures and dressings used in veterinary surgery</p> <p>PC-9 Development of recommendations for the special feeding of sick animals for therapeutic purposes</p> <p>PK-9ИД-1 Know the types of dietary regimes, the principles of the selection of food with the use of digital technologies, norms, modes of feeding in the diet of animals</p> <p>PK-10 re-examinations and studies in animals to evaluate the efficacy and safety of prescribed treatment plan adjustment treatment of animals (if necessary) based on the results of assessment of efficiency of treatment of</p> <p>PC-10ИД-1 to be able to evaluate the effectiveness of treatment of</p> <p>PC-10ИД-2 be able to use specialized information databases in the choice of methods of treatment of animal diseases</p> <p>PK-10ИД-3 to Know the methods of medical treatment of sick animals and indications for their use in accordance with the guidelines, regulations, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>PK-11 Development of the annual plan of anti-epidemic measures, prevention of non-communicable diseases of animals, plan veterinary and sanitary measures</p> <p>PK-11ИД-1 to be able to collect and analyze information, including veterinary data statistics that are required for the planning of preventive anti-epidemic measures, prevention of non-communicable animal diseases, veterinary and sanitary measures</p>							
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			<p>ПК-11ИД-2 Know the methods of collection and analysis of information for veterinary planning, including the use of information databases</p> <p>ПК-12 preventive clinical trials animals check veterinary and sanitary condition and climate of livestock buildings in accordance with the plan of anti-epidemic measures, prevention of non-communicable diseases of animals. plan of veterinary and sanitary measures</p> <p>PC-12ИД-1 " To be able to conduct clinical studies of animals using digital technologies in the framework of the implementation of action plans for the prevention of diseases of animals"</p> <p>PC-12ИД-2 be able to evaluate the influence of the conditions of keeping and feeding animals on their state of health in the framework of the implementation of action plans for the prevention of animal diseases</p> <p>ПК-12ИД-3 be able to carry out veterinary quality control and fodder for the animals to ensure their veterinary and sanitary safety in the framework of the implementation of action plans for the prevention of animal diseases</p> <p>ПК-12 ANDD-4 to Know the recommended form of the plan of anti-epidemic measures, prevention of non-communicable diseases of animals, plan veterinary and sanitary measures</p> <p>ПК-12ИД-5 to Know the procedure of internal control veterinary and sanitary state of the object and microclimate in livestock houses using digital equipment</p> <p>PC 12ИД-6 to Know the standard values of the parameters of the microclimate in</p>							
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			<p>livestock buildings</p> <p>PK-13 Organization of measures to protect the organization against the introduction of infectious and invasive diseases in accordance with the plan of anti-epidemic measures aimed</p> <p>PC-13ИД-1 Know the types of measures to ensure veterinary and sanitary safety requirements and their implementation in accordance with the legislation of the Russian Federation in the field of veterinary</p> <p>PK-14 Organization of routine immunization (vaccination), preventive and curative treatments of animals in accordance with the plan of anti-epidemic measures, analysis of the effectiveness of interventions for the prevention of animal diseases with the aim of improving</p> <p>PC-14ИД-1 to be able to assess the effectiveness of preventive measures and their implementation, including using digital technologies</p> <p>PC-14ИД-2 to Know the procedure for conducting clinical studies of animals in the planning of preventive measures</p> <p>PK-14ИД-3 Know the types of antiepidemic measures and requirements to conduct them in accordance with the guidelines, regulations, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>PK-15 Organization organizational, technical, zootechnical and veterinary measures aimed at prevention of non-communicable diseases in accordance with the terms of prevention of non-communicable diseases of animals,</p>							
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			<p>analysis of the effectiveness of interventions for the prevention of animal diseases with the aim of improving</p> <p>PC-15ИД-1 to be able to evaluate the influence of the conditions of keeping and feeding animals on their state of health in the framework of the implementation of action plans for the prevention of animal diseases with the use of digital technologies</p> <p>PC-15ИД-2 be able to assess the effectiveness of preventive measures and their implementation, including with the use of digital technologies</p> <p>PC-15ИД-3 be able to carry out veterinary quality control and fodder for the animals to ensure their veterinary and sanitary safety in the framework of the implementation of action plans for the prevention of animal diseases</p> <p>PK-15ИД-4 to be able to produce through clinical examination, diagnostic testing of animals for the timely detection of early preclinical and clinical signs of illness</p> <p>PC-15ИД-5 Know the types of interventions for the prevention of non-communicable diseases and metabolic disorders in animals, and requirements to conduct them in accordance with the methodological instructions, instructions, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>PK-16 Organization of disinfection and disinfection of livestock premises to ensure veterinary and sanitary well-being, in accordance with the plan</p>							
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			<p>veterinary and sanitary measures, analysis of the effectiveness of interventions for the prevention of animal diseases with the aim of improving</p> <p>PC-16ИД-1 to be able to assess the effectiveness of preventive measures and their implementation including with end-to-end digital technology</p> <p>PK-16ID-2 Know the types of measures to ensure veterinary and sanitary safety requirements and their implementation in accordance with the legislation of the Russian Federation in the field of veterinary</p> <p>PK-17 is a plan of the clinical examination of animals based on their types and purpose, the conduct of clinical examination with the aim of preserving animal health and increase their productivity, the development of recommendations for curative and preventive and therapeutic measures on the basis of the results of examination of the animals carried out through clinical examination</p> <p>of the PC 17ИД-1 to be able to produce through clinical examination, diagnostic testing of animals, in particular, with the use of digital equipment, in order to detect early preclinical and clinical signs of illness</p> <p>PC-17ИД-2 to Know the methods of clinical examination of the animals in accordance with the guidelines in force in the field</p> <p>of PK-17ИД-3 Know the types of interventions for the prevention of non-communicable diseases and metabolic</p>							
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			<p>disorders in animals, and requirements to conduct them in accordance with the guidelines, regulations, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>PK-18 is Capable of conducting veterinary and sanitary examination, to control the production and certification of products of animal husbandry, beekeeping, fisheries and animal feed, as well as the transport of animals and goods for export and import operations to ensure food security, to conduct a health assessment of livestock buildings and structures</p> <p>ПК-18ИД-1 to be Able to carry out veterinary-sanitary inspection of slaughter animals and poultry, slaughter veterinary-sanitary examination of carcasses and organs; to properly assess the quality and control the production of agricultural products; to assess the suitability of the controlled product according to the organoleptic properties and the results of laboratory studies with the use of digital technologies, control modes operating parameters of all parts of the processing of animal raw materials; organize and control the loading and transport of animals for slaughter, raw materials, products of animal and vegetable origin; to determine the species of meat animals; to carry out bacteriological analysis of meat and meat products; use of technochemical control methods of canned products of animal and vegetable origin</p> <p>PC-18ИД-2 Know state standards in the</p>							
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			field of veterinary and sanitary assessment and control of production of safe products of animal husbandry, beekeeping, water fishing and feed, as well as plant products; rules for veterinary and sanitary expertise and quality control of food of animal origin; preventive measures to prevent zoonoses; modern means and methods of disinfection, disinsection and deratization of slaughterhouses and slaughterhouses. meat processing enterprises; norms and rules for the organization and control of transportation of animals, raw materials, products of animal origin, beekeeping products and water fisheries; biology and life cycles of animals-pathogens of zoonoses, as well as factors that favor their spread; basic concepts and terms in the field of quality assessment of animal slaughter products, their chemical composition, nutritional value, quality factors							
2	production) Conducting research work; analyzing the results of experimental data	<p>A) Educational competencies</p> <p>UK-1 is able to carry out a critical analysis of problem situations based on a systematic approach, develop a strategy for actions</p> <p>UK-1ID-1 Know methods of critical analysis and evaluation of modern scientific research achievements; basic principles of critical analysis.</p> <p>CC-1ID-2 To be able to acquire new knowledge based on analysis, synthesis, etc.; to collect and summarize data on current scientific problems related to the professional field; to search for</p>	36/1	2	33.85	20	0.15	10	Current

			<p>information and solutions based on actions, experiments, experience, information and communication technologies.</p> <p>UK-1ID-3 Master the study of the problem of professional activity using analysis, synthesis and other methods of intellectual activity, including the use of information and communication technologies; identifying problems and using adequate methods to solve them; demonstrating value judgments in solving problematic professional situations.</p> <p>UK-2 is able to manage a project at all stages of its life cycle</p> <p>UK-2ID-1 Knows the methods of presenting and describing the results of project activities, including on the basis of digital technologies; methods, criteria and parameters for evaluating the results of project implementation; principles, methods and requirements for project work.</p> <p>UK-2ID-2 Be able to justify the theoretical and practical significance of the results obtained; check and analyze project documentation; predict the development of processes in the project professional field; put forward innovative ideas and non-standard approaches to their solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.</p> <p>UK-2ID-3 Master project management in the field of relevant professional activities, including on the basis of digital technologies; distribution of tasks</p>							
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			<p>and motivation to achieve goals; management of the development of the project specification, management of the implementation of specialized project work and the process of discussing and finalizing the project; participation in the development of the project specification, development of the project implementation program in professional area; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; determination of requirements for the results of project implementation.</p> <p>UK-4 is able to apply modern communication technologies, including in a foreign language(s), for academic and professional interaction</p> <p>UK-4ID-1 Know computer and information and communication technologies, information and digital infrastructure in the organization; communication in professional ethics; factors for improving communication in the organization, communication technologies in professional interaction; characteristics of communication flows; the importance of communication in professional interaction; methods for studying the communicative potential of an individual; modern means of information and communication technologies.</p> <p>UK-4ID-2 To be able to create written texts of scientific and official-business speech styles on professional issues in Russian and foreign languages; to study</p>							
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			<p>the passage of information on managerial communications; to determine internal communications in the organization, including using digital technologies.</p> <p>UK-4ID-3 Master the principles of forming a communication system; analyze the system of communication links in the organization by performing oral and written communications, including in a foreign language; presenting plans and results of their own and team activities using communication technologies; technology for building effective communication in the organization; transfer of professional information in information and telecommunications networks using the following methods: modern means of information and communication technologies.</p> <p>UK-6 is able to determine and implement the priorities of its own activities and ways to improve it on the basis of self-assessment and lifelong education</p> <p>UK-6ID-1 Know the content of self-organization and self-education processes, their features and implementation technologies, based on the goals of improving professional activity.</p> <p>UK-6ID-2 To be able to independently build the process of mastering selected and structured information, including using digital technologies.</p> <p>UK-6ID-3 Master the techniques of self-regulation of psychoemotional and functional states.</p>							
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			<p>B) General professional competencies of OPK-2ID-3 Possess an idea of the origin of living organisms, the levels of organization of living matter, the favorable and unfavorable factors affecting the body; the basis for studying the ecological knowledge of the surrounding world, the laws of nature and society; the skills of observation, comparative analysis, historical and experimental modeling of the impact of anthropogenic and economic factors on living objects, including with the use technologies</p> <p>of OPK-3ID-1 is able to carry out and improve professional activities in accordance with regulatory legal acts in the field of agro-industrial complex</p> <p>OPK-3ID-1 Know the basics of national and international veterinary legislation, legislation on digital technologies in the field of agro-industrial complex, specific rules and regulations governing veterinary activities at the local, national and international levels.</p> <p>OPK-3ID-3 Possess the legal framework and ethical standards in the implementation of professional activities.</p> <p>OPK-4 is able to use in professional activity methods of problem solving using modern equipment in the development of new technologies and use modern professional methodology for conducting experimental research and interpreting their results</p> <p>OPK-4ID-1 Know the technical capabilities of modern specialized equipment, methods for solving</p>							
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			<p>problems of professional activity.</p> <p>OPK-4ID-2 Should be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained.</p> <p>OPK-4ID-3 Possess the skills of working with specialized equipment for the implementation of tasks set during research and development of new technologies, including digital</p> <p>OPK-5 is able to draw up special documentation, analyze the results of professional activities and submit reporting documents using specialized databases</p> <p>OPK-5ID-1 Is able to apply new information technologies to solve the following tasks: perform tasks set in their professional activities, work with specialized information databases.</p> <p>OPK-5ID-2 Master the skills of working with the operating system, with text and table processors, with database management systems, with information and search engines on the Internet.</p> <p>OPK-5ID-3 To know new information technologies for solving tasks in their professional activities, to work with specialized information databases.</p> <p>C) Professional competencies</p> <p>PC-1 Collecting anamnesis of animal life and disease to identify the causes of diseases, conducting a general clinical study of animals in order to establish a preliminary diagnosis and determine the further research program</p> <p>PC-1ID-1 Be able to collect and analyze</p>							
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			<p>information about the origin and purpose of animals, the method and conditions of keeping, feeding (life history animals), including from devices such as sensors, mechanisms, sensors, tags, etc.</p> <p>PC-1ID-2 to be able to collect and analyse information about the origin and manifestation of the disease in animals previously transferred diseases, epizootic situation (the clinical history of animals), including devices, sensors, mechanisms, sensors, labels, etc.</p> <p>PC-1ID-3 to be able to capture animals for safety during clinical trials of</p> <p>PC-1ID-4 to be able to produce a clinical study of the animals using the General methods: inspection, palpation, percussion, auscultation and thermometry</p> <p>PC-1ID-5 be able to establish a preliminary diagnosis based on the analysis of anamnesis and clinical studies General methods</p> <p>PC-1ID-7 to Know the factors of life, contributing to the emergence of infectious and non-infectious diseases</p> <p>PC-1ID-8 to Know the forms and rules of filling of the journal for sick animals and medical history of the animal, including the electronic form in accordance with the requirements of veterinary reporting</p> <p>PC-1ID-9 to Know the methods of fixation of animals in the conduct of their clinical examinations</p> <p>PC-1ID-10 to Know the technique of conducting a clinical pet study using the General methods in accordance with the guidelines, instructions, rules, diagnosis,</p>							
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			<p>prevention and treatment of animals</p> <p>ПК-2 "development of a program of studies in animals and clinical studies of animals with the use of special (instrumental) and laboratory methods including diagnosis"</p> <p>РС-2ИД-1 to be Able to research animals with the help of digital equipment and with the use of special (instrumental) techniques, including endoscopy, intubation, catheterization, radiography, electrocardiography, echocardiography</p> <p>РС-2ИД-2 be able to carry out the interpretation and analysis of data special (instrumental) methods animal study to verify the diagnosis of</p> <p>РС-2ИД-3 be able to determine the reaction of the cardiovascular system of animals at various load method of functional tests</p> <p>РС-2ИД-4 to be Able to take samples of the biological material of animals for laboratory studies of</p> <p>РС-2ИД-5 to be able to perform analytical preparing, storing the studied biological material, transportation to the laboratory</p> <p>РС-2ИД-6 to be able to carry the interpretation and analysis of data from laboratory studies of animals, the diagnosis of</p> <p>РС-2ИД-7 to Know the indications for the use of digital equipment and special (instrumental) and laboratory studies of animals in accordance with the guidelines, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>ПК-2ИД-8 to Know the Rules of</p>								
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			<p>safe operation with digital equipment, tools and equipment used when carrying out special (instrumental) studies of animals, including when carrying out x-ray studies of</p> <p>ПК-2ИД-9 to Know the technique of conducting animal research using digital equipment and special (instrumental) methods in accordance with the guidelines, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>ПК-2ИД-10 to Know the methods and technique of introducing diagnostic and radiopaque material into the animal</p> <p>ПК-2ИД-11 to Know the technique of production of functional tests in animals</p> <p>ПК-2ИД-12 to Know the methods of sampling and analytical sample preparation of biological material for laboratory analysis in accordance with the methodological documents regulating the sampling of biological material</p> <p>ПК-3 diagnosis based on the analysis of anamnesis, General, special (instrumental) and laboratory studies</p> <p>ПК-3ИД-1 to be able to carry out the diagnosis in accordance with generally accepted criteria and classifications lists of animal diseases</p> <p>ПК-3ИД-2 be able to use specialized information databases for the diagnosis of animal diseases</p> <p>ПК-3ИД-3 to be Able to issue the results of clinical studies of animals with the use of digital technologies</p> <p>ПК-3ИД-4 to Know the techniques of data interpretation and analysis special (instrumental) methods for the study of</p>							
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			<p>animal</p> <p>ПК-3ИД-5 rules to Know indicators of the status of biological material of animals of different types and causes, causes of deviations from norms</p> <p>РС-3ИД-6 to Know the etiology and pathogenesis of diseases of animals of various types of</p> <p>РС-3ИД-7 to Know the current criteria and classification of diseases of animals, approved lists of animal diseases</p> <p>ПК-4 Implementation of postmortem diagnostic studies of animals with the aim of establishing pathological processes of diseases the cause of death</p> <p>РС-4ИД-1 to be Able to collect the anamnesis of life and disease of animals examined after the death</p> <p>of the РС 4ИД-2 to be able to produce a General examination of dead animals before opening</p> <p>the РС-4ИД-3 to be Able to perform an autopsy of dead animals with the use of special tools and compliance with safety requirements</p> <p>РС-4ИД-4 be able to carry out the selection and fixation of samples of pathological material for laboratory research using digital technologies</p> <p>РС-4ИД-5 to be able to establish the cause of death and postmortem diagnosis in accordance with the generally accepted criteria and classifications lists of animal diseases</p> <p>ПК-4ИД-6 to be Able to issue the results of post-mortem diagnostic examination of the animal in the autopsy report, including with the use of digital technologies</p>							
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			<p>РС-4ИД-7 Knowing veterinary-sanitary requirements to the process of opening the animal in accordance with the legislation of the Russian Federation in the field of veterinary</p> <p>РК-4ИД-8 to Know the rules of work with special tools by opening the corpses of animals</p> <p>РК-4ИД-9 to Know the methods and techniques of autopsy of animals of different types of</p> <p>РС-4ИД-10 to Know the method of selection and fixation of samples of pathological material for laboratory testing in accordance with the rules in this area</p> <p>РС-4ИД-11 to Know the procedures and Protocol of the autopsy of the animal, in particular, with the use of digital technology</p> <p>РК-5 Development plan for the treatment of animals on the basis of diagnosis and the individual characteristics of the animals, the selection of essential drugs, chemical and biological nature to treat animals based on their cumulative pharmacological action on the body of the PC 5ИД-1 to be able to use specialized information databases selecting methods of treatment of animals</p> <p>is a РС-5ИД-2 to be able to count the number of medicines for the treatment and prevention of animal diseases with the preparation of recipes for a period</p> <p>РС-5ИД-3 to be able to count the number of medicines for the treatment and prevention of animal diseases with</p>							
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			<p>the preparation of recipes for a specified period, including using digital technologies</p> <p>РС-5ИД-4 to be Able to introduce drugs into the animal organism in various ways</p> <p>РК-5ИД-5 to Know the methods of medical treatment of sick animals and indications for their use in accordance with the guidelines, regulations, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>РК-5ИД-6 Know the state register of medicinal products for veterinary use</p> <p>РС-5ИД-7 to Know the pharmacological and Toxicological characteristics of pharmaceutical raw materials, medicines, chemical and biological nature of dietary supplements for the prevention and treatment of animal diseases of various etiologies</p> <p>РС-5ИД-8 to Know the technique of drug administration into the body of the animal enteral (oral, sublingual, and rectal) and parenteral (injections, pulmonary and cutaneous application) ways</p> <p>РК-6 the Choice of methods of non-pharmacological treatments including physical therapy methods for the treatment of animals, the treatment, including physiotherapy with the use of special equipment safety</p> <p>РК-6ИД-1 to be able to use the special, including digital equipment, during the treatment, including physiotherapeutic procedures in accordance with the operating instructions</p> <p>of the РС 6ИД-2 to be able to capture</p>								
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			<p>animals for safety during medical procedures</p> <p>ПК-6ИД-3 be able to maintain the accounting records for diseases and treatment of the animals with the use of digital technologies</p> <p>РС-6ИД-4 to Know the types of non-pharmacological treatments, including physical therapy, used in veterinary medicine, and indications for their use</p> <p>РС-6ИД-5 to Know the rules of safe work with special equipment when conducting non-pharmacological effects on the animal organism</p> <p>РС-6ИД-6 to Know the methods and techniques of non-pharmacological effects on the animal organism</p> <p>РС-6ИД-7 to Know methods of fixation of animals in their treatment of</p> <p>РС-6ИД-8 to Know the forms and rules of filling of the journal for sick animals and medical history of the animal in accordance with the requirements of veterinary accounting including in digital format</p> <p>РС-7 determine whether the use of operative-surgical methods in treatment of animals, the development plan for the surgery, including the choice of the method of anesthesia</p> <p>РС-7ИД-1 to be able to produce anesthesia of the animals before surgery with use of a narcotic, neuroleptic and local anaesthetic drugs</p> <p>ПК-7ИД-2 Know the operative methods of treatment of animals and the indications for their use</p> <p>РС-7ИД-3 to Know the remedies. used for analgesia of animals in veterinary</p>							
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			<p>surgery. doses and methods of their use, side effects</p> <p>PC-8 Performing surgical intervention in the body of animals in the treatment of various diseases, castration, sterilization, for cosmetic purposes</p> <p>PC-8ID-1 Be able to dissect animal tissues using surgical instruments to create operational access to the affected organ or tissues</p> <p>PC-8ИД-2 be able to carry out surgery using surgical tools to the affected organ or tissue to ensure the effectiveness of the operational impact</p> <p>PC-8ИД-3 be able to stop the bleeding with the use of mechanical, physical, chemical and biological methods</p> <p>PC-8ИД-4 to be able to produce fabric connection bloodless and bloody ways of the cavity drainage, dressing, using the dressing and frame material</p> <p>PC-8ИД-5 to Know the rules of use of special equipment in the operating room surgical instruments and dressings</p> <p>PC-8ИД-6 to Know the technique of surgery in veterinary medicine</p> <p>PC-8ИД-7 to Know the types and techniques of sutures and dressings used in veterinary surgery</p> <p>PC-9 Development of recommendations for the special feeding of sick animals for therapeutic purposes</p> <p>ПК-9ИД-1 Know the types of dietary regimes, the principles of the selection of food with the use of digital technologies, norms, modes of feeding in the diet of animals</p> <p>ПК-10 re-examinations and studies in</p>							
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			<p>animals to evaluate the efficacy and safety of treatment, plan adjustment treatment of animals (if necessary) based on the results of assessment of efficiency of treatment of</p> <p>ПК-10ИД-1 to be able to evaluate the effectiveness of treatment of</p> <p>ПК-10ИД-2 be able to use specialized information databases in the choice of methods of treatment of animal diseases</p> <p>ПК-10ИД-3 to Know the methods of medical treatment of sick animals and indications for their use in accordance with the guidelines, regulations, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>ПК-11 Development of the annual plan of anti-epidemic measures, prevention of non-communicable diseases of animals, plan veterinary and sanitary measures</p> <p>ПК-11ИД-1 to be able to collect and analyze information, including veterinary data statistics that are required for the planning of preventive anti-epidemic measures, prevention of non-communicable animal diseases, veterinary and sanitary measures</p> <p>ПК-11ИД-2 Know the methods of collection and analysis of information for veterinary planning, including the use of information databases</p> <p>ПК-12 preventive clinical examination of animals, check veterinary and sanitary condition and climate of livestock buildings in accordance with the plan of anti-epidemic measures, prevention of non-communicable diseases of animals. plan of veterinary and sanitary measures</p> <p>ПК-12ИД-1 "Be able to conduct clinical</p>							
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			<p>studies of animals using digital technologies in the framework of implementing action plans for the prevention of animal diseases"</p> <p>PC-12ID-2 Be able to assess the impact of animal care and feeding conditions on their health in the framework of implementing action plans for the prevention of animal diseases</p> <p>PC-12ID-3 Be able to carry out veterinary quality control and procurement of animal feed in order to ensure their veterinary and sanitary safety within the framework of implementing action plans for the prevention of animal diseases</p> <p>PK-12ID-4 Know the recommended forms of the anti-epizootic action plan, the prevention plan for non-infectious animal diseases, the veterinary and sanitary action plan</p> <p>PC-12ИД-5 to Know the procedure of internal control veterinary and sanitary state of the object and climate of livestock buildings, using digital equipment</p> <p>PC 12ИД-6 to Know the standard values of the parameters of the microclimate in livestock buildings</p> <p>PK-13 Organization of measures to protect the organization against the introduction of infectious and invasive diseases in accordance with the plan of anti-epidemic measures aimed</p> <p>PC-13ИД-1 Know the types of measures to ensure veterinary and sanitary safety requirements and their implementation in accordance with the legislation of the Russian Federation in the field of</p>							
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			<p>veterinary</p> <p>PK-14 Organization of routine immunization (vaccination)therapeutic treatments of animals in accordance with the plan of anti-epidemic measures, analysis of the effectiveness of interventions for the prevention of animal diseases with the aim of improving</p> <p>PC-14ИД-1 to be able to assess the effectiveness of preventive measures and their implementation, including using digital technologies</p> <p>PC-14ИД-2 Know the procedure for conducting clinical studies of animals in the planning of preventive measures</p> <p>PK-14ИД-3 Know the types of antiepidemic measures and requirements to conduct them in accordance with the guidelines, regulations, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>PK-15 Organization organizational, technical, zootechnical and veterinary measures aimed at prevention of non-communicable diseases in accordance with the terms of prevention of non-communicable diseases of animals, analysis of the effectiveness of interventions for the prevention of animal diseases with the aim of improving</p> <p>PC-15ИД-1 to be able to evaluate the influence of the conditions of keeping and feeding animals on their state of health in the framework of the implementation of action plans for the prevention of animal diseases with the use of digital technologies</p>							
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			<p>PC-15ИД-2 be able to assess the effectiveness of preventive measures and their implementation, including using digital technologies</p> <p>PC-15ИД-3 be able to carry out veterinary quality control and fodder for the animals to ensure their veterinary and sanitary safety in the framework of the implementation of action plans for the prevention of animal diseases</p> <p>PK-15ИД-4 to be able to produce through clinical examination, diagnostic testing of animals for the timely detection of early preclinical and clinical signs of illness</p> <p>PC-15ИД-5 to Know the types of interventions for the prevention of non-communicable diseases and metabolic disorders in animals, and requirements to conduct them in accordance with the guidelines, regulations, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>PK-16 Organization of disinfection and disinfection of livestock premises to ensure veterinary and sanitary well-being, in accordance with the plan veterinary and sanitary measures, analysis of the effectiveness of interventions for the prevention of animal diseases with the aim of improving</p> <p>PC-16ИД-1 to be able to assess the effectiveness of preventive measures and their implementation, including through cross-cutting digital technologies</p> <p>PC-16ИД-2 Know the types of measures to ensure veterinary and sanitary safety requirements and their implementation</p>							
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			<p>in accordance with the legislation of the Russian Federation in the field of veterinary</p> <p>PK-17 is a plan of the clinical examination of animals based on their types and purpose, the conduct of clinical examination with the aim of preserving animal health and increase their productivity, the development of recommendations for curative and preventive and therapeutic measures based on the results of screening carried out through clinical examination of the PC 17ИД-1 to be able to produce through clinical examination, diagnostic testing of animals, in particular, with the use of digital equipment for the timely detection of early preclinical and clinical signs of illness</p> <p>PC-17ИД-2 to Know the methods of clinical examination of the animals in accordance with the guidelines in force in the field</p> <p>of PK-17ИД-3 Know the types of interventions for the prevention of non-communicable diseases and metabolic disorders in animals, and requirements to conduct them in accordance with the methodological instructions, instructions, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>PK-18 is Capable of conducting veterinary and sanitary examination, to control the production and certification of products of animal husbandry, beekeeping, fisheries and animal feed, as well as the transport of animals and goods for export and import operations</p>								
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			<p>to ensure food security, to conduct a health assessment of livestock buildings and structures</p> <p>ПК-18ИД-1 to be Able to carry out veterinary-sanitary inspection of slaughter animals and poultry, slaughter veterinary-sanitary examination of carcasses and organs; to properly assess the quality and control the production of agricultural products; assess the suitability of the controlled product according to the organoleptic properties and the results of laboratory studies with the use of digital technologies, control modes operating parameters of all parts of the processing of animal raw materials; organize and control the loading and transport of animals for slaughter, raw materials, products of animal and vegetable origin; to determine the species of meat animals; to carry out bacteriological analysis of meat and meat products; use of technochemical control methods of canned products of animal and vegetable origin</p> <p>PC-18ID-2 Know state standards in the field of veterinary and sanitary assessment and control of production of safe products of animal husbandry, beekeeping, water fishing and feed, as well as plant products; rules for veterinary and sanitary examination and quality control of animal food; preventive measures to prevent zoonoses; modern means and methods of disinfection, disinsection and deratization of slaughterhouses and meat processing enterprises; norms and rules</p>							
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			for the organization and control of transportation of animals, raw materials, animal products, beekeeping products and water fisheries; biology and life cycles of animals-pathogens of zoonoses, as well as factors that favor their spread; basic concepts and terms in the field of quality assessment of animal slaughter products, their use in the production of animal products. chemical composition, nutritional value, quality factors							
3	final	Preparation of a report on research work according to the chosen topic	<p>A) Educational competencies</p> <p>UK-1 is able to carry out a critical analysis of problem situations based on a systematic approach, develop a strategy for actions</p> <p>UK-1ID-1 Know the methods of critical analysis and assessment of current scientific achievements; basic principles of critical analysis.</p> <p>CC-1ID-2 To be able to acquire new knowledge based on analysis, synthesis, etc.; to collect and summarize data on current scientific problems related to the professional field; to search for information and solutions based on actions, experiments, experience, information and communication technologies.</p> <p>UK-1ID-3 Master the study of the problem of professional activity using analysis, synthesis and other methods of intellectual activity, including the use of information and communication technologies; identifying problems and using adequate methods to solve them; demonstrating value judgments in solving problematic professional</p>	18/0. 5	1	16.9	10	0.075	10	Protection of the research report in the nondiff form. Offsets

			<p>situations.</p> <p>UK-2 is able to manage a project at all stages of its life cycle</p> <p>UK-2ID-1 Knows the methods of presenting and describing the results of project activities, including on the basis of digital technologies; methods, criteria and parameters for evaluating the results of project implementation; principles, methods and requirements for project work.</p> <p>UK-2ID-2 Be able to justify the theoretical and practical significance of the results obtained; check and analyze project documentation; predict the development of processes in the project professional field; put forward innovative ideas and non-standard approaches to their solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.</p> <p>UK-2ID-3 Master project management in the field of relevant professional activities, including on the basis of digital technologies; distribution of tasks and motivation to achieve goals; management of the development of the project specification, management of the implementation of specialized project work and the process of discussing and finalizing the project; participation in the development of the project specification, development of the project implementation program in professional area; organization of professional discussion of the project, participation in the management of project documentation; design of the project</p>							
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			<p>implementation schedule; determination of requirements for the results of project implementation.</p> <p>UK-4 is able to apply modern communication technologies, including in a foreign language(s), for academic and professional interaction</p> <p>UK-4ID-1 Know computer and information and communication technologies, information and digital infrastructure in the organization; communication in professional ethics; factors for improving communication in the organization, communication technologies in professional interaction; characteristics of communication flows; the importance of communication in professional interaction; methods for studying the communicative potential of an individual; modern means of information and communication technologies.</p> <p>UK-4ID-2 To be able to create written texts of scientific and official-business speech styles on professional issues in Russian and foreign languages; to study the passage of information on managerial communications; to determine internal communications in the organization, including using digital technologies.</p> <p>UK-4ID-3 Master the principles of forming a communication system; analyze the system of communication links in the organization by performing oral and written communications, including in a foreign language; presenting plans and results of their own and team activities using communication</p>							
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			<p>technologies; technology for building effective communication in the organization; transfer of professional information in information and telecommunications networks using the following methods: modern means of information and communication technologies.</p> <p>UK-6 is able to determine and implement the priorities of its own activities and ways to improve it on the basis of self-assessment and lifelong education</p> <p>UK-6ID-1 Know the content of self-organization and self-education processes, their features and implementation technologies, based on the goals of improving professional activity.</p> <p>UK-6ID-2 To be able to independently build the process of mastering selected and structured information, including using digital technologies.</p> <p>UK-6ID-3 Master the techniques of self-regulation of psychoemotional and functional states.</p> <p>B) General professional competencies of OPK-2ID-3 Possess an idea of the origin of living organisms, the levels of organization of living matter, the favorable and unfavorable factors affecting the body; the basis for studying the ecological knowledge of the surrounding world, the laws of nature and society; the skills of observation, comparative analysis, historical and experimental modeling of the impact of anthropogenic and economic factors on living objects, including with the use</p>							
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			<p>of OPK-3ID-1 is able to carry out and improve professional activities in accordance with regulatory legal acts in the field of agro-industrial complex</p> <p>OPK-3ID-1 Know the basics of national and international veterinary legislation, legislation on digital technologies in the field of agro-industrial complex, specific rules and regulations governing veterinary activities at the local, national and international levels.</p> <p>OPK-3ID-3 Possess the legal framework and ethical standards in the implementation of professional activities.</p> <p>OPK-4 is able to use in professional activity methods of problem solving using modern equipment in the development of new technologies and use modern professional methodology for conducting experimental research and interpreting their results</p> <p>OPK-4ID-1 Know the technical capabilities of modern specialized equipment, methods for solving problems of professional activity.</p> <p>OPK-4ID-2 Should be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained.</p> <p>OPK-4ID-3 Possess the skills of working with specialized equipment for the implementation of tasks set during research and development of new technologies, including digital</p> <p>OPK-5 is able to draw up special documentation, analyze the results of professional activities and submit</p>							
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			<p>reporting documents using specialized databases</p> <p>OPK-5ID-1 Is able to apply new information technologies to solve the following tasks: perform tasks set in their professional activities, work with specialized information databases.</p> <p>OPK-5ID-2 Master the skills of working with the operating system, with text and table processors, with database management systems, with information and search engines on the Internet.</p> <p>OPK-5ID-3 To know new information technologies for solving tasks in their professional activities, to work with specialized information databases.</p> <p>C) Professional competencies</p> <p>PC-1 Collecting anamnesis of animal life and disease to identify the causes of diseases, conducting a general clinical study of animals in order to establish a preliminary diagnosis and determine the further research program</p> <p>PC-1ID-1 Be able to collect and analyze information about the origin and purpose of animals, the method and conditions of keeping, feeding (life history</p> <p>PC-1ID-2 should be able to collect and analyze information about the occurrence and manifestation of diseases in animals, previous illnesses, epizootological conditions (anamnesis of animal diseases), including:the number of devices – sensors, mechanisms, sensors, labels, etc.</p> <p>PC-1ID-3 to be able to capture animals for safety during clinical trials of</p> <p>PC-1ID-4 to be able to produce a</p>							
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			<p>clinical study of the animals using the General methods: inspection, palpation, percussion, auscultation and thermometry</p> <p>PC-1ID-5 be able to establish a preliminary diagnosis based on the analysis of anamnesis and clinical studies General methods</p> <p>PC-1ID-7 to Know the factors of life of animals contribute to the occurrence of infectious and non-infectious diseases</p> <p>PC-1ID-8 to Know the forms and rules of filling of the journal for sick animals and medical history of the animal, including electronic form, in accordance with the requirements of the veterinary reporting</p> <p>PC-1ID-9 to Know the methods of fixation of animals in the conduct of their clinical examinations</p> <p>PC-1ID-10 to Know the technique of conducting a clinical pet study using the General methods in accordance with the guidelines, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>PK-2 "development of a program of studies in animals and clinical studies of animals with the use of special (instrumental) and laboratory methods, including diagnosis"</p> <p>PC-2ИД-1 to be Able to research animals with the help of digital equipment and with the use of special (instrumental) techniques, including endoscopy, intubation, catheterization, radiography, electrocardiography, echocardiography</p> <p>PC-2ИД-2 be able to carry out the interpretation and analysis of data</p>							
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			<p>special (instrumental) methods animal study to verify the diagnosis of</p> <p>РС-2ИД-3 be able to determine the reaction of the cardiovascular system of animals at various load method of functional tests</p> <p>РС-2ИД-4 to be Able to take samples of the biological material of animals for laboratory studies of</p> <p>РС-2ИД-5 to be able to perform analytical preparing, storing the studied biological material, transportation to the laboratory</p> <p>РС-2ИД-6 to be able to carry the interpretation and analysis of data from laboratory studies of animals, the diagnosis of</p> <p>РС-2ИД-7 to Know the indications for the use of digital equipment and special (instrumental) and laboratory methods of research animals in accordance with the guidelines, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>РК-2ИД-8 to Know the Rules of safe operation with digital equipment, tools and equipment used when carrying out special (instrumental) studies of animals, including when carrying out x-ray studies of</p> <p>РС-2ИД-9 to Know the technique of conducting animal research using digital equipment and special (instrumental) methods in accordance with the guidelines, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>РК-2ИД-10 to Know the methods and technique of introducing diagnostic and radiopaque material into the animal</p> <p>РК-2ИД-11 to Know the technique of</p>							
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			<p>production of functional tests in animals</p> <p>РС-2ИД-12 to Know the methods of sampling and analytical sample preparation of biological material for laboratory analysis in accordance with the methodological documents regulating the sampling of biological material</p> <p>РС-3 diagnosis on the basis of the analysis of anamnesis, General, special (instrumental) and laboratory studies</p> <p>РК-3ИД-1 to be able to carry out the diagnosis in accordance with generally accepted criteria and classifications lists of animal diseases</p> <p>РК-3ИД-2 be able to use specialized information databases for the diagnosis of animal diseases</p> <p>РК-3ИД-3 to be Able to issue the results of clinical studies of animals with the use of digital technologies</p> <p>РС-3ИД-4 to Know the interpretation and analysis of data special (instrumental) methods for the study of animal</p> <p>РК-3ИД-5 rules to Know indicators of the status of biological material of animals of different types and causes, causes of deviations from norms</p> <p>РС-3ИД-6 to Know the etiology and pathogenesis of diseases of animals of various types of</p> <p>РС-3ИД-7 to Know the current criteria and classification of diseases of animals, approved lists of animal diseases</p> <p>РК-4 Implementation of postmortem diagnostic studies of animals with the aim of establishing pathological processes of diseases the cause of death</p>							
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			<p>PC-4ИД-1 to be Able to collect the anamnesis of life and disease of animals examined after the death</p> <p>of the PC 4ИД-2 to be able to produce a General examination of dead animals before opening</p> <p>the PC-4ИД-3 to be Able to perform an autopsy of dead animals with the use of special tools and compliance with safety requirements</p> <p>PC-4ИД-4 be able to carry out the selection and fixation of samples of pathological material for laboratory research using digital technologies</p> <p>PC-4ИД-5 to be able to establish the cause of death and postmortem diagnosis in accordance with generally accepted criteria and classifications lists of animal diseases</p> <p>ПК-4ИД-6 to be Able to issue the results of post-mortem diagnostic examination of the animal in the autopsy report, including with the use of digital technologies</p> <p>PC-4ИД-7 Knowing veterinary-sanitary requirements to the process of opening the animal in accordance with the legislation of the Russian Federation in the field of veterinary</p> <p>ПК-4ИД-8 to Know the rules of work with special tools by opening the corpses of animals</p> <p>ПК-4ИД-9 to Know the methods and techniques of autopsy of animals of different types of</p> <p>PC-4ИД-10 to Know the method of selection and fixation of samples of pathological material for laboratory testing in accordance with the rules in</p>							
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			<p>this area</p> <p>PC-4ИД-11 to Know the procedures and Protocol of the autopsy of the animal, in particular, with the use of digital technology</p> <p>PK-5 Development plan for the treatment of animals on the basis of diagnosis and the individual characteristics of the animals, the selection of essential drugs, chemical and biological nature to treat animals based on their cumulative pharmacological action on the body of the PC 5ИД-1 to be able to use specialized information databases selecting methods of treatment of animals</p> <p>is a PC-5ИД-2 to be able to count the number of medicines for the treatment and prevention of animal diseases with the preparation of recipes for a period</p> <p>PC-5ИД-3 to be able to count the number of medicines for the treatment and prevention of animal diseases with the preparation of recipes for a specified period, including using digital technologies</p> <p>PC-5ИД-4 to be Able to introduce drugs into the animal organism in various ways</p> <p>PK-5ИД-5 to Know the methods of medical treatment of sick animals and indications for their use in accordance with the guidelines, regulations, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>PK-5ИД-6 Know the state register of medicinal products for veterinary use</p> <p>PC-5ИД-7 to Know the pharmacological</p>							
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			<p>and Toxicological characteristics of pharmaceutical raw materials, medicines, chemical and biological nature of dietary supplements for the prevention and treatment of animal diseases of various etiologies</p> <p>РС-5ИД-8 to Know the technique of drug administration into the body of the animal enteral (oral, sublingual, and rectal) and parenteral (injections, pulmonary and cutaneous application) ways</p> <p>ПК-6 the Choice of methods of non-pharmacological treatments including physical therapy methods for the treatment of animals, the treatment, including physiotherapy with the use of special equipment safety</p> <p>ПК-6ИД-1 to be able to use the special, including digital equipment, during treatment, including physiotherapeutic procedures in accordance with the operating instructions</p> <p>of the РС 6ИД-2 to be able to capture animals for safety during medical procedures</p> <p>ПК-6ИД-3 be able to maintain the accounting records for diseases and treatment of the animals with the use of digital technologies</p> <p>РС-6ИД-4 to Know the types of non-pharmacological treatments, including physical therapy, used in veterinary medicine, and indications for their use</p> <p>РС-6ИД-5 to Know the rules of safe work with special equipment when conducting non-pharmacological effects on the animal organism</p> <p>РС-6ИД-6 to Know the methods and</p>							
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			<p>techniques of non-pharmacological effects on the animal organism</p> <p>PC-6ИД-7 to Know methods of fixation of animals in their treatment of</p> <p>PC-6ИД-8 to Know the forms and rules of filling of the journal for sick animals and medical history of the animal in accordance with the requirements of veterinary accounting including in digital format</p> <p>PC-7 determine whether the use of operative-surgical methods in treatment of animals, the development plan for the surgery, including the choice of the method of anesthesia</p> <p>PC-7ИД-1 to be able to produce anesthesia of the animals before surgery with use of a narcotic, neuroleptic and local anaesthetic drugs</p> <p>ПК-7ИД-2 Know the operative methods of treatment of animals and the indications for their use</p> <p>PC-7ИД-3 to Know the remedies. used for analgesia of animals in veterinary surgery. doses and methods of their use, side effects</p> <p>PC-8 Performing surgical intervention in the body of animals in the treatment of various diseases, castration, sterilization, for cosmetic purposes</p> <p>PC-8ИД-1 Be able to dissect animal tissues using surgical instruments to create operational access to the affected organ or tissues</p> <p>PC-8ИД-2 be able to carry out surgery using surgical tools to the affected organ or tissue to ensure the effectiveness of the operational impact</p>							
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			<p>PC-8ИД-3 be able to stop the bleeding with the use of mechanical, physical, chemical and biological methods</p> <p>PC-8ИД-4 to be able to produce fabric connection bloodless and bloody ways of the cavity drainage, dressing, using the dressing and frame material</p> <p>PC-8ИД-5 to Know the rules of use of special equipment in the operating room surgical instruments and dressings</p> <p>PC-8ИД-6 to Know the technique of surgery in veterinary medicine</p> <p>PC-8ИД-7 to Know the types and techniques of sutures and dressings used in veterinary surgery</p> <p>PC-9 Development of recommendations for the special feeding of sick animals for therapeutic purposes</p> <p>ПК-9ИД-1 Know the types of dietary regimes, the principles of the selection of food with the use of digital technologies, norms, modes of feeding in the diet of animals</p> <p>ПК-10 re-examinations and studies in animals to evaluate the efficacy and safety of treatment, plan adjustment treatment of animals (if necessary) based on the results of assessment of efficiency of treatment of</p> <p>PC-10ИД-1 to be able to evaluate the effectiveness of treatment of</p> <p>PC-10ИД-2 be able to use specialized information databases in the choice of methods of treatment of animal diseases</p> <p>ПК-10ИД-3 to Know the methods of medical treatment of sick animals and indications for their use in accordance with the guidelines, regulations, instructions, rules, diagnosis, prevention</p>							
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			<p>and treatment of animals</p> <p>PK-11 Development of the annual plan of anti-epidemic measures, prevention of non-communicable diseases of animals, plan veterinary and sanitary measures</p> <p>PK-11ИД-1 to be able to collect and analyze information, including veterinary data statistics that are required for the planning of preventive anti-epidemic measures, prevention of non-communicable animal diseases, veterinary and sanitary measures</p> <p>PK-11ИД-2 Know the methods of collection and analysis of information for veterinary planning, including the use of information databases</p> <p>PK-12 preventive clinical examination of animals, check veterinary and sanitary condition and climate of livestock buildings in accordance with the plan of anti-epidemic measures, prevention of non-communicable diseases of animals. plan of veterinary and sanitary measures</p> <p>PC-12ID-1 "Be able to conduct clinical studies of animals using digital technologies in the framework of implementing action plans for the prevention of animal diseases"</p> <p>PC-12ID-2 Be able to assess the impact of animal care and feeding conditions on their health in the framework of implementing action plans for the prevention of animal diseases</p> <p>PC-12ID-3 Be able to carry out veterinary quality control and procurement of animal feed in order to ensure their veterinary and sanitary safety within the framework of implementing action plans for the</p>							
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			<p>prevention of animal diseases</p> <p>PK-12ИД-4 Know the recommended forms of the anti-epizootic action plan, the prevention plan for non-infectious animal diseases, the veterinary and sanitary action plan</p> <p>PC-12ИД-5 to Know the procedure of internal control veterinary and sanitary state of the object and microclimate in livestock houses using digital equipment</p> <p>PC 12ИД-6 to Know the standard values of the parameters of the microclimate in livestock buildings</p> <p>PK-13 Organization of measures to protect the organization against the introduction of infectious and invasive diseases in accordance with the plan of anti-epidemic measures aimed</p> <p>PC-13ИД-1 Know the types of measures to ensure veterinary and sanitary safety requirements and their implementation in accordance with the legislation of the Russian Federation in the field of veterinary</p> <p>PK-14 Organization of routine immunization (vaccination), preventive and curative treatments of animals in accordance with the plan of anti-epidemic measures, analysis of the effectiveness of interventions for the prevention of animal diseases with the aim of improving</p> <p>PC-14ИД-1 to be able to assess the effectiveness of preventive measures and their implementation, including using digital technologies</p> <p>PC-14ИД-2 Know the procedure for conducting clinical studies of animals in the planning of preventive measures</p>							
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			<p>ПК-14ИД-3 Know the types of antiepidemiological measures and requirements to conduct them in accordance with the guidelines, regulations, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>ПК-15 Organization organizational, technical, zootechnical and veterinary measures aimed at prevention of non-communicable diseases in accordance with the terms of prevention of non-communicable diseases of animals, analysis of the effectiveness of interventions for the prevention of animal diseases with the aim of improving</p> <p>ПК-15ИД-1 to be able to evaluate the influence of the conditions of keeping and feeding animals on their state of health in the framework of the implementation of action plans for the prevention of animal diseases with the use of digital technologies</p> <p>ПК-15ИД-2 be able to assess the effectiveness of preventive measures and their implementation, including with the use of digital technologies</p> <p>ПК-15ИД-3 be able to carry out veterinary quality control and fodder for the animals to ensure their veterinary and sanitary safety in the framework of the implementation of action plans for the prevention of animal diseases</p> <p>ПК-15ИД-4 to be able to produce through clinical examination, diagnostic testing of animals for the timely detection of early preclinical and clinical signs of illness</p> <p>ПК-15ИД-5 to Know the types of</p>							
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			<p>interventions for the prevention of non-communicable diseases and metabolic disorders in animals, and requirements to conduct them in accordance with the methodological instructions, instructions, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>PK-16 Organization of disinfection and disinfection of livestock premises to ensure veterinary and sanitary well-being, in accordance with the plan veterinary and sanitary measures, analysis of the effectiveness of interventions for the prevention of animal diseases with the aim of improving</p> <p>PC-16ИД-1 to be able to assess the effectiveness of preventive measures and their implementation, including through cross-cutting digital technologies</p> <p>PC-16ИД-2 Know the types of measures to ensure veterinary and sanitary safety requirements and their implementation in accordance with the legislation of the Russian Federation in the field of veterinary</p> <p>PK-17 is a plan of the clinical examination of animals based on their types and purpose, the conduct of clinical examination with the aim of preserving animal health and increase their productivity, the development of recommendations for curative and preventive and therapeutic measures based on the results of screening carried out through clinical examination</p> <p>of the PC 17ИД-1 to be able to produce through clinical examination, diagnostic</p>							
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			<p>testing of animals, in particular, with the use of digital equipment for the timely detection of early preclinical and clinical signs of illness</p> <p>PC-17ИД-2 to Know the methods of clinical examination of the animals in accordance with the guidelines in force in the field</p> <p>of PK-17ИД-3 Know the types of interventions for the prevention of non-communicable diseases and metabolic disorders in animals, and requirements to conduct them in accordance with the guidelines, regulations, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>PK-18 is Capable of conducting veterinary and sanitary examination, to control the production and certification of products of animal husbandry, beekeeping, fisheries and animal feed, as well as the transport of animals and goods for export and import operations to ensure food security, to conduct a health assessment of livestock buildings and structures</p> <p>PK-18ИД-1 to be Able to carry out veterinary-sanitary inspection of slaughter animals and poultry, slaughter veterinary-sanitary examination of carcasses and organs; to properly assess the quality and control the production of agricultural products; assess the suitability of the controlled product according to the organoleptic properties and the results of laboratory studies with the use of digital technologies, control modes operating parameters of all parts of the processing of animal raw</p>								
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			<p>materials; organize and control the loading and transport of animals for slaughter, raw materials, products of animal and vegetable origin; to determine the species of meat animals; to carry out bacteriological analysis of meat and meat products; use of technochemical control methods of canned products of animal and vegetable origin</p> <p>PC-18ИД-2 Know the state standards in the field of veterinary-sanitary assessment and control for the production of safe animal products, beekeeping, fisheries and animal feed, and products of vegetable origin; rules of conducting veterinary and sanitary examination and quality control of food of animal origin; preventive measures for the prevention of zoonoses; modern means and methods of disinfection, disinsection and deratization of slaughterhouses and meat processing enterprises; norms and rules for the organization and control of transportation of animals, raw materials, products of animal origin, beekeeping products and water fisheries; biology and life cycles of animals-pathogens of zoonoses, as well as factors that favor their spread; basic concepts and terms in the field of animal health assessment quality of animal slaughter products, their chemical composition, nutritional value, quality factors</p>							
TOTAL:				72/2	4	67,7	40	0,3		

7. R & D REPORTING FORMS

For students, there are reporting forms-preparation of a research report. At the end of each stage, students, after submitting materials to the supervisor, report to the department meeting.

At the first, second and third stages, students review the literature sources on the selected research topic, after which the result of the research work is summed up in the form of a typewritten manuscript. The total volume of the report should not exceed 30 pages (not including appendices). The research report reflects the work done by the student and its results. The report should have a title page, content, introduction, main part, list of sources used (if the relevant organization has developed regulations, instructions, technical specifications, etc.) and an appendix.

The research report is heard at a meeting of the supervising department, and students prepare presentations in PowerPoint format. The presentation structure should include the title slide, the relevance of the chosen topic, the research goal(s) and objectives, research materials and methods, research results, conclusions, and the final slide. Preparing a research report in the form of presentations allows the student to show creative abilities, but it is not recommended to use topics for the design of high-contrast, loaded with embedded elements, animations, placing a large amount of text on slides, using borrowed photos, as well as materials that are not related to the topic of the work.

The student's presentation should be accompanied by a report in which the student comments on the graphic materials presented on the slides. Implementation of the research program, preparation and protection of the research report can be carried out using distance learning technologies.

8. LIST OF EDUCATIONAL LITERATURE AND INTERNET RESOURCES REQUIRED FOR MASTERING THE RESEARCH PROGRAM

8.1. Basic literature

1. Obstetrics, gynecology and biotechnics of animal reproduction: textbook / A. P. Studentsov, V. S. Shipilov, V. Ya. Nikitin [et al.]. - 9th ed., reprint. and add-ons. Saint Petersburg: Lan Publ., 2019, 548 p. ISBN 978-5-8114-3271-4. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/111907> (accessed June 24, 2024).
2. Vasiliev, V. K. General surgery : a textbook / V. K. Vasiliev, A. P. Popov, A.D. Tsybikzhapov. St. Petersburg: Lan 2022Publ., 2022. - 272 p. - ISBN 978-5-8114-1686-8. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/51936> (accessed June 24, 2024).
3. Veterinary pharmacy: textbook / N. L. Andreeva, G. A. Nozdrin, A.M. Lunegov [et al.].-St. Petersburg : Lan, 2020. — 452 p. — ISBN 978-5-8114-4573-8. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/126918> (accessed June 24, 2024).
4. Internal diseases of animals: textbook / G. G. Shcherbakov, A.V. Yashin, A. P. Kurdeko [et al.]; under the general editorship of G. G. Shcherbakov [et al.].-2nd ed., ster. Saint Petersburg: Lan Publ., 2018, 716 p. ISBN 978-5-8114-1682-0. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/106895> (accessed June 24, 2024).
5. Gaponova V. N., Ponomarenko N. P., Yugatova N. Yu. Bezopasnost ' zhiznedeyatel'nosti [Life safety]. - St. Petersburg : SPbGAVM, [b. g.]. - Part 1-2017. - 59 p. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/121290> (accessed June 24, 2024).

6. Disinsection in the system of anti-epizootic measures / O. R. Polyakova, V. A. Kuzmin, Yu. Y. Danko [et al.]. - Saint Petersburg : SPbGAVM, 2016. - 14 p. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/121295> (accessed June 24, 2024).
7. Disinfection in the system of anti-epizootic measures / O. R. Polyakova, V. A. Kuzmin, Yu. Y. Danko [et al.]. - St. Petersburg : SPbGAVM, 2016. - 72 p. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/121296> (accessed June 24, 2024).
8. Aliev A. A., Pomerantsev D. A., Shershneva I. I. Office work in veterinary institutions and organizations / A. A. Aliev, D. A. Pomerantsev, I. I. Shershneva [et al.]. — Saint Petersburg : SPbGAVM, 2018. - 86 p. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/121297> (accessed June 24, 2024).
9. Deratization in the system of antiepidemic measures / O. R. Polyakova, V. A. Kuzmin, Yu. Y. Danko [et al.]. - St. Petersburg : SPbGAVM, 2016. - 17 p. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/121298> (accessed June 24, 2024).
10. Doronicheva A. N., Firsov G. M. Animal diseases of viral etiology : a textbook / A. N. Doronicheva, G. M. Firsov. - Volgograd : Volgogradsky GAU Publ., 2016, 140 p. (in Russian) - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/100789> (accessed June 24, 2024).
11. Zharov A.V. Sudebnaya veterinarnaya meditsina : uchebnik [Forensic veterinary medicine: textbook]. - Saint Petersburg: Lan, 2020-22. - 464 p. - ISBN 978-5-8114-1581-6. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/45681> (accessed June 24, 2024).
12. Korolev B. A., Skosyrskikh L. N., Liberman E. L. Praktikum po toksikologii : uchebnik [Practical work on toxicology: textbook]. - Saint Petersburg: Lan, 2022. - 384 p. - ISBN 978-5-8114-2246-3. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/87580> (accessed June 24, 2024).
13. Korolev B. A., Sidorova K. A. Phytotoxicosis of domestic animals : textbook / B. A. Korolev, K. A. Sidorova. - 2nd ed., reprint. and add-ons. - Saint Petersburg: Lan, 2022-2022. - 352 p. - ISBN 978-5-8114-1589-2. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/41016> (accessed June 24, 2024).
14. Latypov, D. G. Autopsy and pathoanatomic diagnostics of animal diseases: a textbook / D. G. Latypov, I. N. Zalyalov. - 2nd ed., reprint. - Saint Petersburg: Lan, 2020-22. - 384 p. - ISBN 978-5-8114-1976-0. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/65956> (accessed June 24, 2024).
15. Latypov D. G. Helminthiasis of animals that are dangerous for humans: a textbook / D. G. Latypov. - 3rd ed., reprint. - Saint Petersburg: Lan, 2020-22. - 440 p. - ISBN 978-5-8114-2626-3. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/95143> (accessed June 24, 2024).
16. Latypov D. G., Timerbaeva R. R., Kirillov E. G. Parasitology and invasive diseases of ruminants : a textbook. Saint Petersburg: Lan Publ., 2019, 476 p. ISBN 978-5-8114-3561-6. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/121475> (accessed June 24, 2024).
17. Latypov D. G., Timerbaeva R. R., Kirillov E. G. Protozoal diseases of animals dangerous for humans (protozoal zoonoses) : a textbook / D. G. Latypov, R. R. Timerbaeva, E. G. Kirillov. - Saint Petersburg: Lan, 2017. - 208 p. - ISBN 978-5-8114-2631-7. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/96254> (accessed June 24, 2024).
18. Latypov D. G. Spravochnik po pathoanatomicheskoi diagnostike zaraznykh bolezov svinei : uchebnoe posobie [Handbook on pathoanatomic diagnostics of infectious

diseases of pigs: a textbook]. Saint Petersburg: Lan Publ., 2019, 260 p. ISBN 978-5-8114-3231-8. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/111901> (accessed June 24, 2024).

19. Treatment and prevention of diseases of hooves of cattle / V. V. Baylov, A. A. Stekolnikov, M. A. Narusbaeva [et al.]. - St. Petersburg : SPbGAVM, 2017. - 68 p. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/121309> (accessed June 24, 2024).

20. Lutfullin M. H., Latypov D. G., Kornishina M. D. Veterinary helminthology : a textbook. - 2nd ed., ster. Saint Petersburg: Lan Publ., 2018, 304 p. ISBN 978-5-8114-1092-7. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/102228> (accessed June 24, 2024).

21. Non-infectious pathology of cattle in farms with industrial technology : a textbook / A.V. Yashin, G. G. Shcherbakov, I. I. Kalyuzhny [et al.]; under the general editorship of A.V. Yashin. Saint Petersburg: Lan Publ., 2019, 220 p. ISBN 978-5-8114-4058-0. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/125722> (accessed June 24, 2024).

22. Nikitin I. N., Nikitin A. I. Organization of state veterinary supervision : textbook / I. N. Nikitin, A. I. Nikitin. - 2nd ed., reprint. and add-ons. Saint Petersburg: Lan Publ., 2019, 460 p. ISBN 978-5-8114-3437-4. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/113922> (accessed June 24, 2024).

23. Nikitin, I. N. Organization and economics of veterinary business: textbook / I. N. Nikitin, 6th ed., reprint. and add-ons. - Saint Petersburg: Lan, 2020-22. - 368 p. - ISBN 978-5-8114-1609-7. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/44760> (accessed June 24, 2024).

24. Petryankin F. P., Petrova O. Yu. Diseases of young animals : a textbook / F. P. Petryankin, O. Yu. Petrova. - 2nd ed., reprint. and add-ons. - Saint Petersburg: Lan, 2022-2022. - 352 p. - ISBN 978-5-8114-1606-6. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/44761> (accessed June 24, 2024).

25. Polyantsev, N. I. Practicum on obstetrics, gynecology and biotechnics of animal reproduction : a textbook / N. I. Polyantsev. St. Petersburg: Lan Publ., 2016, 272 p. ISBN 978-5-8114-1789-6. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/71726> (accessed June 24, 2024).

26. Practicum on internal diseases of animals: textbook / G. G. Shcherbakov, A.V. Korobov, B. M. Anokhin [et al.]; edited by G. G. Shcherbakov. - 2nd ed. - Saint Petersburg: Lan, 2020-23. - 544 p — - ISBN 5-8114-0495-6. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/202> (accessed June 24, 2024).

27. Practicum on internal diseases of animals: textbook / G. G. Shcherbakov, A.V. Yashin, A. P. Kurdeko [et al.]; under the general editorship of G. G. Shcherbakov [et al.]. - 2nd ed., ster. Saint Petersburg: Lan Publ., 2018, 544 p. ISBN 978-5-8114-1999-9. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/109630> (accessed June 24, 2024).

28. Practicum on private surgery : a textbook / A. A. Stekolnikov, B. S. Semenov, O. K. Sukhovolsky, E. I. Veremey; edited by A. A. Stekolnikov. - Saint Petersburg: Lan, 2022. - 352 p. - ISBN 978-5-8114-1503-8. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/38844> (accessed June 24, 2024).

29. Salimov V. A. Praktikum po patologicheskoi anatomii zhivotnykh : uchebnoe posobie [Practical work on the pathological anatomy of animals: a textbook]. — 3rd ed., ispr. and add. Saint Petersburg: Lan Publ., 2018, 256 p. ISBN 978-5-8114-1418-5. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/107269> (accessed June 24, 2024).

30. Shakurov M. Sh. Osnovy obshchey veterinarnoi khirurgii : uchebnoe posobie [Fundamentals of general veterinary surgery: a textbook]. - 2nd ed., ster. - Saint Petersburg: Lan, 2020-20. - 252 p. - ISBN 978-5-8114-1204-4. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/76290> (accessed June 24, 2024).

31. Epizootology with microbiology: textbook / A. S. Aliev, Yu. Y. Danko, I. D. Eshchenko [et al.]; edited by V. A. Kuzmin, A.V. Svyatkovsky. - 4th ed., ster. Saint Petersburg: Lan Publ., 2019, 432 p. ISBN 978-5-8114-2017-9. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/112071> (accessed June 24, 2024).

8.2. Additional literature

1. Antimicrobial and antiparasitic agents / N. L. Andreeva, A.M. Lunegov, O. S. Popova, V. A. Baryshev. Saint Petersburg: SPbGAVM Publ., 2017, 57 p. (in Russian) - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/121282> (accessed June 24, 2024).

2. Bepalova N. S., Koroleva S. N. Cestodologiya dlya veterinarnykh vrachei : uchebnoe posobie [Cestodology for veterinary doctors: a textbook]. - Saint Petersburg: Lan, 2017. - 216 p. - ISBN 978-5-8114-2662-1. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/97682> (accessed June 24, 2024).

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8.3. Internet resources

Students can use the following online resources for training:

1. <https://meduniver.com/> - Medical information site.
2. <http://studvet.ru/> Veterinary portal.
3. Veterinary.medicine.rf
4. [Main Veteran portal of Russia](http://MainVeteran.portal.of.Russia)
5. Veterinary.medicine
6. [Encyclopedia of medicines and pharmacy products](#)
7. [Vidal Vet Reference Book](#)

8.4. Electronic library systems

1. [EBS "SPBGAtVM"](#)
2. [EBS "Lan Publishing House"](#)
3. [EBS "Student's consultant"](#)
4. [ConsultantPlus Legal Reference System](#)
5. [University information system "RUSSIA"](#)
6. [Full-text database POLPRED.COM](#)

7. [Scientific Electronic Library ELIBRARY.RU](#)
8. [Russian Scientific Network](#)
9. [IQlib Electronic Library System](#)
10. [Database of International Science Citation Indexes Web of Science](#)
11. ProQuest AGRICULTURAL AND ENVIRONMENTAL SCIENCE DATABASE, a full-text interdisciplinary database for agricultural and environmental sciences [ProQuest AGRICULTURAL AND ENVIRONMENTAL SCIENCE DATABASE](#)
12. Electronic books published by Prospekt Nauki Publishing [House](#) <http://prospektnauki.ru/ebooks/>
13. Collection " Agriculture. Veterinary Medicine" by Kvadro Publishing [House](#) <http://www.iprbookshop.ru/586.html>

9. LIST OF INFORMATION TECHNOLOGIES USED IN RESEARCH AND DEVELOPMENT, INCLUDING A LIST OF SOFTWARE AND INFORMATION REFERENCE SYSTEMS

9.1. Information technologies:

When performing the internship program, it is planned to use information technologies:

- ✓ interactive technologies (conducting dialogues, collective discussion of various approaches to solving a particular educational and professional task);
- ✓ interaction with students via e-mail;
- ✓ joint work in the Electronic information and Educational environment of St. Petersburg State University of Internal Affairs: <https://spbguvvm.ru/academy/eios>

9.2. Software:

List of licensed and freely distributed software, including those produced in Russia:

n /	a Name of technical and computer training tools recommended by sections and topics	License
1	MS PowerPoint	67580828
2	LibreOffice	free software
3	OS Alt Education 8	AAO. 0022. 00
4	ABIS "MARK-SQL"	02102014155
5	MS Windows 10	67580828
6	System ConsultantPlus	503 /KL
7	Android OS	free software

10. EDUCATIONAL WORK

As part of the implementation of the discipline, educational work is carried out to form a modern scientific worldview and a system of basic values, to form and develop spiritual and moral, civil and patriotic values, a system of aesthetic and ethical knowledge and values, attitudes of tolerant consciousness in society, to form students' needs for work as the first vital necessity, the highest value and the main success in life, to realize the social significance of your future profession.

11. MATERIAL AND TECHNICAL BASE REQUIRED FOR RESEARCH AND DEVELOPMENT

Research work for students is carried out on the basis of state and non-state veterinary and scientific institutions, enterprises of the agro-industrial complex of Moscow.St. Petersburg and Leningrad region, in other regions of the Russian Federation, as well as in the university's structural divisions университета.

For an integrated approach and development of the internship program, the university has the material and technical base and resources:

Name of the discipline (module), practices in accordance with the curriculum	Name of special rooms and rooms for independent work	Equipment of special rooms and rooms for independent work
R	& D 206 Large reading room (196084, St. Petersburg, Chernihiv str., 5) Room for independent work	<i>Specialized furniture:</i> tables, chairs <i>Technical training facilities:</i> computers with Internet connection and access to electronic information and educational environment
	214 Small reading room (5 Chernigovskaya str., Saint Petersburg, 196084) Self-study room	<i>Specialized furniture:</i> tables, chairs <i>Technical training facilities:</i> computers with Internet connection and Internet access electronic information and educational environment
	324 Department of Information Technologies (5 Chernigovskaya Street, Saint Petersburg, 196084) Room for storage and preventive maintenance of educational equipment	<i>Specialized furniture:</i> tables, chairs, special equipment, materials and spare parts for preventive maintenance of technical training equipment

	Box No. 3 Carpentry workshop (196084, Saint Petersburg, Russia) St. Petersburg, Chernihiv str., 5) Room for storage and preventive maintenance of educational equipment	<i>Specialized furniture:</i> tables, chairs, special equipment, materials for preventive maintenance of specialized furniture
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The working program was compiled by:

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candidate of veterinary Sciences

 Y. Y. Finageev