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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. Sukhmin  
"25" June 2025

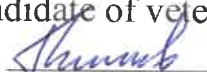


## WORK PROGRAM

### for research work

Higher education level  
**Specialty 36.05.01 Veterinary**  
Full-time education  
The start year of training is 2025

Reviewed and accepted  
at the meeting of the Department GE and IO  
"25" June 2025  
Protocol No. 15

Head of the Department GE and IO, docent  
candidate of veterinary Sciences  
 E.Y. Finageev

Saint-Petersburg  
2025 г.

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

PK-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 antiepizootic 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 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>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>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>ПК-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>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>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 based on 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 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>ПК-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>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, the prevention and treatment of animal</p> <p>ПК-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>ПК-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 ПК-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>ПК-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; 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>							
<b>TOTAL:</b>				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, 2025).
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, 2025).
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, 2025).
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, 2025).
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, 2025).

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, 2025).
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, 2025).
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, 2025).
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, 2025).
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, 2025).
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, 2025).
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, 2025).
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, 2025).
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, 2025).
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, 2025).
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, 2025).
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, 2025).
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, 2025).

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, 2025).

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, 2025).

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, 2025).

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, 2025).

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, 2025).

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, 2025).

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, 2025).

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, 2025).

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, 2025).

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, 2025).

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, 2025).

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, 2025).

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, 2025).

## 8.2. Additional literature

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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, 2025).

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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](http://Veterinary.medicine.rf)
4. [Main Veteran portal of Russia](http://Main.Veteran.portal.of.Russia)
5. [Veterinary.medicine](http://Veterinary.medicine)
6. [Encyclopedia of medicines and pharmacy products](http://Encyclopedia.of.medicines.and.pharmacy.products)
7. [Vidal Vet Reference Book](http://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:

Head of the GEP and SIO Department, associate professor,  
candidate of veterinary Sciences

 Е.Ю. Финегеев

Ministry of Agriculture of the Russian Federation  
Federal State Budgetary Educational Institution  
higher education  
"Saint Petersburg State University  
veterinary medicine"

## **EVALUATION FUNDS FUND**

**current control and intermediate certification of students during the  
development of OPOP HE, which implements the Federal State  
Educational Standard for Higher Education  
for research work**

Higher education level  
SPECIALTY  
**Specialty 36.05.01 Veterinary Medicine**  
Full-time education

The start year of training is 2025

Saint-Petersburg  
2025

# 1. PASSPORT OF THE R & D EVALUATION FUND

Table 1

#	Formed competencies	Controlled sections (topics) of the discipline	Evaluation tool
1.	CC-1 is able to carry out critical analysis of problem situations based on a systematic approach, develop a strategy for actions of CC-1ID-1 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	Agribusiness economics	
2.		report Life safety	
3.		Organization of veterinary	
4.		medicine Epizootology and infectious diseases	
5.		Parasitology and invasive diseases	
6.		Internal non-infectious diseases	
7.		General and private surgery	
8.		Obstetrics and Gynecology	
9.		Veterinary pharmacology. Toxicology	
10.		Pathological anatomy of animals	
11.		Veterinary and sanitary expertise	Preparation of a research report Protection of a research

	<p>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 and motivation to achieve goals; management of the development of the</p>		
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	<p>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</p>		
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	<p>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 technologies; technology for building effective communication in the</p>		
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<p>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>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</p>		
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	<p>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, with the use of digital technologies</p> <p>, OPK-3</p> <p>is able to carry out and improve professional activities in accordance with regulatory legal acts in the field of the agro-industrial complex</p> <p>OPK-3ID-1 Knows the basics of national and international veterinary legislation, legislation on digital technologies in the field of the agro-industrial complex, specific rules and regulations governing veterinary activities at the local, national and internationally.</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 professional methods of problem solving using modern equipment in the development of new technologies and use modern professional methodology for conducting experimental studies</p>		
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<p>and interpreting their results</p> <p>OPK-4ID-1 Know the technical capabilities of modern specialized equipment, methods of 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</p>		
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	<p>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>PC-1 Collection of anamnesis of animal life and disease to identify the causes of diseases, conduct 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 (animal life history), including</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 from devices-sensors, mechanisms, sensors, tags, etc</p> <p>. PC-1ID-3 Be able to record animals to ensure safety during a clinical study</p> <p>PC-1ID-4 Be able to conduct a clinical study of animals using</p>		
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	<p>general methods: examination, palpation, percussion, auscultation and thermometry</p> <p>PC-1ID-5 To be able to make a preliminary diagnosis based on the analysis of anamnesis and clinical studies</p> <p>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, prevention and treatment of animals</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>		
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<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 laboratory</p> <p>PC-2ИД-6 to be able to carry the interpretation and analysis of data from laboratory studies of animals, the diagnosis of</p> <p>PC-2ИД-7 to Know the indications for the use of digital equipment and special (instrumental) and laboratory studies of</p>		
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<p>animals in accordance with the guidelines, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>ПК-2ИД-8 to Know the Rules of safe work 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 guidance documents governing the sampling of biological material</p>		
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	<p>PC-3 diagnosis based on the analysis of anamnesis, General, special (instrumental) and laboratory studies of PC-3ИД-1 to be able to carry out the diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases</p> <p>PC-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>PC-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>PC-3ИД-6 to Know the etiology and pathogenesis of diseases of animals of various types of</p> <p>PC-3ИД-7 to Know the current criteria and classification of diseases of animals, approved lists of animal diseases</p> <p>ПК-4 Implementation</p>		
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<p>of postmortem diagnostic studies of animals with the aim of establishing pathological processes of diseases the cause of death</p> <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>		
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	<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 this area</p> <p>PC-4ИД-11 Know the procedures and Protocol of opening of an animal, in particular, with the use of digital technology</p> <p>ПК-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</p>		
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<p>information databases selecting methods of treatment of animals is a PC-5ИД-2</p> <p>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</p>		
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<p>           dietary supplements            for the prevention and            treatment of animal            diseases of various            etiologies            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            PK-6 the            Choice of methods of            non-pharmacological            treatments including            physiotherapy            techniques to treat            animals treatment,            including            physiotherapy with the            use of special            equipment safety            PK-6ИД-1 to be            able to use the special,            including digital            equipment, during the            treatment, including            physiotherapeutic            procedures in            accordance with the            operating instructions            of the PC 6ИД-2            to be able to            capture animals for            safety during medical            procedures            PK-6ИД-3 be able            to maintain the            accounting records for            diseases and treatment            of the animals with the            use of digital            technologies            PC-6ИД-4 to            Know the types of            non-pharmacological            treatments, including            physical therapy, used         </p>		
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<p>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>РК-7ИД-2 Know the operative methods of treatment of animals and the</p>		
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<p>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,</p>		
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<p>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 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>ПК-10ИД-3 to Know the methods of medical treatment of sick animals and indications for their</p>		
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	<p>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-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 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-12ID-1 "Be able to conduct clinical studies of</p>		
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<p>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>PK-12ID-5 Know the procedure for conducting internal control of control of the veterinary and sanitary condition of the facility and the microclimate of livestock premises, using digital equipment</p>		
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<p>PK-12ID-6 To know the standard indicators of microclimate parameters in livestock premises</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 in particular, using digital technologies</p> <p>PC-14ИД-2 to Know the procedure for conducting clinical</p>		
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	<p>studies of animals in the planning of preventive measures</p> <p>ПК-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>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,</p>		
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	<p>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 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, instructions and manuals rules of 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 veterinary and sanitary measures, analyses the effectiveness of interventions for the prevention of animal</p>		
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	<p>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 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</p> <p>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</p> <p>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</p>		
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<p>and clinical signs of illness</p> <p>ПК-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 ПК-17ИД-3</p> <p>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>ПК-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</p>		
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	<p>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; to use methods of technochemical control of canned products of animal and vegetable origin</p> <p>РС-18ИД-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 expertise and quality control of food of animal origin; preventive measures to prevent zoonoses; modern means and</p>		
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	<p>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 factors that shape quality</p>		
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**Table 2**

**LIST OF EVALUATION TOOLS FOR RESEARCH AND DEVELOPMENT**

№ n /	a Name of the valuation instrument	Brief description of the valuation instrument	Presentation of the valuation instrument in the fund
1.	Preparing a research report.	The product of a student's independent work, which is a succinct and consistent presentation in writing, obtained as a result of planning and performing a set of production and research tasks. It allows you to assess the ability of students to independently construct their knowledge in the process of solving practical problems and problems, to navigate in the information space and the level of formation of analytical, research skills, practical and creative thinking skills. It is performed individually based on the results of mastering the research program	of the Research Topic
2.	Defense of the research report	is a product of independent work of a student, which is a public speech to present the results of research on issues corresponding to the level of theoretical training.	Research topics

## 2. INDICATORS AND CRITERIA FOR ASSESSING COMPETENCIES AT VARIOUS STAGES OF THEIR FORMATION, DESCRIPTION OF ASSESSMENT SCALES

Planned results of competence	development Level of development				Evaluation tool
	Unsatisfactory	Satisfactory	Good	Excellent	
UK-1 is able to carry out critical analysis of problem situations based on a systematic approach, develop a strategy for actions					
UK-1ID-1 Know the methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis.	The level of knowledge is below the minimum requirements, there were gross mistakes	The minimum allowable level of knowledge, many non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and defense of the research report
of the UK-1ID-2 Be able to acquire new knowledge based on analysis, synthesis, etc.; collect and summarize data on current scientific problems related to the professional field; search for information and solutions based on actions, experiments, experience, information and communication technologies.	When solving standard tasks, basic skills were not demonstrated, there were gross mistakes	, basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not in full	, all basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were completed in full, but some with shortcomings	, all basic skills were demonstrated. skills, solved all the main tasks with some minor shortcomings, completed all tasks in full	Writing an abstract. Preparation and defense of the R & D report
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.	When solving standard problems, basic skills were not demonstrated, there were gross mistakes	There is a minimum set of skills for solving standard problems with some shortcomings	Basic skills were demonstrated when solving standard problems with some shortcomings	Skills were demonstrated when solving non-standard problems without errors and shortcomings	Writing an abstract. Preparation and protection of the R
& D report UK-2 is able to manage the project at all stages of its life cycle					
UK-2ID-1 Know 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.	The level of knowledge is below the minimum requirements, there were gross mistakes	The minimum allowable level of knowledge, many non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and protection
of the UK-2ID-2 research report 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.	When solving standard tasks, basic skills were not demonstrated, there were gross mistakes	, basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not in full	, all basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were completed in full, but some with shortcomings	, all basic skills were demonstrated. skills, solved all the main tasks with some minor shortcomings, completed all tasks in full	Writing an abstract. Preparation and defense of the R
& D report UK-2ID-3Master 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 the professional field; organization of professional discussion of the project, participation in project documentation;	When solving standard problems, basic skills were not demonstrated, there were gross mistakes	There is a minimum set of skills for solving standard problems with some shortcomings	Basic skills were demonstrated when solving standard problems with some shortcomings	Skills were demonstrated when solving non-standard problems without errors and shortcomings	Writing an abstract. Preparation and defense of the research report

design of the project implementation schedule; determination of requirements for project implementation results.					
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; improvement factors communications 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.	The level of knowledge is below the minimum requirements, there were gross mistakes	The minimum allowable level of knowledge, many non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and protection
of the UK-4ID-2 research report Be able to create written texts of scientific and official-business speech styles on professional issues in Russian and foreign languages; research the passage of information on managerial communications; determine internal communications in the organization, including using digital technologies.	When solving standard tasks, basic skills were not demonstrated, there were gross mistakes	, basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not in full	, all basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were completed in full, but some with shortcomings	, all basic skills were demonstrated. skills, solved all the main tasks with some minor shortcomings, completed all tasks in full	Writing an abstract. Preparation and defense of the R
& D report 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 to the public; information and telecommunication networks using modern means of information and communication technologies.	When solving standard problems, basic skills were not demonstrated, there were gross mistakes	There is a minimum set of skills for solving standard problems with some shortcomings	Basic skills were demonstrated when solving standard problems with some shortcomings	Skills were demonstrated when solving non-standard problems without errors and shortcomings	Writing an abstract. Preparation and defense of the R
& D report UK-6 is able to determine and implement the priorities of its own activities and ways to improve it based on self-assessment and lifelong education					
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.	The level of knowledge is below the minimum requirements, there were gross mistakes	The minimum allowable level of knowledge, many non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and protection of the R & D report
UK-6ID-2 Be able to independently build the process of mastering selected and structured information, including using digital technologies.	When solving standard tasks, basic skills were not demonstrated, there were gross mistakes	, basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not in full	, all basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were completed in full, but some with shortcomings	, all basic skills were demonstrated. skills, solved all the main tasks with some minor shortcomings, completed all tasks in full	Writing an abstract. Preparation and defense of the R & D report
UK-6ID-3 Master the techniques of self-regulation of psychoemotional and functional states.	When solving standard problems, basic skills were not demonstrated, there were gross mistakes	There is a minimum set of skills for solving standard problems with some shortcomings	Basic skills were demonstrated when solving standard problems with some shortcomings	Skills were demonstrated when solving non-standard problems without errors and shortcomings	Writing an abstract. Preparation and defense of the R

& D report OPK-2 is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological state of the animal body					
OPK-2ID-3 Possess an idea of the origin of living organisms, the levels of organization of living matter, about favorable and unfavorable factors affecting the body; * environmental 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 living objects, including using digital technologies	In solving standard problems basic skills are not demonstrated, there were gross mistakes	There is a minimum set of skills for solving standard problems with some shortcomings	, basic skills are demonstrated when solving standard problems with some shortcomings	, skills are demonstrated when solving non-standard problems without errors and shortcomings	Writing an abstract. Preparation and defense of the R
& D report 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 agro-industrial complex, specific rules and regulations governing veterinary activities at local, national and international levels. at the international level.	The level of knowledge is below the minimum requirements, there were gross mistakes	The minimum allowable level of knowledge, many non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and defense of the R & D report
OPK-3ID-3 Master the legal framework and ethical standards in the implementation of professional activities.	When solving standard problems, basic skills were not demonstrated, there were gross mistakes	There is a minimum set of skills for solving standard problems with some shortcomings	Basic skills were demonstrated when solving standard problems with some shortcomings	Skills were demonstrated when solving non-standard problems without errors and shortcomings	Writing an abstract. Preparation and defense
of the OPK-4 research report Able to use in professional activities methods of solving problems 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 problems of professional activity.	The level of knowledge is below the minimum requirements, there were gross mistakes	The minimum allowable level of knowledge, many non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and defense of the R & D report
OPK-4ID-2 Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained.	When solving standard tasks, basic skills were not demonstrated, there were gross mistakes	, basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not in full	, all basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were completed in full, but some with shortcomings	, all basic skills were demonstrated. skills, solved all the main tasks with some minor shortcomings, completed all tasks in full	Writing an abstract. Preparation and defense of the R
& D report OPK-4ID-3 Possess the skills of working with specialized equipment for the implementation of tasks when conducting research and developing new technologies, including digital	ones, Basic skills were not demonstrated When solving standard tasks, there were gross errors	There is a minimum set of skills for solving standard tasks with some shortcomings	Basic skills were demonstrated when solving standard problems with some shortcomings	, skills are demonstrated in solving non-standard problems without errors and shortcomings	. Writing an abstract. Preparation and protection of the R & D report
OPK-5 is able to draw up special documentation, analyze the results of professional activities and submit reporting documents using specialized databases					
OPK-5ID-3 Know new information technologies for solving tasks in their professional activities, work with specialized information databases.	The level of knowledge is below the minimum requirements, there were gross mistakes	The minimum allowable level of knowledge, many non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and protection of the R & D report
OPK-5ID-1 Be able to apply new information technologies to solve tasks in their professional activities, work with specialized information databases.	When solving standard tasks, basic skills were not demonstrated, and there were gross mistakes	Basic skills were demonstrated, standard tasks with minor errors	All basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were	All basic skills were demonstrated, all basic tasks with some minor shortcomings were solved,	Abstract writing. Preparation and protection of the R & D report

		were solved, all tasks were completed, but not in full	completed in full, but some with shortcomings	all basic tasks were completed. tasks in full	
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.	When solving standard problems, basic skills were not demonstrated, there were gross mistakes	There is a minimum set of skills for solving standard problems with some shortcomings	Basic skills were demonstrated when solving standard problems with some shortcomings	Skills were demonstrated when solving non-standard problems without errors and shortcomings	Writing an abstract. Preparation and defense of the R
& D report PC-1 Collection of anamnesis of animal life and disease to identify the causes of diseases, conduct a general clinical study of animals to establish a preliminary diagnosis and determine the future research program					
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 PC-1ID-9 Know the 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 methodological instructions, instructions rules for the diagnosis, prevention and treatment of animals	The level of knowledge is below the minimum requirements, there were gross errors	The minimum allowable level of knowledge, many non-rough errors	were made The level of knowledge in the amount corresponding to the training program, several non-rough errors	were made The level of knowledge in the amount corresponding to the training program, without errors	Writing an abstract. Preparation and protection of the R
& D report 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 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. analysis of information about the occurrence and manifestation of diseases in animals, previous illnesses, epizootological situation (history 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 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	When solving standard tasks, basic skills were not demonstrated, there were gross errors	Basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not in full	All basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were completed in full, but some with shortcomings	All basic skills were demonstrated, all basic tasks with some minor shortcomings were solved, all basic tasks were completed. tasks in full	Abstract writing. Preparation and defense of the R
& D report PC-2 "Development of an animal research program and conducting a clinical study of animals using special (instrumental) and laboratory methods, including for clarifying the 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 requirements of guidelines, instructions, rules for diagnostics, prevention and treatment of animals PC-2ID-8 Know the Rules for safe work with 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 studies using digital equipment and special (instrumental) methods in accordance with the	Level of knowledge below the minimum requirements, there were gross errors	Minimum permissible level of knowledge, many non-rough errors	were made Level of knowledge in the amount corresponding to the training program, several non-rough errors	were made Level of knowledge in the amount corresponding to the program preparation,	writing an abstract without mistakes. Preparation and defense of the R

<p>guidelines, instructions, rules for diagnostics, prevention and treatment of animals</p> <p>PK-2ID-10 Know methods and techniques for introducing diagnostic and radiopaque substances into the animal's body</p> <p>PK-2ID-11 Know the technique for setting up functional tests in animals</p> <p>PK-2ID-12 Know the selection methodology 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</p>					
<p>&amp; D report PC-2ID-1 Be able to perform animal research using digital equipment and using special (instrumental) methods, including endoscopy, probing, catheterization, radiography, electrocardiography, echography</p> <p>PC-2ID-2 Be able to interpret and analyze data from special (instrumental) methods of animal research to verify the diagnosis</p> <p>of PC-2ID-3 Be able to determine the response of the cardiovascular system of animals to various loads by the method of functional tests</p> <p>PC-2ID-4 Be able to take samples of biological material of animals for laboratory tests</p> <p>PC-2ID-5 Be able to perform analytical preparation, storage of the studied biological material, transportation to the laboratory</p> <p>PC-2ID-6 Be able to interpret and analyze data from laboratory methods of animal research to establish a diagnosis</p>	<p>When solving standard tasks, basic skills were not demonstrated, there were gross errors</p>	<p>Basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not in full</p>	<p>All basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were completed in full, but some with shortcomings</p>	<p>All basic skills were demonstrated, all basic tasks with some minor shortcomings were solved, all basic tasks were completed. tasks in full</p>	<p>Abstract writing. Preparation and defense of the R</p>
<p>&amp; D report PC-3 Making a diagnosis based on the analysis of anamnesis data, general, special (instrumental) and laboratory research methods</p>					
<p>PC-3ID-4 Know the methods of interpretation and analysis of data from special (instrumental) animal research methods</p> <p>PC-3ID-5 Know the norms of indicators of the state of biological material of animals of different species and causes of deviations of indicators from the norms</p> <p>of PC-3ID-6 Know the etiology and pathogenesis of animal diseases of various types</p> <p>PC-3ID-7 Know the generally accepted criteria and classifications of animal diseases, approved lists of animal diseases</p>	<p>Level of knowledge below the minimum requirements, there were gross mistakes</p>	<p>Minimum permissible level of knowledge, many minor mistakes</p>	<p>were made Level of knowledge in the volume</p>	<p>of Level of knowledge in the volume corresponding to the training program, Writing an abstract without mistakes</p>	<p>was made. Preparation and protection of the R</p>
<p>&amp; D report PC-3ID-1 Be able to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases</p> <p>PC-3ID-2 Be able to use specialized information databases for the diagnosis of animal diseases</p> <p>PC-3ID-3 Be able to formalize the results of clinical studies of animals using digital technologies</p>	<p>When solving standard tasks basic skills were not demonstrated, major mistakes</p>	<p>were made Basic skills were demonstrated, typical tasks with minor errors were solved, all tasks were completed, but not in full</p>	<p>All basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were completed in full, but some with defects</p>	<p>All basic skills were demonstrated, all basic skills were solved. main tasks with some minor shortcomings, all tasks were completed in full</p>	<p>Writing an abstract. Preparation and defense of the R</p>
<p>&amp; D report PC-4 Performing post-mortem diagnostic examination of animals to establish pathological processes, diseases, causes of death</p>					
<p>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</p>	<p>Level of knowledge is below the minimum</p>	<p>Minimum permissible level of knowledge, many minor mistakes</p>	<p>made Level of knowledge in the amount corresponding to the</p>	<p>made Level of knowledge in the amount corresponding to the</p>	<p>Writing an abstract. Preparation and protection of the R</p>

<p>medicine PC-4ID-8 Know the rules for working with special tools during autopsy animal corpses</p> <p>PC-4ID-9 Know the methods and techniques of autopsy of animal corpses of various types</p> <p>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</p> <p>PC-4ID-11 Know the forms and procedure for drawing up an animal autopsy protocol, including with the use of digital technologies</p>	<p>requirements, there were gross errors</p>		<p>training program, several minor mistakes</p>	<p>training program, no mistakes</p>	
<p>&amp; D report PC-4ID-1 Be able to collect anamnesis of the life and illness of the examined animals after the death</p> <p>of PC-4ID-2 Be able to perform a general examination of animal corpses before autopsy</p> <p>PC-4ID-3 Be able to perform autopsy of animal corpses using special tools and compliance with safety requirements</p> <p>PC-4ID-4 Be able to perform selection laboratory tests using digital technologies</p> <p>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</p> <p>PC-4ID-6 Be able to formalize the results of post-mortem diagnostic examination of an animal in the autopsy protocol, including using digital technologies</p>	<p>When solving standard tasks, basic skills were not demonstrated, there were gross mistakes</p>	<p>, basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not in full</p>	<p>, all basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were completed in full, but some with shortcomings</p>	<p>, all basic skills were demonstrated. skills, solved all the main tasks with some minor shortcomings, completed all tasks in full</p>	<p>Writing an abstract. Preparation and defense of the R</p>
<p>&amp; D report PC-5 Development of an animal treatment plan 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</p>					
<p>PC-5ID-5 Know the methods of drug treatment of sick animals and indications for their use in accordance with guidelines, instructions, instructions, rules for diagnostics, prevention and treatment of animals</p> <p>PK-5ID-6 Know the state register of medicinal products for veterinary use</p> <p>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</p> <p>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</p>	<p>The level of knowledge is below the minimum requirements, there were gross mistakes</p>	<p>The minimum permissible level of knowledge, many minor mistakes</p>	<p>were made The level of knowledge in the amount corresponding to the training program, several minor mistakes</p>	<p>were made The level of knowledge in the volume corresponding to the training program,</p>	<p>Writing an abstract without mistakes. Preparation and protection of the R &amp; D report</p>
<p>PC-5ID-1 Be able to use specialized information databases when choosing methods of animal treatment</p> <p>PC-5ID-2 Be able to calculate the number of medicines for the treatment of animals and disease prevention with the preparation of prescriptions for a certain period</p> <p>of time PC-5ID-3 Be able to calculate the number of medicines for the treatment of animals and disease prevention with the preparation of prescriptions for a certain period of time, including using digital technologies</p> <p>PC-5ID-4 Be able to</p>	<p>basic skills were not demonstrated, major mistakes</p>	<p>were made Basic skills were demonstrated, typical tasks with minor errors were solved, all tasks were completed, but not in full</p>	<p>All basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were completed in full, but some with defects All basic skills</p>	<p>were demonstrated, solved all the main tasks with some minor shortcomings, completed all tasks in full</p>	<p>Writing an abstract. Preparation and defense of the R</p>

& D report PC-6 Selection of methods of non-drug therapy, including physiotherapy methods for the treatment of animals, conducting therapeutic, including physiotherapy procedures using special equipment in compliance with the safety rules					
PC-6ID-4 Know the types of non-drug therapy, including physiotherapy used in veterinary medicine, and indications requirements for their use PC-6ID-5 Know the rules of safe operation with special equipment when performing non-drug effects on the animal body PC-6ID-6 Know the methods and techniques of non-drug effects on the animal body PC-6ID-7 Know the 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	Level of knowledge below the minimum requirements, there were gross errors	Minimum permissible level of knowledge, many non-rough errors	were made Level of knowledge in the amount corresponding to the training program, several non-rough errors	were made Level of knowledge in the amount corresponding to the program preparation,	writing an abstract without mistakes. Preparation and protection of the R
& D report PC-6ID-1 Be able to use special equipment, including digital equipment, when performing medical procedures, including physiotherapy procedures in accordance with the instructions for its operation PC-6ID-2 Be able to record animals to ensure safety during medical procedures PC-6ID-3 Be able to conduct medical procedures in accordance with the instructions for its operation accounting and reporting documentation on diseases and treatment of animals using digital technologies	When solving standard tasks, basic skills were not demonstrated, there were gross errors	, basic skills were demonstrated, standard tasks with non-rough errors were solved, all tasks were completed, but not	all basic skills were fully demonstrated, all basic tasks with non-rough errors were solved, all tasks were completed all tasks are completed in full, but some with shortcomings	All basic skills are demonstrated, all basic tasks are solved with some minor shortcomings, all tasks are completed in full	Writing an abstract. Preparation and protection
of the PC-7 research report 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-2 Know the operative methods of animal treatment and indications for their use PC-7ID-3 Know the drugs. used for analgesia of animals in veterinary surgery. doses and methods of their use, side effects	Level of knowledge below the minimum requirements, there were gross errors	Minimum permissible level of knowledge, many non-rough errors	were made Level of knowledge in the amount corresponding to the training program, several non-rough errors	were made Level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and defense of the R
& D report PC-7ID-1 Be able to perform anesthesia of animals before surgery using narcotic, antipsychotic and local anesthetic drugs	When solving standard tasks, basic skills were not demonstrated, there were gross errors	Basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not fully	demonstrated All tasks were performed. basic skills, solved all the main tasks with minor errors, completed all tasks in full, but some with shortcomings	Demonstrated all the main skills, solved all the main tasks with some minor shortcomings, completed all tasks in full	Writing an abstract. Preparation and defense of a research report
PC-8 Performing surgical intervention in the body of animals in the treatment of various diseases, castration, sterilization, for cosmetic purposes					
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	Level of knowledge below the minimum requirements, there were gross mistakes	Minimum permissible level of knowledge, many non-rough mistakes	made Level of knowledge in the amount corresponding to the training program, several non-rough mistakes	made Level of knowledge in the amount corresponding to the training program, without errors	Writing the abstract. Preparation and defense of a research report
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 treatment	When solving standard tasks, basic skills were not demonstrated, there were gross mistakes	Basic skills were demonstrated, standard tasks with non-rough errors were solved, basic tasks were performed all tasks, but not in full	All basic skills are demonstrated, all basic tasks with minor errors are solved, all tasks are completed in full, but some with shortcomings	All basic skills are demonstrated, all basic tasks are solved with some minor shortcomings, all tasks are completed in full	Writing an abstract. Preparation and defense of the R

PC-8ID-3 Be able to stop bleeding using mechanical, physical, chemical and biological methods PC-8ID-4 To be able to connect tissue in bloodless and bloody ways, drainage of cavities, applying bandages using dressing and frame materials					
& D report 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 Level of knowledge below the minimum requirements, there were gross errors	Minimum permissible level of knowledge, allowed a lot of non-rough mistakes	Level of knowledge in the volume corresponding to the training program, several non-rough mistakes	were made Level of knowledge in the volume corresponding to the training program, no mistakes	Writing an abstract. Preparation and defense of the R
& D report PK-10 Conducting repeated examinations and studies of animals to assess the effectiveness and safety of prescribed treatment, adjusting the treatment plan for animals (if necessary) based on the results of evaluating the effectiveness of treatment					
PK-10ID-3 Know the methods of drug treatment of sick animals and indications for their use in accordance with the guidelines, instructions guidelines, rules for diagnosis, prevention and treatment of animals	Level of knowledge below the minimum requirements, there were gross mistakes	Minimum permissible level of knowledge, many non-rough mistakes	were made Level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made Level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and defense of the R
& D report 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	When solving standard tasks, basic skills were not demonstrated, there were gross errors	Basic skills were demonstrated, typical tasks with minor errors were solved, all tasks were completed, but not fully	demonstrated all the basic skills, solved all the main tasks with minor errors, completed all tasks in full, but some with flaws	Demonstrated all the basic skills, solved all the main tasks with some minor flaws, completed all tasks in full	Writing an abstract. Preparation and protection of the R
& D report PC-11 Development of an annual plan for anti-epizootic measures, a plan for the prevention of non-infectious animal diseases, a plan for veterinary and sanitary measures					
PC-11ID-2 Know the methods of collecting and analyzing information in veterinary planning, including using information databases	Knowledge level below the minimum requirements, there were gross errors	. acceptable level of knowledge, many minor mistakes	made Level of knowledge in the amount corresponding to the training program, several minor mistakes	made Level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and protection of the R & D report
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	When solving standard tasks, basic skills were not demonstrated, there were gross mistakes	, basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not	all tasks were completed. all basic skills are fully demonstrated, all basic tasks with minor errors are solved, all tasks are completed in full, but some with shortcomings	All basic skills are demonstrated, all basic tasks are solved with some minor shortcomings, all tasks are completed in full	Writing an abstract. Preparation and defense of the R & D report
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-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 object and the microclimate of livestock premises, using digital equipment PC-12ID-6 Know the regulatory indicators parameters of the microclimate in livestock premises	Level of knowledge below the minimum requirements, there were gross mistakes	Minimum permissible level of knowledge, many non-rough mistakes	were made Level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made Level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and defense of the R

& D report 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" PC-12ID-2 Be able to assess the impact of animal husbandry and feeding conditions on their health in the framework of implementing 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	When solving standard tasks, basic skills were not demonstrated, there were gross mistakes	, basic skills were demonstrated, standard tasks with minor errors were solved, all tasks were completed, but not in	all basic skills are fully demonstrated, all basic tasks with minor errors are solved, all tasks are completed in full, but some with shortcomings	All basic skills are demonstrated, all basic tasks are solved with some minor shortcomings, all tasks are completed in full	Writing an abstract. Preparation and protection of the R & D report
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 requirements for their implementation in accordance with the legislation of the Russian Federation in the field of veterinary	medicine The level of knowledge is below the minimum requirements,there were	many minor mistakes	were made Level of knowledge in the volume corresponding to the training program, several minor mistakes	were made Level of knowledge in the volume corresponding to the training program, no mistakes	Writing an abstract. Preparation and defense of the R
& D report 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-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 requirements for their implementation in accordance with the guidelines, instructions, instructions, rules for diagnosis, prevention and treatment of animals	Level of knowledge below the minimum requirements, there were gross mistakes	Minimum permissible level of knowledge, many non-rough mistakes	were made Level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made Level of knowledge in the volume corresponding to the training program,	Writing an abstract without errors. Preparation and defense of the R
& D report PC-14ID-1 Be able to evaluate the effectiveness of preventive measures and methods of their implementation, including using digital technologies	When solving standard tasks, basic skills were not demonstrated, there were gross errors	, basic skills were demonstrated, typical tasks with minor errors were solved, all tasks were completed, but not	all tasks were completed. all basic skills are fully demonstrated, all basic tasks with minor errors are solved, all tasks are completed in full, but some with shortcomings	All basic skills are demonstrated, all basic tasks are solved with some minor shortcomings, all tasks are completed in full	Writing an abstract. Preparation and defense of the R
& D report PC-15 Organization of organizational, 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-5 Know the types of measures for the prevention of non-infectious animal diseases and metabolic disorders The level of knowledge is lower than the minimum requirements, there were gross mistakes The minimum permissible level of knowledge, many non-rough mistakes were made The level of knowledge in the amount corresponding to the training program, several non-rough mistakes were made	The level of knowledge is below the minimum requirements, and there were some serious mistakes	Minimum acceptable level of knowledge, many minor mistakes were made	Level of knowledge in the scope corresponding to the training program, several minor mistakes were made	The level of knowledge in the volume corresponding to the training program,	Writing an abstract without mistakes. Preparation and protection of the R
& D report PC-15ID-1 Be able to assess the impact of conditions of keeping and feeding animals on their health status in the framework of implementing action plans for the prevention of animal diseases using digital technologies	of the disease basic skills, major mistakes	were made Basic skills were demonstrated, typical tasks with minor errors were solved, all tasks were completed, but not in full	All basic skills were demonstrated, all basic tasks with minor errors were solved, all tasks were	All basic skills were demonstrated, all basic tasks were solved with some minor shortcomings,	Writing an abstract. Preparation and protection of the R

PC-15ID-2 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 in the framework of medical examinations for the timely detection of early preclinical and clinical signs			completed in full, but some with defects	all tasks were completed in full	
& D report 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 to prevent animal diseases in order to improve them					
PC-16ID-2 Know the types of measures to ensure veterinary and sanitary safety and requirements for their implementation in accordance with the legislation of the Russian Federation in the field of veterinary	medicine, the level of knowledge is below the minimum requirements, there were gross errors	The minimum allowable level of knowledge, many non-rough errors	were made The level of knowledge in the amount corresponding to the training program, several non-rough errors	were made The level of knowledge in the amount corresponding to the training program, without errors	Writing an abstract. Preparation and defense of the R
& D report PC-16ID-1 Be able to evaluate the effectiveness of preventive measures and methods of their implementation, including through end-to-end digital technologies	When solving standard tasks, basic skills were not demonstrated, there were gross errors	, basic skills were demonstrated, typical tasks with minor errors were solved, all tasks were completed, but not	all tasks were completed. all basic skills are fully demonstrated, all basic tasks with minor errors are solved, all tasks are completed in full, but some with shortcomings	All basic skills are demonstrated, all basic tasks are solved with some minor shortcomings, all tasks are completed in full	Writing an abstract. Preparation and protection of the R & D report
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 PK-17ID-2 medical examination Know the methodology 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 the diagnosis, prevention and treatment of animals	The level of knowledge is lower than the minimum requirements, there were gross errors	The minimum permissible level of knowledge, allowed a lot of non-rough mistakes	Level of knowledge in the volume corresponding to the training program, several non-rough mistakes	were made Level of knowledge in the volume corresponding to the training program, no mistakes	Writing an abstract. Preparation and defense of the R
& D report PC-17ID-1 Be able to perform a diagnostic examination of animals as part of a medical examination, including using digital equipment, for timely detection of early preclinical and clinical signs of the disease	When solving standard tasks, basic skills were not demonstrated, there were gross errors	, basic skills were demonstrated, standard tasks with non-rough ones were solved all tasks were completed, but not fully	demonstrated all basic skills, all basic tasks were solved with minor errors, all tasks were completed in full, but some with shortcomings	All basic skills were demonstrated, all basic tasks were solved with some minor shortcomings, all tasks were completed in full	Writing an abstract. Preparation and protection of the R
& D report PK-18 is able to conduct veterinary and sanitary expertise, control the production and certification of livestock products, beekeeping, water fishing and feed, as well as transport animals and cargo during export-import operations to ensure food security, conduct a sanitary assessment of livestock premises and structures					
PK-18ID-2 . state standards in the field of veterinary and sanitary assessment and control of the 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,	The level of knowledge is below the minimum requirements, there were gross mistakes	The minimum allowable level of knowledge, many non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, several non-rough mistakes	were made The level of knowledge in the amount corresponding to the training program, no mistakes	Writing an abstract. Preparation and defense of the R

disinsection and deratization of slaughterhouses and meat processing plants the main concepts and terms in the field of quality assessment of animal slaughter products, their chemical composition, nutritional value, quality control of animal products, animal products, animal products, beekeeping and water industry; biology and life cycles of animal 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, factors that shape quality					
& D report 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 production; assess the suitability of controlled products by organoleptic properties and results of laboratory studies using digital technologies, monitor working hours to organize and control loading and transportation of slaughtered animals, raw materials, products of animal and vegetable origin; to determine the species belonging 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	When solving standard tasks, basic skills were not demonstrated, there were gross errors in the processing of raw materials; to determine the 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 type 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. basic skills are demonstrated, typical tasks with minor errors are solved, all tasks are completed, but not in full	All basic skills are demonstrated, all basic tasks with minor errors are solved, all tasks are completed in full, but some with shortcomings	All basic skills are demonstrated, all basic tasks with some minor shortcomings are solved, all basic tasks are completed all tasks in full	Abstract writing. Preparation and protection of the research report

### **3. LIST OF CONTROL TASKS AND OTHER MATERIALS REQUIRED FOR EVALUATING KNOWLEDGE, SKILLS, AND EXPERIENCE IN RESEARCH AND DEVELOPMENT ACTIVITIES**

#### **3.1. Topics for research work<sup>12</sup>**

1. Veterinary registration in state veterinary institutions, private veterinary clinics, and livestock farms.
2. What regulatory document regulates veterinary reporting? General rules for compiling data for departmental statistical observation in the field of veterinary medicine.
3. List the forms of departmental statistical observation in the field of veterinary medicine.
4. What information does Form # 1-vet and # 1-vet B contain?
5. Features of drawing up information on form No. 1-vet A.
6. Where is the report based on form # 5-vet compiled?
7. For which diseases the report is made on form No. 2-vet, its frequency.
8. What form should be used to report federal budget funds for anti-epizootic measures?
9. Additional forms of veterinary reporting.
10. List the types of veterinary accompanying documents.
11. Procedure for issuing veterinary certificates in forms No. 1, No. 2, and No. 3.
12. Veterinary certificate form # 4. When is it issued and by whom?
13. Veterinary certificates of forms No. 5 (a, b, c, d, e, f, g, h, I, j, k, l) and Forms No. 6.1, 6.2 and 6.3.
14. Who gives permission to export cargo outside the territory of the subject and to send cargo for export?
15. In what cases are veterinary accompanying documents invalid? Are shipments with such documents accepted?
16. Elements of protection of forms of veterinary accompanying documents.
17. What are the types of acts? What are the general requirements for drawing up certificates for veterinary measures?
18. What information should the certificate for conducting diagnostic tests and vaccination of animals contain?
19. What information should the disinfection certificate contain?
20. Name the sources of funding for the state veterinary service.
21. Financing of anti-epizootic measures.
22. What is the procedure for financing UVL, VU, VP, veterinary and sanitary examination laboratories (VSE)?
23. "Financial and economic activity Plan". Approval, execution, and control.

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<sup>1</sup> Темы НИР для обучающихся определяются преподавателем по согласованию со студентом и должны быть сориентированы на специфику работы профильной организации

<sup>2</sup> Формы текущего контроля и промежуточной аттестации при подготовке отчетных форм по НИР - отчета по НИР предусматривают формирование следующих компетенций: УК-1; УК-2; УК-4; ОПК-3; ОПК-4; ОПК-5; ПК-6

24. Responsibilities of the performer and consumer of paid veterinary services.
25. Veterinary legislation at the present stage. Classification of regulatory legal documents included in veterinary legislation.
26. Types of veterinary services in the Russian Federation. Their interaction.
27. Tasks of the State veterinary service.
28. Structure of the state veterinary service (subject and federal level veterinary services).
29. Specific prevention and its role in the elimination of infectious diseases. Methods and organization of mass vaccinations (aerosol, oral, eggless), their advantages and application.
30. Mechanism of action of various disinfectants on pathogens of infectious diseases. New preparations for disinfection.
31. Disinfectants from the group of alkalis, preparation of working solutions and rules for their use.
32. Types and methods of disinfection. Give them a description.
33. Reservoir of the infectious agent. Source of the infectious agent. Ways of isolation and introduction of the infectious agent.
34. Epizootic process-definition. The intensity of the epizootic process and how it is determined.
35. Storage of biological products, their transportation, quality determination. Documentation of vaccinations, rules for the destruction of remaining biologics.
36. Disinsection. Chemical disinsection method. Characteristics of insecticidal preparations and their mechanism of action. A system of measures for disinsection and protection of animals from attack by insects that carry infectious agents.
37. Define the infectious process and infection. How are infectious processes separated by course and origin?
38. General preventive and specific veterinary measures. Importance in the prevention of infectious diseases.
39. What is natural immunity and how is it created? Artificial immunity.
40. List the methods of epizootology and give their content.
41. Formaldehyde as a disinfectant. Forms of its use, indications, and contraindications.
42. Rules for working with bleach lime, forms of its application, preparation of working solutions.
43. What is the essence of restrictive measures and how do they differ from quarantine measures? Quarantine and quarantining.
44. Diagnosis of infectious diseases - list the basic rules and methods for making a diagnosis.
45. Define the types of infection by the method of infection. Describe the infectious process.
46. Organization of mass vaccinations. Indications and contraindications, general measures for vaccinations. Documentation.
47. Mechanism of transmission and ways of spreading the infectious agent. How do pathways of pathogen transmission affect the intensity of the epizootic process?
48. Disinfection quality control, importance in the system of measures.

49. What defines the concept of disinfection? Its importance in the system of preventive and health-improving measures for infectious diseases.
50. What is a simple and mixed infection and varieties of the latter?
51. List the types of immunity and define what is specific immunity to the disease.
52. To characterize the diagnostic allergic test and its significance in the diagnosis and determination of the epizootic situation
53. Allergens, setting up and recording allergic samples.
54. Epizootic process, how is it defined, what does it consist of? Describe the links in the epizootic chain.
55. The role and modern methods of disinfection in the system of anti-epizootic measures in industrial farms.
56. Features of treatment of animals with infectious diseases.
57. Etiotropic, pathogenetic and symptomatic treatment.
58. What does the concept of deratization include? The importance of deratization in the fight against infectious diseases.
59. Chemical method of rodent extermination. Characteristics of the main raticidal drugs. Methods of their application. Safety precautions.
60. Features of prevention of infectious diseases in livestock complexes.
61. Classification of used vaccines. The role of vaccination.
62. Definition of the term "debasement".
63. Vector-borne diseases.
64. Types of parasitism.
65. Types of parasite hosts and their definition.
66. Biological control methods for antiparasitic measures.
67. Methods of laboratory diagnostics of eimeriosis.
68. Congenital toxoplasmosis.
69. Morphology and biology of flagellate protozoa.
70. Methods of in vivo diagnosis of trypanosomiasis.
71. Measures taken in a farm that is not affected by cattle trichomoniasis.
72. Measures to combat fascioliasis.
73. Differentiation of fascioliasis, dicercariosis, and paramphistomatosis.
74. Structure of the imaginal cestode.
75. Imaginal and larval cestodosis.
76. Methods of in vivo diagnosis of cerebral ctenosomiasis.
77. Control measures and prevention of larval cestodosis.
78. Imaginal cestodes become infected by ruminants.
79. Activities in a farm affected by drepanidioteniosis in geese and ducks.
80. Development of roundworms in the host organism.
81. Confirmation of the diagnosis for ascariasis in animals
82. Differential diagnosis of ascariasis and heterakiosis of chickens.
83. Morphological, biological and ecological features of nematodes from the suborder Filariata.
84. Morphology and biology of ixodid and argass mites.
85. The importance of ixodid and argass mites in the occurrence and spread of vector-borne animal diseases.

86. Types of mites-causative agents of scabies diseases of domestic animals.
87. Morphological and biological features of sarcoptoidosis pathogens.
88. Morphological and biological features of thrombidiform mites.
89. Difference between sexually mature horseflies and gadflies.
90. Characteristics of insects-mechanical and biological carriers of infectious and invasive diseases.
91. List the diseases of domestic animals caused by gadfly larvae, and name their pathogens.
92. Differential diagnosis of lice, lice-eaters, fluff-eaters, and sheep runts by morphological characteristics.
93. The difference between the metamorphosis of lice, hair eaters and fleas.
94. Etiology, treatment and prevention of hyperthermia in animals;
95. Etiology, diagnosis and prevention of stress in animals;
96. Diagnosis, treatment and prevention of salt poisoning in pigs;
97. Diagnosis, prevention and treatment of urea poisoning;
98. Diagnosis, prevention and treatment of nitrates and nitrites poisoning;
99. Diagnosis, treatment and prevention of cotton meal poisoning;
100. Etiology, treatment and prevention of ketosis in cows and sheep;
101. Etiology, treatment and prevention of alimentary osteodystrophy in heifers;
102. Safety precautions for providing surgical care to horses. Fixing and dumping of horses, pigs, and small cattle.
103. Safety precautions for providing surgical care to cattle, dogs, and cats. Fixing and collapsing cattle, fixing dogs and cats.
104. Prevention of surgical infection (operating procedure in the operating room, preparation of hands, sterilization of instruments).
105. Preparation of the operational field. Suture and dressing material, its characteristics and sterilization. Surgical underwear, its characteristics and sterilization.
106. Principles of bone separation and joining. Types of surgical sutures (skin, muscle, etc.). Connecting bones.
107. Operations on the intestines and stomach, bowel resection. Principles of applying intestinal sutures.
108. Mastering the technique of drug administration. Castration of guinea pigs.
109. Head surgery in cattle.
110. Neck surgery.
111. Desmurgia.
112. Castration of stallions.
113. Castration of boars.
114. Surgical treatment of hernias.
115. Transformation of medicinal substances in the body.
116. Mechanism and types of action of medicinal substances.
117. Dosage of medicinal substances.
118. Effects of drugs during repeated administration.
119. Factors affecting the effect of drugs.
120. Drug interactions (synergism, antagonism).
121. Dependence of the action of medicinal substances on the dosage form.

122. Side effects of medicinal substances. Classification.
123. General characteristics of analgesics.
124. Narcotic analgesics.
125. Non-narcotic analgesics.
126. Antipsychotics and tranquilizers.
127. Sedatives.
128. Groups of purine bases and strychnine.
129. Camphor group. Cordiamine.
130. Cholinomimetic and anticholinesterase agents.
131. Anticholinergic agents.
132. Adrenomimetic agents.
133. Ganglion blockers, antihistamines, and muscle relaxants.
134. Emetics, expectorants, and ruminants.
135. Local anesthetics (cocaine, novocaine, lidocaine).
136. Local anesthetics (anaesthesin, dicaine, trimecaine).
137. Solid dosage forms.
138. Liquid dosage forms.
139. Soft and dense dosage forms.
140. Significance of the lymphatic system. Topography of lymph nodes of the head, carcass, and internal organs of slaughtered animals.
141. Trichinosis. Methods of veterinary and sanitary examination of meat. Sanitary assessment of meat with trichinosis.
142. Cysticercosis. Methods of veterinary and sanitary examination of meat. Sanitary assessment of meat in cysticercosis. Meat disposal modes
143. When is it forbidden to slaughter animals for meat?
144. Significance and methods of conducting pre-slaughter veterinary and sanitary expertise.
145. Organoleptic methods for detecting meat from sick animals.
146. Physico-chemical and microscopic methods for detecting the meat of sick animals.
147. Types of meat spoilage.
148. Organoleptic methods of meat freshness testing.
149. Physico-chemical and microscopic methods of meat freshness testing.
150. Organization of work and structure of the VSE laboratory in food markets.
151. Features of VSE of food products in the VSE laboratory at food markets.
152. Veterinary branding of meat.
153. Definitions of meat species.
154. In what cases is a mandatory bacteriological examination of meat performed?
155. Sanitary assessment of meat and finished products in the detection of pathogens of food toxicoinfections.
156. Requirements for raw milk.
157. Organoleptic defects of milk.
158. Detection of milk from animals with mastitis.
159. Characteristics and VSE of dairy products.
160. Characteristics and VSE of food chicken eggs.
161. Fish freshness testing.

162. Parasitological study of fish.
163. Sanitary assessment of fish in infectious and invasive fish diseases.
164. Veterinary and sanitary expertise and evaluation of slaughter products for infectious diseases of animals.
165. Quality and safety control of feed for farm animals and poultry for compliance with the requirements of GOST and TR.
166. Assessment of feed quality for unproductive animals.

#### **4. METHODOLOGICAL MATERIALS DEFINING PROCEDURES FOR ASSESSING KNOWLEDGE, SKILLS AND ABILITIES AND EXPERIENCE OF ACTIVITIES THAT CHARACTERIZE THE STAGES OF COMPETENCE FORMATION**

Intermediate certification based on the results of students' research is carried out on the basis of a research report drawn up in accordance with the established requirements.

The form of intermediate certification is the defense of the report at the supervising department with the assignment of credit to the student.

Summing up the results of research involves identifying the degree of implementation of the research program by the student, the completeness and quality of the collected material, the availability of the results of the analysis, calculations, the degree of validity of conclusions and proposals in the submitted material and its design, the development of measures and ways to eliminate them.

Evaluation of research results is carried out based on the results of the defense of the research report, at a meeting of the department with the obligatory presence of the head of scientific work. The time of certification is determined in accordance with the schedule approved by the Training Department.

Students who have not submitted the report documentation, who have not submitted it in full, or who have violated the registration rules are not allowed to defend the report.

The procedure of current and intermediate monitoring of students with disabilities and persons with disabilities in research and development is carried out using funds of assessment tools adapted to the limitations of their health and perception of information, including the use of special technical means.

If necessary, persons with disabilities and persons with disabilities are given additional time to prepare a response to the test.

When carrying out the procedure for evaluating the results of training of disabled people and persons with disabilities, their own technical means can be used.

The procedure for evaluating the results of R & D training for disabled people and persons with disabilities provides for the provision of information in forms adapted to the limitations of their health and perception of information:

For people with visual impairments:	- in printed form with an enlarged font, – in the form of an electronic document.
For people with hearing impairments:	– in printed form, – in the form of an electronic document.
For persons with musculoskeletal disorders–	in printed form, please specify: – in the form of an electronic document.

When conducting the procedure for evaluating the learning outcomes of disabled people and persons with disabilities, the R & D program ensures that the following additional requirements are met, depending on the individual characteristics of students:

a) instructions on the procedure for conducting the assessment procedure are provided in an accessible form (orally, in writing);

- b) an accessible form of providing tasks with assessment tools (in printed form, in printed form in an enlarged font, in the form of an electronic document, tasks are read out by the teacher);
- c) an accessible form of providing answers to tasks (written on paper, a set of answers on a computer, orally).

If necessary, for students with disabilities and disabled people, the procedure for evaluating the results of practical training can be carried out in several stages.

The procedure for evaluating the learning outcomes of disabled people and persons with disabilities is allowed using distance learning technologies.

## **Criteria for assessing the formation of competencies and crediting based on research results and providing reporting forms for interim control.**

Evaluation	Criteria
credited	<p>The presentation of materials is complete, consistent, and competent. Minor and stylistic errors are allowed. Individual research assignment completed. Applications are logically linked to the text part of the report. The report was submitted on time.</p> <p>The student demonstrates the consistency and depth of knowledge gained in performing research; stylistically competently, logically correctly presents answers to questions using professional terminology; gives answers to additional questions of the teacher on topics provided for in the research program;</p> <p>Materials are qualitatively and meaningfully designed.</p>
The	<p>presentation of materials is incomplete and unsystematic. There are errors and the design doesn't fully meet the requirements. There are no appendices or they are not related to the material presented. The report was not submitted in due time. The research program was not completed.</p> <p>The student demonstrates fragmentary knowledge within the framework of the research program; does not know the minimum necessary terminology; makes gross logical mistakes when answering questions from the teacher that he cannot correct on his own. The materials are designed with a low level of quality.</p>

### **5. ACCESSIBILITY AND QUALITY OF EDUCATION FOR PEOPLE WITH DISABILITIES**

If necessary, persons with disabilities and persons with disabilities are given additional time to prepare a response to the test.

When carrying out the procedure for evaluating the results of training of disabled people and persons with disabilities, their own technical means can be used.

The procedure for evaluating the results of training of disabled people and persons with disabilities in the discipline provides for the provision of information in forms adapted to the limitations of their health and perception of information:

For people with visual impairments:	<ul style="list-style-type: none"> <li>– in printed form with an enlarged font,</li> <li>– in the form of an electronic document.</li> </ul>
For people with hearing impairments:	<ul style="list-style-type: none"> <li>– in printed form,</li> <li>– in the form of an electronic document.</li> </ul>
For people with musculoskeletal disorders	<ul style="list-style-type: none"> <li>– in printed form, if:</li> <li>– in the form of an electronic document.</li> </ul>

When conducting the procedure for evaluating the results of training of disabled people and persons with disabilities in the discipline, it ensures that the following additional requirements are met, depending on the individual characteristics of students:

a) instructions on the procedure for conducting the assessment procedure are provided in an accessible form (orally, in writing);

b) an accessible form of providing tasks with assessment tools (in printed form, in printed form in an enlarged font, in the form of an electronic document, tasks are read out by the teacher);

c) an accessible form of providing answers to tasks (written on paper, a set of answers on a computer, orally).

If necessary, for students with disabilities and disabled people, the procedure for evaluating the results of training in a discipline can be carried out in several stages.

The procedure for evaluating the learning outcomes of disabled people and persons with disabilities is allowed using distance learning technologies.