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



APPROVED
by the Vice-rector
for educational work and youth Policy
A. A. Sukhinin
" 10" april 2026

WORK PROGRAM

for research work

Higher education level

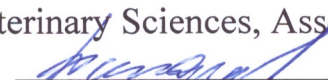
SPECIALTY

Specialty 36.05.01 Veterinary Medicine

Full-time form of study

The start year of training is 2026

Reviewed and accepted
at the meeting of the ETS and OPS Department
"9" april 2026
Protocol No. 17

Head of the ETS and OPS Department
Candidate of Veterinary Sciences, Associate Professor

E. Y. Finageev

Saint-Petersburg
2026

1. RESEARCH GOALS AND OBJECTIVES

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 Know the methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis

UK-1ID-2 To 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

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 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 project documentation; 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; factors for improving communication in the organization, communication technologies in professional interaction; characteristics of communication flows; the value 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 in Russian and foreign languages written texts of scientific and official-business styles of speech on professional issues; 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

B) General professional competencies

OPK-1 is able to determine the biological status and normative clinical indicators of animal organs and body systems

OPK-1ID-1 Know safety techniques and personal hygiene rules when examining animals, methods of fixing them; schemes of clinical research of an animal and the procedure for studying individual body systems, including using digital technologies; methodology for recognizing the pathological process

OPK-1ID-2 is able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary for determining the biological status of animals

OPK-1ID-3 Possess practical skills in conducting an independent clinical examination of an animal using classical research methods and digital technologies

OPK-2 is able to interpret and evaluate the influence of natural, socio-economic, genetic and economic factors on the physiological state of the animal body in its professional activity

OPK-2ID-1 Know ecological factors of the environment, their classification and nature of relationships with living organisms; basic ecological concepts, terms and laws of bioecology; interspecific relations of animals and plants, predator and prey, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body

OPK-2ID-2 Be able to use environmental factors and environmental laws in agricultural production; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine for the prevention of infectious and invasive diseases and treatment of animals; use environmental monitoring methods in the environmental expertise of agricultural facilities and the production of agricultural products, including: including using digital technologies; assess the impact of anthropogenic and economic factors on the animal body

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-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-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 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 To be able to apply new information technologies to solve tasks in their professional activities, to 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-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-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

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 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

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 is able to apply modern communication technologies, including in a foreign language(s), for academic and professional interaction of UK-4ID-1. computer and information and communication technologies, information and digital infrastructure in the organization; communication in professional ethics; factors for</p>						
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			<p>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 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 clinical study by general methods</p> <p>PC-1ID-7. factors animal 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-1ИД-9 to Know the methods of fixation of animals in the conduct of their clinical examinations</p> <p>PC-1ИД-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>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>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 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>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 methods of research 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 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>PC-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</p> <p>PC-2ИД-11 Know the technique of setting up functional tests in animals</p> <p>PC-2ИД-12 Know the method of selection and analytical preparation of samples of biological material for performing laboratory tests in accordance with the instructive and methodological documents regulating the selection of samples of biological material</p> <p>PC-3 Diagnosis based on the analysis of anamnesis data, general, special (instrumental) and laboratory methods of</p>							
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		<p>research</p> <p>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>PC-3ID-2 Be able to3ID-4 Know the methods of interpretation and analysis of data from special (instrumental) methods of animal research</p> <p>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</p> <p>of PC-3ID-6 Know the etiology and pathogenesis of diseases of animals of various species</p> <p>PC-3ID-7 Know classification of animal diseases, approved lists of animal diseases</p> <p>PC-4 Performing post-mortem diagnostic examination of animals in order to establish pathological processes, diseases, causes of death</p> <p>PC-4ID-1 Be able to collect anamnesis of life and illness of the examined animals after death</p> <p>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 comply with the safety requirements</p>							
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		<p>of PC-4ИД-4 To 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>PK-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>PK-4ИД-8 to Know the rules of work with special tools by opening the corpses of animals</p> <p>PK-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 to Know the procedures and Protocol of the autopsy of the animal, in particular, with the use of digital technology</p> <p>PK-5 Development plan for the treatment of animals on the basis of diagnosis and the individual characteristics of the animals the selection of essential drugs, chemical</p>							
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			<p>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>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, 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)</p>							
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		<p>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 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</p>							
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		<p>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 Know the drugs. 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 to connect fabric a 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,</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>PK-9ИД-1 Know the types of dietary regimes 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 instructions, instructions, rules, diagnosis, prevention 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-</p>							
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			<p>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>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 prevention of animal diseases</p> <p>ПК-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>ПК-12ID-5 Know the procedure for conducting internal control of control of the veterinary and sanitary condition of</p>							
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			<p>the facility and the microclimate of livestock premises, using digital equipment</p> <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 Know the procedure for conducting clinical studies of animals in the planning of preventive measures</p> <p>PK-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>PK-15 Organization organizational,</p>							
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			<p>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> <p>PC-15ИД-2 be able to assess the effectiveness of preventive measures and their implementation, including with the use of digital technologies</p> <p>PC-15ИД-3 be able to carry out veterinary quality control and fodder for the animals to ensure their veterinary and sanitary safety in the framework of the implementation of action plans for the prevention of animal diseases</p> <p>PK-15ИД-4 to be able to produce through clinical examination, diagnostic testing of animals for the timely detection of early preclinical and clinical signs of illness</p> <p>PC-15ИД-5 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 methodological instructions, instructions, instructions, rules, diagnosis, the prevention and treatment</p>							
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			<p>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 medicine</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 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 active in</p>						
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		<p>the field of PK-17ИД-3 Know the types of interventions for the prevention of non-communicable diseases and metabolic disorders in animals, and requirements to conduct them in accordance with the guidelines, regulations, instructions, rules, diagnosis, prevention and treatment of animals</p> <p>PK-18 is Capable of conducting veterinary and sanitary examination, to control the production and certification of products of animal husbandry, beekeeping, fisheries and animal feed, as well as the transport of animals and goods for export and import operations to ensure food security conduct sanitary assessment of livestock buildings and structures</p> <p>PK-18ИД-1 to be Able to carry out veterinary and sanitary slaughter the animals and birds, post-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</p>							
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			<p>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; the modern means and methods of disinfection, disinsection and deratization slaughter and meat processing plants; rules and regulations for the organization and control of animal transportation, raw materials, products of animal origin, products of beekeeping and fisheries; biology and life cycles of animals, the causative agents of zoonoses, as well as factors conducive to their spread; concepts and terms in the field of assessing the quality of products of slaughter of animals, their chemical composition, nutritional value, the factors that shape the quality</p>							
2	production	Conducting research work; analyzing the results of experimental data	<p>A) Educational competencies</p> <p>CC-1 is able to carry out a critical analysis of problem situations based on a systematic approach, develop a strategy for actions</p> <p>of CC-1ID-1 Know the methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis.</p> <p>CC-1ID-2 To be able to acquire new</p>	36/1	2	33,85	20	0,15	10	Current

		<p>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 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>							
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			<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 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>							
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			<p>UK-4ID-2 Be able to create written texts of scientific and official-business speech styles on professional issues in Russian and foreign languages; research the flow of information on managerial communications; 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>							
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			<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> <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>							
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			<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 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</p>							
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			<p>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 clinical study by general methods</p> <p>of PC-1ID-7 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 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</p>						
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		<p>guidelines, instructions, rules, diagnosis, the prevention and treatment of animal</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>							
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			<p>ПК-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>ПК-2ИД-10 to Know the methods and technique of introducing diagnostic and radiopaque</p> <p>РС-2ИД-11 Know the technique of setting up functional tests in animals</p> <p>РС-2ИД-12 Know the method of selection and analytical preparation of samples of biological material for performing laboratory tests in accordance with the instructive and methodological documents regulating the selection of samples of biological material</p> <p>РС-3 Diagnosis based on the analysis of anamnesis data, general, special (instrumental) and laboratory methods of research</p> <p>РС-3ИД-1 Be able to make a diagnosis in accordance with generally accepted criteria and classifications, lists of animal diseases</p> <p>РС-3ИД-2 Be able to use specialized information databases for the diagnosis of animal diseases</p> <p>РС-3ИД-3 Be able to formalize the results of clinical studies of animals using digital technologies</p>							
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			<p>PC-3ID-2 Be able to3ID-4 Know the methods of interpretation and analysis of data from special (instrumental) methods of animal research</p> <p>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 of PC-3ID-6 Know the etiology and pathogenesis of diseases of animals of various species</p> <p>PC-3ID-7 Know classification of animal diseases, approved lists of animal diseases</p> <p>PC-4 Performing post-mortem diagnostic examination of animals in order to establish pathological processes, diseases, causes of death</p> <p>PC-4ID-1 Be able to collect anamnesis of life and illness of the examined animals after death</p> <p>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 comply with the safety requirements of PC-4ID-4 To 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 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</p>							
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			<p>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 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>							
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			<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>РС-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>РС-5ИД-7 to Know the pharmacological and Toxicological characteristics of pharmaceutical raw materials, medicines, chemical and biological nature, 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 the treatment, including physiotherapeutic procedures in accordance with the</p>							
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		<p>operating instructions of the PC 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 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>							
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		<p>PC-7ИД-3 Know the drugs. 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 to connect fabric a 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 principles of the selection of</p>							
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		<p>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 use in accordance with the guidelines instructions, 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</p>							
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			<p>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 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> <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>							
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			<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 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, 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</p>							
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			<p>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 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>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 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>ПК-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</p>							
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		<p>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 medicine</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, 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 active 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</p>							
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			<p>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 conduct sanitary assessment of livestock buildings and structures</p> <p>ПК-18ИД-1 to be Able to carry out veterinary and sanitary slaughter the animals and birds, post-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>ПК-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</p>						
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			of animal origin; preventive measures for the prevention of zoonoses; the modern means and methods of disinfection, disinsection and deratization slaughter and meat processing plants; rules and regulations for the organization and control of animal transportation, raw materials, products of animal origin, products of beekeeping and fisheries; biology and life cycles of animals, the causative agents of zoonoses, as well as factors conducive to their spread; concepts and terms in the field of assessing the quality of products of slaughter of animals, their chemical composition, nutritional value, the factors that shape the quality							
3	final	report on the research work according to the chosen topic	A) Educational competencies 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	18/0,5	1	16,9	10	0,075	10	Protection report research in the form of Rediff. Offsets

		<p>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 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</p>							
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			<p>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 Be able to create written texts of scientific and official-business speech styles on professional issues in Russian and foreign languages; research the flow of information on managerial communications; 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</p>							
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			<p>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> <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,</p>							
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			<p>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> <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</p>							
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		<p>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 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 –</p>							
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			<p>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 clinical study by general methods</p> <p>of PC-1ID-7 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 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,</p>						
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			<p>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 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>						
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			<p>PK-2ИД-10 Know the methods and technique of introducing diagnostic and radiopaque</p> <p>PC-2ИД-11 Know the technique of setting up functional tests in animals</p> <p>PC-2ИД-12 Know the method of selection and analytical preparation of samples of biological material for performing laboratory tests in accordance with the instructive and methodological documents regulating the selection of samples of biological material</p> <p>PC-3 Diagnosis based on the analysis of anamnesis data, general, special (instrumental) and laboratory methods of research</p> <p>PC-3ИД-1 Be able to make a 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>PC-3ИД-3 Be able to formalize the results of clinical studies of animals using digital technologies</p> <p>PC-3ИД-2 Be able to3ИД-4 Know the methods of interpretation and analysis of data from special (instrumental) methods of animal research</p> <p>PC-3ИД-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 of PC-3ИД-6 Know the etiology and pathogenesis of diseases of animals of various species</p>							
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			<p>PC-3ID-7 Know classification of animal diseases, approved lists of animal diseases</p> <p>PC-4 Performing post-mortem diagnostic examination of animals in order to establish pathological processes, diseases, causes of death</p> <p>PC-4ID-1 Be able to collect anamnesis of life and illness of the examined animals after death</p> <p>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 comply with the safety requirements of PC-4ID-4 To 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</p>							
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			<p>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>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 РС 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>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>РС-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,</p>							
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			<p>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>РС-5ИД-7 to Know the pharmacological and Toxicological characteristics of pharmaceutical raw materials, medicines, chemical and biological nature, 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>							
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		<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 indications for their use</p> <p>РС-7ИД-3 Know the drugs. used for analgesia of animals in veterinary surgery. doses and methods of their use, side effects</p> <p>РС-8 Performing surgical intervention in the body of animals in the treatment of various diseases, castration, sterilization, for cosmetic purposes</p> <p>РС-8ИД-1 Be able to dissect animal tissues using surgical instruments to create operational access to the affected</p>							
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		<p>organ or tissues</p> <p>PC-8ИД-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-8ИД-3 Be able to stop bleeding using mechanical, physical, chemical and biological methods</p> <p>PC-8ИД-4 Be able to to connect fabric a 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 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</p>							
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		<p>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 instructions, 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>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</p>							
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		<p>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> <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</p>							
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			<p>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 Know the procedure for conducting clinical studies of animals in the planning of preventive measures</p> <p>PK-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>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> <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</p>							
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			<p>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 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 methodological instructions, instructions, instructions, rules, diagnosis, the prevention and treatment of animal</p> <p>ПК-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 medicine</p> <p>ПК-17 is a plan of the clinical examination of animals based on their types and purpose, the conduct of</p>							
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			<p>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, 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 active 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 conduct sanitary assessment of livestock buildings and structures</p> <p>ПК-18ИД-1 to be Able to carry out veterinary and sanitary slaughter the animals and birds, post-slaughter veterinary-sanitary examination of</p>							
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			<p>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-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; the modern means and methods of disinfection, disinsection and deratization slaughter and meat processing plants; rules and regulations for the organization and control of animal transportation, raw materials, products of animal origin, products of beekeeping and fisheries; biology and life cycles of animals, the causative agents of zoonoses, as well as factors</p>							
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			conducive to their spread; concepts and terms in the field of assessing the quality of products of slaughter of animals, their chemical composition, nutritional value, the factors that shape the quality							
TOTAL:				72/2	4	67,7	40	0,3		

7. R & D REPORTING FORMS

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

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

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

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

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

8.1. Basic literature

1. Obstetrics, gynecology and biotechnics of animal reproduction: textbook / A. P. Studentsov, V. S. Shipilov, V. Ya. Nikitin [et al.]. - 9th ed., reprint and add-ons. Saint Petersburg: Lan Publ., 2019, 548 p. ISBN 978-5-8114-3271-4. - Text : electronic // Electronic library system "Lan" : [website]. - URL: <https://e.lanbook.com/book/111907> (accessed: April 9th, 2026).
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8.3. Internet resources

Students can use the following online resources for training:

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

8.4. Electronic library systems

1. [EBS "SPBGUVM"](#)
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 SystemIQlib](#)
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" [Kвадробы Quadro 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://spbguv.ru/academy/eiosacademy/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	AndroidOS	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 St. Petersburg and the Leningrad region, in other regions of the Russian Federation, as well as in the structural divisions of the university.

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

The working program was compiled by:

Head of the Department GE and IO,
candidate of veterinary Sciences
associate professor

 Е.Ю. Финягеев

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
(obtaining primary skills in research work)**

Higher education level
SPECIALTY
Specialty 36.05.01 Veterinary Medicine
Full-time forms of study

The start year of training is 2026

Saint-Petersburg
2026

1. PASSPORT OF THE R & D EVALUATION FUND

Table 1

#	Formed competencies	Controlled sections (topics) of the discipline	Evaluation tool
	<p>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.</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 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</p>	of animals Animal hygiene	<p>Preparation of a research report Protection of a research</p>
		report Clinical diagnostics	
		Veterinary pharmacology. Toxicology	
		Operative surgery with topographical anatomy	
		Veterinary Microbiology and mycology	

<p>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 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</p>		
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<p>for studying the communicative potential of an individual; modern means of information and communication technologies.</p> <p>UK-4ID-2 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.</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>OPK-1 is able to determine the biological status and regulatory clinical indicators of animal organs and body systems</p> <p>OPK-1ID-1 is able to know safety techniques and personal hygiene rules when examining animals, how to fix them; schemes for clinical research of an animal and the procedure for studying individual body systems, including using digital technologies; methodology for recognizing the pathological process.</p> <p>OPK-1ID-2 is able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer</p>		
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<p>technologies necessary to determine the biological status of animals.</p> <p>OPK-1ID-3 Possess practical skills in conducting an independent clinical examination of an animal using classical research methods and digital technologies.</p> <p>OPK-2 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</p> <p>OPK-2ID-1 To know environmental factors of the environment, their classification and the nature of relationships with living organisms; basic ecological concepts, terms and laws of bioecology; interspecific relations of animals and plants, predator, etc. victims, parasites and hosts; ecological features of some types of pathogenic microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body.</p> <p>OPK-2ID-2 Be able to use environmental factors and environmental laws in agricultural production; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine for the prevention of infectious and invasive diseases and treatment of animals; use environmental monitoring methods in the environmental expertise of agricultural facilities and the production of agricultural products, including: including using digital technologies; assess the impact of anthropogenic and economic factors on the animal body.</p> <p>OPK-2ID-3 Possess an idea of the origin of living organisms, the</p>		
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<p>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 using digital technologies</p> <p>, OPK-3 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-2 is able to find up-to-date, up-to-date and reliable information about veterinary legislation, including, with the use of digital technologies, the rules and regulations governing veterinary activities, including: or another region and/or country.</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</p>		
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<p>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 Possess skills in 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>PC-9 Development of recommendations for special feeding of sick animals for therapeutic purposes</p> <p>PC-9ID-1 Know the types of dietary regimes, principles of feed selection using digital technologies, norms, feeding regimes in animal diet therapy</p> <p>PC-15 Organization of organizational, technical, zootechnical and veterinary measures aimed at the prevention of non-infectious diseases in accordance with the plan prevention of non-infectious animal diseases, analysis of the effectiveness of measures for the prevention of animal diseases in order to improve them</p> <p>PC-15ID-1 Be able to assess the impact of conditions for keeping and feeding animals on their health in the framework of implementing action plans for the prevention of animal diseases using digital technologies</p> <p>PC-15ID-2 Be able to assess the effectiveness of preventive measures implementation, including using digital</p>		
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<p>technologies</p> <p>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</p> <p>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 of the disease</p> <p>PK-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</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-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 the professional field; organization of professional discussion of the project, participation in project documentation; design of the project implementation schedule; determination of requirements for project implementation results.	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
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 protection of the R
& D report OPK-1 is able to determine the biological status and regulatory clinical indicators of animal organs and body systems					
OPK-1ID-1 Know the safety and personal hygiene rules when examining animals, how to fix them; schemes of clinical research of an animal and the procedure for studying individual body systems, including using digital technologies; methodology for recognizing the pathological process.	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-1ID-2 Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals.	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, all basic tasks were solved with some minor shortcomings, all tasks were completed in full	Writing an abstract. Preparation and defense of the R & D report
OPK-1ID-3 Possess practical skills for independent clinical examination of an animal using classical research methods and digital 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 OPK-2 is able to interpret and evaluate in professional activities the impact of natural, socio-economic, genetic and economic factors on the physiological state of the animal body					
OPK-2ID-1 Know environmental factors of the environment, their classification and the nature of relationships with living organisms; basic environmental concepts, terms and laws of bioecology interspecific relationships of animals and plants, predator and prey, parasites and hosts; ecological features of some types of pathogenic	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

microorganisms; mechanisms of influence of anthropogenic and economic factors on the animal body.					
& D report OPK-2ID-2 Be able to use environmental factors and environmental laws in agricultural production; apply the achievements of modern microbiology and ecology of microorganisms in animal husbandry and veterinary medicine for the prevention of infectious and invasive diseases and treatment of animals; use environmental monitoring methods for environmental expertise of agricultural facilities and production of agricultural products.use of digital technologies; assess the impact of anthropogenic and economic factors on the animal body.	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 protection
of the OPK-2ID-3 research reportPossess 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 of digital technologies	In solving standard problems Basic skills were not demonstrated, there were gross errors	There is a minimum set of skills for solving standard problems with some shortcomings	Basic skills were demonstrated in solving standard problems with some shortcomings	Skills were demonstrated in 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-2 is able to find up-to-date, up-to-date and reliable information about veterinary legislation, including the use of digital technologies, rules and regulations governing veterinary activities in a particular area in a different region and/or country.	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-4 is 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, all basic tasks were solved with some minor shortcomings, all tasks were completed 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	When solving standard tasks, basic skills were not	, basic skills were demonstrated, standard	, all basic skills were demonstrated, all basic	, all basic skills were demonstrated. skills, solved	Writing an abstract. Preparation and

databases.	demonstrated, there were gross mistakes	tasks with minor errors were solved, all tasks were completed, but not in full	tasks with minor errors were solved, all tasks were completed in full, but some with shortcomings	all the main tasks with some minor shortcomings, completed all tasks in full	protection of the R & D report
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-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 mistakes	Minimum permissible 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 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	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	level of knowledge is below the minimum requirements, there were gross mistakes Minimum permissible level of knowledge, many non-rough mistakes Level of knowledge in the amount corresponding to the training program, several non-rough mistakes Level of knowledge in the amount corresponding to the training program, several non-rough mistakes 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, several 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, several 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, several non-rough mistakes were made	Writing an abstract without errors. Preparation and protection of the R

				made to the extent that corresponds to the training program.	
<p>& 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</p> <p>PC-15ID-2 Be able to assess the effectiveness of preventive measures and methods of their implementation, including using digital technologies</p> <p>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</p> <p>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</p>	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 completed in full, but some with defects	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 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 work¹²

3.1.1. In the section "Animal hygiene":

1. Influence of atmospheric factors and indoor microclimate on the health and productivity of agricultural animals. Hygienic requirements for the air environment for a certain group of animals (cows, calves, horses, etc.)
2. Measures to ensure an optimal microclimate in a particular livestock facility. Study of ventilation systems. Calculation of hourly ventilation volume and heat balance. Effective methods for improving the microclimate.
3. Hygienic requirements for the soil and its sanitary-hygienic assessment.
4. Hygienic requirements for water. Water quality assessment. Methods of cleaning and decontamination. Hygienic requirements for water supply and watering of farm animals.
5. Hygienic requirements for feed and feeding of agricultural animals. Feed quality assessment. Prevention of feed poisoning.
6. Hygiene of care for agricultural animals.
7. Study of regulatory documents used in drawing up tasks for designing livestock facilities (SNIps, NTP, RD, etc.)
8. Study of project documentation. Zoohygienic requirements for project documentation. Veterinary expertise of standard projects of animal husbandry premises and veterinary facilities.
9. Basic properties of building materials. Study of the influence of humidity of building materials on their thermal engineering characteristics. Hygienic requirements for building materials.
10. The role of engineering equipment in providing a microclimate in livestock premises. Ventilation, heating and manure removal systems.

3.1.2. Under the section "Clinical diagnostics":

1. Clinical trial plan.
2. Preliminary information about animals (registration, medical history).
3. Anamnesis and its significance in the diagnosis of animal diseases.
4. Habitus, its definition and significance in disease recognition.
5. Examination of visible mucous membranes (physiological properties, pathological changes).
6. Study of coat and hair in mammals, plumage in birds, skin and subcutaneous tissue. Clinical significance.
7. Examination of superficial lymph nodes, clinical significance.

¹ Темы НИР для обучающихся определяются преподавателем по согласованию со студентом.

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

8. Thermometry. Limits of body temperature fluctuations in healthy animals. Fevers. Stages of fevers. Clinical significance. The concept of hyperthermia and homothermia.
9. Examination and palpation of the heart area. Cardiac impulse (mechanism of formation, localization). Changes in heart rate..
10. Методика перкуссииHeart percussion technique. The boundaries of cardiac dullness in different animal species are normal and changing.

3.1.3. In the section "Operative surgery with topographic anatomy":

1. Safety precautions for providing surgical care to horses. Fixing and dumping of horses, pigs, and small cattle.
2. Safety precautions for providing surgical care to cattle, dogs, and cats. Fixing and collapsing cattle, fixing dogs and cats.
3. Prevention of surgical infection (operating procedure in the operating room, preparation of hands, sterilization of instruments).
4. Preparation of the operational field. Suture and dressing material, its characteristics and sterilization. Surgical underwear, its characteristics and sterilization.
5. Principles of bone separation and joining. Types of surgical sutures (skin, muscle, etc.). Connecting bones.
6. Operations on the intestines and stomach, bowel resection. Principles of applying intestinal sutures.
7. Mastering the technique of drug administration. Castration of guinea pigs.
8. Head surgery in cattle.
9. Neck surgery.
10. Desmurgia.
11. Castration of stallions.
12. Castration of boars.
13. Surgical treatment of hernias.

3.1.4. In the section " Veterinary pharmacology. Toxicology":

1. Transformation of medicinal substances in the body.
2. Mechanism and types of action of medicinal substances.
3. Dosage of medicinal substances.
4. Effects of drugs during repeated administration.
5. Factors affecting the effect of drugs.
6. Drug interactions (synergism, antagonism).
7. Dependence of the action of medicinal substances on the dosage form.
8. Side effects of medicinal substances. Classification.
9. General characteristics of analgesics.
10. Narcotic analgesics.
11. Non-narcotic analgesics.
12. Antipsychotics and tranquilizers.
13. Sedatives.
14. Groups of purine bases and strychnine.

15. Camphor group. Cordiamine.
16. Cholinomimetic and anticholinesterase agents.
17. Anticholinergic agents.
18. Adrenomimetic agents.
19. Ganglionblockers, antihistamines, and muscle relaxants.
20. Emetics, expectorants, and ruminants.
21. Local anesthetics (cocaine, novocaine, lidocaine).
22. Local anesthetics (anaesthesin, dicaine, trimecaine).
23. Solid dosage forms.
24. Liquid dosage forms.
25. Soft and dense dosage forms.

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 those with disabilities, the procedure for evaluating the results of R & D 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>