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Ministry of Agriculture of the Russian Federation
Federal State Budgetary Educational Institution
of Higher Education
"St. Petersburg State University of Veterinary Medicine"

APPROVED BY
Vice-Rector for Educational
Work and Youth Policy
Sukhinin A.A.
May 6, 2024

Department of Pathological Physiology
EDUCATIONAL WORK PROGRAM

for the discipline

"METHODOLOGY OF THE SCIENTIFIC RESEARCH"

The level of higher education
SPECIALIST COURSE

Specialty 36.05.01 Veterinary Medicine
Full-time education
Education starts in 2024

Reviewed and accepted
at a meeting of the department
on 2 May, 2024
Protocol No. 12
Head of the department
of pathological physiology
Doctor of Veterinary Science, Professor
O.V. Kryachko

Saint Petersburg
2024

1. AIMS AND OBJECTIVES OF THE DISCIPLINE

Aim:

The purpose of the discipline "Methodology of scientific research" is to prepare a future veterinarian with theoretical and practical skills to successfully resolve issues related to conducting scientific experimental clinical morphological studies. Familiarization with laboratory utensils and equipment for research.

A necessary condition for solving these problems is the clear organization and implementation of the stages of statistical research. Therefore, it is necessary to learn the basic rules and procedure for such work. Learn how to draw up a program of statistical research, determine the volume of observations, conduct development, summary and analysis of the material.

Ensure that students master the basic concepts of the theory of solving inventive problems and patent science to broaden their horizons, develop scientific thinking; develop students' ability to navigate scientific information for their implementation in practice, in particular in the field of veterinary medicine.

Students will be familiarize with the structure of the library, methods of bibliographic search, catalogs and file cabinets, bibliographic description of primary sources, design of lists of used literature for scientific works.

Tasks:

- to improve research methodology, development and implementation of innovative technologies in the field of veterinary medicine and animal husbandry;
- to collect scientific information, preparation of reviews, annotations, compilation of abstracts and reports, bibliographies, analysis of information on research objects;
- to participate scientific discussions and procedures for the protection of scientific works of various levels;
- to present reports on research topics, dissemination and popularization of professional knowledge, educational work with students;
- to analyze the state and dynamics of objects of activity, development of plans, programs and methods of research, analysis of their results.
- to acquaintance with such an important issue as the protection of intellectual property, the law of the Russian Federation on copyright and related rights.

2. THE LIST OF THE PLANNED RESULTS OF THE DISCIPLINE (MODULE), CORRELATED WITH THE PLANNED RESULTS OF THE REALISED EDUCATIONAL PROGRAM

As a result of development the discipline, the student prepares for the following types of activities, in accordance with the educational standard of the Federal State Educational Standard 36.05.01 "Veterinary."

Types of professional activity:

scientific and educational activities:

- to improve research methodology, development and implementation of innovative technologies in the field of veterinary medicine and animal husbandry;
- to collect scientific information, preparation of reviews, annotations, compilation of abstracts and reports, bibliographies, analysis of information on research objects;
- to participate scientific discussions and procedures for the protection of scientific works of various levels;
- to present reports on research topics, dissemination and popularization of professional

The student's competencies formed (acquired) as a result of mastering the discipline

The education of the discipline should form the following competencies:

A) Universal competencies

UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation.
UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis.
UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies.
UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations.
UC-2. Is able to manage the project at all stages of life cycle
UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work.
UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.
UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project.
UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education
UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity.
UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies.
UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.

3. THE PLACE OF DISCIPLINE IN THE STRUCTURE OF THE MPEP

3.1. The discipline of the B1.V.20 "Methodology of scientific research" refers to the part formed by participants in educational relations of the federal state educational standard of higher education in the specialty 36.05.01 "Veterinary" (specialist level).

It is mastered in the 5th semester in full-time form of education.

3.2. By study this discipline, needs the following knowledge, skills and abilities formed by previous disciplines:

Philosophy; Jurisprudence; Veterinary legislation of the Russian Federation; Informatics, Fundamentals of Mathematical Biostatistics; Instrumental diagnostic methods; Computerization in veterinary medicine.

Knowledge: scientific, philosophical pictures of the world; the interaction of the spiritual and bodily, biological and social in a person, his attitude to nature and society; basic principles and provisions of state and administrative legislation of the Russian Federation,

fundamental laws, legal acts, rules and regulations in the field of veterinary medicine; foreign language in the field of professional communications, Latin veterinary terminology to the extent necessary for the possibility of obtaining professional information from domestic and foreign sources.

Skills: to independently analyze and evaluate social information, rules of behavior and corporate ethics; plan and carry out its activities taking into account this analysis; build and maintain working relationships with other members of the team.

Skills: to speak a foreign language in the amount of at least 4000 lexical units, it is necessary for professional communication, obtaining information from foreign sources; skills of written reasoned presentation of one's own point of view; public speech, argumentation, debating and polemic skills; Latin in the amount necessary to study the discipline.

3.3. The list of subsequent training disciplines that require knowledge, skills and abilities formed by this training discipline:

-Internal non-contagious diseases
-Operative surgery with topographic anatomy
-General and private surgery
-Acupressure and gynecology
-Parasitology and invasive diseases
-Epizootology and infectious diseases
- Pathological anatomy
- Veterinary and sanitary examination
-Organization of veterinary affairs

4. SCOPE OF DISCIPLINE " METHODOLOGY OF THE SCIENTIFIC RESEARCH"

4.1. SCOPE OF DISCIPLINE " METHODOLOGY OF THE SCIENTIFIC RESEARCH" FOR FULL-TIME EDUCATION

Type of educational work	Total Hours/Credits	Semester
		5
Classroom classes (total)	**36/1**	**18**
Including:	-	
Practical (PP), including interactive forms, among which are:	18/0,5	18
Practical training (PT)	4	4
Self-study (total)	**54/1,5**	**54**
Essay	+	+
Type of intermediate and final certification (test, exam)		**Test**
Total labor intensity hours/credits	**72/2**	**72/2**

5. THE CONTENT OF THE DISCIPLINE " METHODOLOGY OF THE SCIENTIFIC RESEARCH"

5.1. The content of the discipline" Methodology of the scientific research "

(full-time education)

	The title	Achieved competences	Types of academic work, including students' self-study and labor intensity (in hours)		
			Practical lessons	Practical training	Self-study
1.	Subject and basic concepts of the discipline Methodology of scientific research. Science and the concept of scientific research. History of science	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them**	1		4

		based on self-assessment and life along education UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.			
2.	Veterinary science in the Russian Federation and countries of the world. State, development prospects.	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.			4

3.	History of veterinary science	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status. состояний.	1		2

4.	Major scientific problems in veterinary medicine. Choosing the direction of scientific research.	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.			4
5.	Methods of scientific cognition. Methods of theoretical research	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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	1		4

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6.	Methods of scientific cognition. Methods of empirical research	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle**	1		4

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7.	Scientific criteria. Research object and subject, goals, objectives and hypothesis	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the	2		2

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8.	Experiment and organization of the experiment in veterinary medicine. Types of experiments. Stages of scientific experiments.	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the	2	2	2

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9.	Basics of applied veterinary biostatistics	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity.		2	4

		UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.			
10	Features of the clinical experiment. Bioethics fundamentals	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.	1		2
11	Basic methods for finding information for scientific	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation	1		2

	research	UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.			
12	Literary presentation of research results, types. Preparation of scientific reports and presentations	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of	1		4

		synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.			
13	Structure and design of abstract, course and thesis	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and	1		4

		requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.			
14	Fundamentals of scientific ethics and labor organization. Scientific citation. Plagiarism	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity:	1		4

		assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.			
15	Participation in scientific events	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project.			4

		UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.			
16	Participation in competitions of target programs and support funds	UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations. **UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies.	1		4

		UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.			
	Total		**14**	**4**	**54**

6. 6. THE LIST OF EDUCATIONAL AND METHODOLOGICAL SUPPORT FOR STUDENTS' SELF WORK ON THE DISCIPLINE

6.1. Guidelines for self -work

1. Methods of scientific research in veterinary medicine/comp.: O.V. Romanova, O.V. Kryachko, S.V. Savicheva; SPbGAVM. - St. Petersburg: Publishing House SPbGAVM, 2013. - 41 p. -URL:. https://clck.ru/ecMKy (access date: 27.04.2024). - Access mode: for authoring. users of PB SPbGUVM.

2. Fundamentals of scientific research in veterinary medicine: a textbook for students and graduate students of veterinary universities and faculties/O.V. Kryachko, L.A. Lukoyanova, O.V. Romanova, S.V. Savicheva; Ministry of Agriculture of the Russian Federation, SPbGAVM. - St. Petersburg: Publishing House SPbGAVM, 2015. - 71 p. - URL: https://clck.ru/UHGa9 (access date: 27.04.2024). - Access mode: for authoring. users of PB SPbGUVM.

6.2. Literature for self-work

1. Methodological manual for writing an abstract/comp. S. Yu. Pishvanov; SPbGAVM. - St. Petersburg: Publishing House SPbGAVM, 2010. - 26 s.

2. Obodovsky, A.G. Theory of statistics in the present state with the addition of a brief history of statistics/A.G. Obodovsky. - St. Petersburg: Doe, 2013. - 124 p. -URL: https ://e.lanbook.com/book/37049 (Accessed: 27.04.2024). - Access mode: for authoring. users of EBS "Lan."

7. THE LIST OF BASIC AND ADDITIONAL LITERATURE NECESSARY FOR THE EDUCATION OF THE DISCIPLINE

a) Basic literature:

1. Methodology of scientific research: a textbook for universities/N. A. Slesarenko, E. N. Borkhunova, S. M. Borunova [and others]; edited by N. A. Slesarenko. - 5th ed., Erased - St. Petersburg: Doe, 2021. - 268 c. - URL: https://e.lanbook.com/book/156383

(accessed on: 27.04.2024). - Access mode: for authoring. users of EBS "Lan."

b) Additional literature:

1. Dzhabrailov, A.S. Probability theory and mathematical statistics: educational manual/A.S. Dzhabrailov. - Volgograd: Volgograd GAU, 2017. -72 p. - URL: https ://e.lanbook.com/book/112359 (accessed: 27.04.2024). - Access mode: for authoring. users of EBS "Lan."

2. Gmurman, V.E. Theory of probabilities and mathematical statistics: a textbook for universities/V.E. Gmurman. - 12th ed. - Moscow: Yurayt, 2021. - 479 p. - URL: https://urait.ru/bcode/468331 (access date: 27.04.2024). - Access mode: for authoring. users of EBS "Yurayt."

3. Fundamentals of scientific research in veterinary medicine: a textbook for students and graduate students of veterinary universities and faculties/O.V. Kryachko, L.A. Lukoyanova, O.V. Romanova, S.V. Savicheva; Ministry of Agriculture of the Russian Federation, SPbGAVM. - St. Petersburg: Publishing House SPbGAVM, 2015. - 71 p. - URL: https://clck.ru/UHGa9 (access date: 27.04.2024). - Access mode: for authoring. users of PB SPbGUVM.

8.THE LIST OF RESOURCES OF THE INFORMATION AND TELECOMMUNICATION NETWORK "INTERNET" NECESSARY FOR EDUCATION OF THE DISCIPLINE

Students can use the following Internet resources to prepare for laboratory classes and perform independent work:

1. Agropoisk, full-text database of foreign magazines Doal, search engines Rambler, Yandex, Google.

2. http://idschool225.narod.ru/metod.htm - Scientific research methods

3. http://psylib.ex12.ru/religos/Philos/savrush2/index.php- M. Savrusheva Philosophy of Science and Technology. Undergraduate tutorial

Electronic library systems

1. EBF "SPbGUVM"
2. EBS "Publishing House" Lan "
3. EBS "Student Consultant"
4. ConsultantPlus Reference System
5. University Information System "RUSSIA"
6. Scientific electronic library ELIBRARY.RU
7. Russian Scientific Network
8. Web of Science International Science Citation Index Database
9. E-books of the publishing house "Prospect Nauki"

9. METHODOLOGICAL GUIDELINES FOR STUDENTS ON EDUCATION OF THE DISCIPLINE

Methodological recommendations for students are a set of recommendations and explanations that allow the student to optimally organize the process of studying this discipline.

The content of the guidelines, as a rule, may include:

• Tips for planning and organizing the time required to study the discipline. Description of the student's sequence of actions, or "discipline study script." Morning time is the most fruitful for educational work (from 8-14 o'clock), then afternoon time (from 16-19 o'clock) and evening time (from 20-24 o'clock). The most difficult material is recommended for study at the beginning of each time interval after rest. After 1.5 hours of operation, a break is required (10-15 minutes), after 4 hours of operation, the break should be 1 hour. Part of the scientific organization of work is mastering the technique of mental labor. Normally, a student should devote about 10 hours a day to teaching (6 hours at a university, 4 hours at home).

Recommendations for working on lecture material

In preparation for the lecture, the student is recommended:

1) to view the recordings of the previous lecture and restore the previously studied material in memory;

2) to view the upcoming material of the future lecture;

3) if an independent study of individual fragments of the topic of the last lecture is set, then it must be performed without delay;

4) to tune psychologically to the lecture.

This work includes two main stages: lecture notes and subsequent work on lecture material.

By taking notes is meant the compilation of a summary, i.e. a brief written statement of the content of something (oral speech - speech, lecture, report, etc., or a written source - document, article, book, etc.). The method of work when inspecting oral speeches differs significantly from the method of work when inspecting written sources.

Taking notes on written sources, the student has the opportunity to repeatedly read the desired passage of the text, reflect on it, highlight the main thoughts of the author, briefly formulate them, and then write it down. If necessary, he can note his attitude to this point of

view. Listening to the lecture, the student should postpone most of the complex of the above works for another time, trying to use every minute to record the lecture, and not to comprehend it - there is no time left for this. Therefore, when reviewing a lecture, it is recommended to separate the fields for subsequent entries on each page in addition to the summary. After recording a lecture or compiling a summary, you should not leave work on the lecture material before starting preparation for the test. It is necessary to do as early as possible the work that accompanies the examination of written sources and which could not be done during the recording of the lecture - read your notes, deciphering individual abbreviations, analyze the text, establish logical connections between its elements, in some cases show them graphically, highlight the main thoughts, note issues requiring additional processing, in particular, teacher consultations.

When working on the text of a lecture, a student should turn special attention to the problematic issues posed by the teacher when giving a lecture, as well as to his tasks and recommendations.

For each lecture, practical lesson and laboratory work, the number is leaded, topic, list of issues under consideration, volume in hours and links to the recommended literature are provided. For classes conducted in interactive forms, their organizational form should be indicated: computer simulation, business or role-playing game, analysis of a specific situation, etc.

• Practical preparation recommendations

Practical (seminar) classes form an important part of the professional training of students. The main goal of conducting practical (seminar) classes is to form analytical, creative thinking among students by acquiring practical skills. Also, practical classes are held in order to deepen and consolidate the knowledge gained at lectures and in the process of independent work on regulatory documents, educational and scientific literature. When preparing for a practical lesson for students, it is necessary to study or repeat theoretical material on a given topic.

When preparing for a practical lesson, the student is recommended to follow the following algorithm;

1) get acquainted with the plan of the upcoming lesson;

2) study the literature sources that have been recommended and familiarize yourself with the introductory notes to the relevant sections.

Methodological guidelines for practical (seminar) classes in the discipline, along with the work program and schedule of the educational process, refer to methodological documents that determine the level of organization and quality of the educational process.

The content of practical (seminar) classes is recorded in the working curricula of the disciplines in the sections "List of topics of practical (seminar) classes".

The most important component of any form of practical training are tasks. The basis of the task is an example that is understood from the standpoint of the theory developed in the lecture. As a rule, the main attention is paid to the formation of specific skills, which determines the content of students' activities - problem solving, laboratory work, clarification of categories and concepts of science, which are a prerequisite for correct thinking and speech.

Practical (seminar) classes perform the following tasks:

- stimulate regular study of recommended literature, as well as attentive attitude to the lecture course;
- consolidate the knowledge gained in the process of lecture training and independent work on literature;
- expand the scope of professionally significant knowledge, skills, and abilities;
- allow you to verify the correctness of previously acquired knowledge;
- initiate skills of independent self-thinking, oral presentation;
- contribute to the free use of terminology;
-provide the teacher with the opportunity to systematically monitor the level of independent work of students.

Methodological guidelines for practical (seminar) classes on the discipline should be focused on modern business conditions, current regulatory documents, advanced technologies, the latest achievements of science, technology and practice, modern ideas about certain phenomena, the studied reality.

• Recommendations for working with literature.

Working with literature is an important stage of the student's self-work on mastering the subject, contributing not only to the consolidation of knowledge, but also to the expansion of horizons, mental abilities, memory, the ability to think, express and confirm personal hypotheses and ideas. In addition, the skills of research work necessary for further professional activityare developed.

When starting to study the literature on the topic, it is necessary to make notes, extracts, notes. It is mandatory to take notes of the works of theorists, which allow us to comprehend the theoretical basis of the study. For the rest, you can limit yourself to summary from the studied sources. All summaries and quotations must have the exact "return address" (author, title of the work, year of publication, page, etc.). It is advisable to write an abbreviated title of the question to which the extract or quotation refers. In addition, it is necessary to learn how to immediately compile a file of special literature and publications of sources, both proposed by the teacher and identified independently, as well as refer to bibliographic reference books, chronicles of journal articles, book chronicles, abstract journals. At the same time, publications of sources (articles, book titles, etc.) should be written on separate cards, which must be filled in according to the rules of bibliographic description (surtitle, initials of the author, title of the work. Place of publication, publisher, year of publication, number of pages, and for journal articles – the title of the journal, year of publication, page numbers). On each card, it is advisable to record the thought of the author of the book or a fact from this book on only one specific issue. If the work, even in the same paragraph or phrase, contains more judgments or facts on another issue, then they should be written out on a separate card. The presentation should be concise, accurate, without subjective assessments. On the back of the card, you can make your own notes about this book or article, its content, structure, on which sources it is written, etc.

• Explanations about working with control and test materials for the course, recommendations for completing homework.

Testing is a conrol that allows you to determine whether the actual behavior of the program corresponds to the expected one by performing a specially selected set of tests. A test is the fulfillment of certain conditions and actions necessary to verify the operation of the function under test or part of it. Each question in the discipline must be answered correctly by choosing one option.

10. EDUCATIONAL SOCIAL 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, the formation and development of spiritual and moral, civil and patriotic values, a system of aesthetic and ethical knowledge and values, attitudes of tolerant consciousness in society, the formation of students' need for work as the first vital necessity, the highest value and the main way to achieve success in life, to realize the social significance of your future profession.

11. THE LIST OF INFORMATION TECHNOLOGIES USED IN THE IMPLEMENTATION OF THE EDUCATIONAL PROCESS

11.1 Information technologies

For the educational process of the discipline is previewed the use of information technologies:

- practical classes using multimedia;

- interactive technologies (dialogues, collective discussion on various topics for realization a particular educational and professional task);
- interaction with students via e - mail;
- community work in the electronic information and educational environment of St. Petersburg State University: https://spbguvm.ru/academy/eios/

11.2. Software

The list of licensed and free- distributed software, including national programs

№ п/п	Technical and computer programs recommended by sections and topics of the program	License
1	MS PowerPoint	67580828
2	LibreOffice	free software
3	OS Alt Education	AAO.0022.00
4	ABIS " MARK-SQL"	02102014155
5	MS Windows 10	67580828
6	System Consult Plus	503/КЛ
7	Android OS	free software

12. THE MATERIAL AND TECHNICAL BASE NECESSARY FOR THE IMPLEMENTATION OF THE DISCIPLINE EDUCATIONAL PROCESS.

The title of the discipline (module), practice in accordance with the curriculum	**The title of special rooms and rooms for self-work**	**Equipment of special rooms and rooms for self-work**
Methodology of the scientific research	216(5, Chernigovskaya St., St. Petersburg, 196084) Classroom for seminar-type classes, group and individual consultations, current control and intermediate certification	*Specialized furniture:* seats, desks, chairs, whiteboard, TV, multimedia, VCR.
	316 (5, Chernigovskaya St., St. Petersburg, 196084) Classroom for seminar-type classes, group and individual consultations, current control and intermediate certification	*Specialized furniture:* desks, chairs, whiteboard, TV, multimedia, VCR.
	206 Large reading room (196084, St. Petersburg, Chernigovskaya str., 5) Room for self-work	*Specialized furniture:* tables, chairs *Technical means of education:* computers connected to the Internet and access to an electronic information and educational environment информационно-образовательную среду
	214 Small reading room (196084, St. Petersburg, Chernigovskaya str., 5) Room for self-work	*Specialized furniture:* tables, chairs *Technical means of education:* computers connected to the Internet and access to an electronic information and educational environment

	324 Information Technology Department (196084, St. Petersburg, Chernigovskaya str., 5) Room for storage and preventive maintenance of educational equipment	*Specialized furniture:* tables, chairs, special equipment, materials and spare parts for preventive maintenance of technical training facilities
	Box No. 3 Carpentry workshop (196084, St. Petersburg, Chernigovsaya str., 5) Room for storage and preventive maintenance of educational equipment	*Specialized furniture:* tables, chairs, special equipment, materials and spare parts for preventive maintenance of technical training facilities

Developers:

Head of the department of pathological physiology
Doctor of Veterinary Science, Professor — O.V. Kryachko

Candidate of Veterinary Science, associate professor — L.A. Lukoyanova

Annex 1

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

Department of Pathological Physiology

FUND OF ASSESMENT TOOLS

for the discipline

«METHODOLOGY OF THE SCIENTIFIC RESEARCH»

Level of higher education
SPECIALIST COURSE

Specialty 36.05.01 Veterinary medicine
Full-time education.

Education starts in 2024.

Saint Petersburg
2024

1. PASSPORT IF THE FUND OF ASSESMENT TOOLS

Table 1

№	Acquired competence	Assessed modules of a discipline	Assesment tool
1.	**UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation** UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies. UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations.	Section 1. Science and the concept of scientific research. History of veterinary science.	Survey,report,seminar,test
2.		Section 2. Classification of scientific research and methods.	Survey,report,seminar,test
3.		Section 3. Experiment and organization of the experiment in veterinary medicine.	Survey,report,seminar,test
4.		Section 4. Experiment on laboratory animals.	Survey,report,seminar,test
5.		Section 5. Statistical methods for processing results.	Survey,report,seminar,test
6.		Section 6. Statistical methods for processing results.	Survey,report,seminar,test
7.	**UC-2. Is able to manage the project at all stages of life cycle** UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work. UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results,	Section 7. Literary exposition.	Survey,report,seminar,test
8.		Section 8. Preparation of reports and presentations.	Survey,report,seminar,test
9.		Section 9. Method of public speaking.	Survey,report,seminar,test

	deadlines for project work. UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project. **UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education** UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity. UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies. .		

List of assessment tools

Table 2

№	Title of the assessment tool	Brief description of the assesment tool	Presentation of the assessment tool in the fund
1.	Seminar	A means of control is organized as a conversation between the teacher and the student on topics related to the discipline, and designed to clarify the amount of knowledge that students have on a certain module, topic, problem, etc. May be conducted in written form.	Questions by Discipline Topic/Section
2.	Test	A system of standardized tasks, which allows to automate the assessment of students knowledge and skills	Fund of assessment tools for the discipline
3.	Report	The product of the student's independent work, which is a summary in writing of the results obtained theoretical analysis of a certain scientific (educational and research) topics, where the author reveals the essence of the problem under study, leads different points of view, as well as own views on it	Topics of reports
4	Survey	A tool for monitoring the assimilation of the educational material of a topic, section or sections of a discipline, organized as a training session in the form of a teacher's interview with students	A tool for monitoring the assimilation of the educational material of a topic, section or sections of a discipline, organized as a training session in the form of a teacher's interview with students

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

Table 3

Planned results of competency acquaired	The level of development				Assesment tool
	Unsatisfactory	Satisfactory	Good	Exellent	
UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation					
UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Survey,report, seminar,test ,
UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies.	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated; typical problems have been solved with minor errors, all tasks have been completed, but	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in	Survey,report, seminar,test ,

		not in full	full, but some with flaws	full	
UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations.	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Survey,report, seminar,test ,
UC-2. Is able to manage the project at all stages of life cycle					
UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Survey,report, seminar,test ,
UC-2 ID-2 To be able to: substantiate the theoretical and practical significance of the results obtained; check and analyze project documentation; predict the development of processes in the project professional field;	Basic skills were not demonstrated in solving	Basic skills have been demonstrated, typical	All the basic skills have been demonstrated, all the main	All basic skills have been demonstrated, all main tasks	Survey,report, seminar,test ,

put forward innovative ideas and non-standard approaches to its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.	standard tasks, and gross errors occurred	problems have been solved with minor errors, all tasks have been completed, but not in full	tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	have been solved with some minor flaws, all tasks have been completed in full	
UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project.	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Survey,report, seminar,test ,
UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education.					

UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge corresponds to the training program, several minor errors have been made	The level of knowledge corresponds to the training program, no errors have been made	Survey,report, seminar,test ,
UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies.	Basic skills were not demonstrated in solving standard tasks, and gross errors occurred	Basic skills have been demonstrated, typical problems have been solved with minor errors, all tasks have been completed, but not in full	All the basic skills have been demonstrated, all the main tasks have been solved with minor errors, all the tasks have been completed in full, but some with flaws	All basic skills have been demonstrated, all main tasks have been solved with some minor flaws, all tasks have been completed in full	Survey,report, seminar,test ,
UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.	The level of knowledge is below the minimum requirements, gross errors have occurred	The minimum acceptable level of knowledge, many minor errors have been made	The level of knowledge is below the minimum requirements, gross errors have occurred	The level of knowledge corresponds to the training program, no errors have been made	Survey,report, seminar,test ,

4. LIST OF CONTROL TASKS AND OTHER MATERIALS REQUIRED TO ASSESS KNOWLEDGE, SKILLS AND EXPERIENCE THAT CHARACTERIZE THE STAGES OF FORMING COMPETENCIES IN THE PROCESS OF MASTERING THE EDUCATIONAL PROGRAM

4.1.1. Questions for the seminar

Competence to be formed:

UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation

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

UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies.

UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations.

1. Define the concept of "science." What does the concept of "veterinary science" include?
2. What features of science as a form of knowledge of the world do you know?
3. What is research activity in general?
4. Tell us about the most important features of scientific research.
5. Characterize the object and subject of scientific research.
6. What conditionally distinguished groups of disciplines are included in the complex of veterinary science? Give them a brief characterization.
7. Tell us about the main historical stages of the formation of veterinary science.
8. Tell us about the development of veterinary science in Russia.
9. Describe the current state of veterinary science in the world.
10. Give a brief description of the main types of scientific research for the intended purpose
11. What two levels of knowledge are distinguished in the methodology of scientific research? Characterize them.
12. By what parameters do the levels of scientific knowledge differ?
13. Give a brief description to groups of methods of scientific cognition.
14. Give a brief description of the general scientific methods of scientific knowledge.
15. Define "analysis" and "synthesis." How are these general scientific methods used in veterinary science?
16. Define "induction" and "deduction." How are these general scientific methods used in veterinary science?
17. Tell us about the logical and historical general scientific methods.

Competence to be formed:

UC-2. Is able to manage the project at all stages of life cycle

UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work.

UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.

UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project.

1. What do you know about the use of analogy and simulation methods in veterinary medicine.
2. Characterize particular or specific methods common in veterinary medicine.
3. What is meant by the term "private technique"? What is the purpose of using private methods in veterinary medicine?
4. Tell us about empirical research methods.
5. Define "observation" and "experiment"
6. Tell us about the peculiarities of observation in veterinary medicine.
7. What characteristic features of the experiment do you know?
8. Tell us about the objective and theoretical sides of the experiment.
9. How is the preparation (planning) for the experiment?
10. Tell us about the peculiarities of preparing and performing experiments in veterinary medicine.
11. What are the criteria for the need to use laboratory animals for scientific and educational purposes?
12. What are the alternatives to biotesting?
13. Give a brief description of the main stages of the experiment.
14. What are the basic principles for obtaining and analyzing experimental data?
15. How are the results obtained during the experiment processed and documented?
16. What levels of research activity are used in veterinary medicine?
17. Tell us about the main conditionally distinguished groups of disciplines in veterinary medicine as a complex of sciences.
18. What general scientific research methods are used in veterinary research activities?

Competence to be formed:

UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education

UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity.

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

UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.

1. List the main criteria for classical science
2. List the main signs of scientific
3. What is a scientific hypothesis, list the main requirements for it
4. What hypotheses are distinguished by functions in the cognitive process?
5. Which hypotheses are distinguished by direction of results
6. What hypotheses are distinguished by the subject of the study
7. Stages of hypothesis development
8. What is an object, subject and subject of scientific research?
9. What is the purpose and objectives of scientific research?
10. What is a scientific experiment?
11. Features of a scientific experiment
12. Experimental planning steps

13. How is the experimental group different from the control?
14. Types of experiments on the degree of impact on the object
15. Types of experiments by purpose
16. Types of experiment on organization of
17. Types of experiment by logical structure
18. Types of experiment by the nature of interaction with the object
19. Types of experiment by expected result
20. What is the "Source of Scientific Information"? List the main properties of scientific information.
21. What types of information sources do you know by the form of presentation
22. What types of information sources do you know by the novelty of information?
23. What types of information sources do you know by frequency?
24. What are the main types of scientific books you know?
25. What are the main types of training books you know?
26. What types of electronic information sources do you know?
27. What methods of recording the received information do you know?
28. List the types of notes

4.1.2. Standart tasks for performance monitoring for competency assessment

UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation

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

UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies.

UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations.

UC-2. Is able to manage the project at all stages of life cycle

UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work.

UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.

UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project.

UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education

UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity.

UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies.
UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.

1. Define the concept of "science." What does the concept of "veterinary science" include?
2. What is research activity in general?
3. Characterize the object and subject of scientific research.
4. Tell us about the development of veterinary science in Russia.
5. Give a brief description of the main types of scientific research for the intended purpose
6. By what parameters do the levels of scientific knowledge differ?
7. Define "analysis" and "synthesis." How are these general scientific methods used in veterinary science?
8. Define "induction" and "deduction." How are these general scientific methods used in veterinary science?
9. Characterize particular or specific methods common in veterinary medicine.
10. Tell us about empirical research methods.
11. Define "observation" and "experiment"
12. Tell us about the peculiarities of observation in veterinary medicine.
13. What characteristic features of the experiment do you know?
14. Tell us about the objective and theoretical sides of the experiment.
15. How is the preparation (planning) for the experiment?
16. How are the results obtained during the experiment processed and documented?
17. What levels of research activity are used in veterinary medicine?
18. Tell us about the main conditionally distinguished groups of disciplines in veterinary medicine as a complex of sciences.
19. What general scientific research methods are used in veterinary research activities?
20. What are the features of conducting scientific research in veterinary medicine?
21. What private research methods are classified as invasive?
22. What non-invasive research methods in modern veterinary medicine do you know?
23. What research methods in veterinary medicine can be classified as weakly invasive?
24. What in veterinary specialized scientific research is an "object" and "subject"?
25. What types of abstracts do you know? What are the differences between abstract works and scientific articles?

Topics of reports for independent work:

UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation
UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis
UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies.
UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations.
UC-2. Is able to manage the project at all stages of life cycle

UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work.
UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.
UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project.
UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education
UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity.
UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies.
UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.
1. Specificity of scientific activity. Methods and means of scientific cognition.
2. Impact of scientific research on the development of society.
3. Relevance, object and subject of scientific research in veterinary medicine.
4. Scientific research process. Characteristics of milestones.
5. Organizational structure and trends in the development of veterinary science in Russia.
6. Priority areas for the development of veterinary science in Russia.
7. Types and forms of student research work.
8. Scientific papers and publications. Organization of work with scientific literature.
9. The purpose and objectives of scientific research, their logical relationship.
10. General characteristics of research methods in veterinary medicine.
11. Organization of scientific research of students at SPbGUVM.
12. Organization of research work in Russia.
13. Academic degrees and academic titles in the Russian Federation and abroad.
14. The system of training scientific and scientific-pedagogical personnel in Russia.
15. Master's degree in multi-level higher education.
16. Team management when performing research and production tasks.
17. Research methodology.
18. Method, observation, comparison, counting, measurement, experiment, generalization, abstraction, formalization, axiomatic method.
19. Analysis, synthesis induction, deduction, analogy, hypothetical method, historical method.
20. Empirical, experimental-theoretical, theoretical and meta-theoretical levels of methods of scientific cognition.
21. Selection of NI direction. Relevance of the topic (issue). Research goals and objectives. Object of research. Research subject. Scientific novelty of the study results. Practical significance of the study results.
22. System analysis of the problem being solved.
23. Systems models and their classification.

24. Mathematical models of systems and methods of their construction. Using a mathematical model to set a research problem.
25. Model class selection and justification.
26. Estimation of model parameters from experimental data.
27. Selection and justification of the problem solution method.
28. Features of the software implementation of the method of solving the problem.
29. The analysis of results of a research of efficiency of the solution of the considered problem.
30. Classification of research papers. Evaluation of the prospects of research work. Performance criteria.
31. Copyright. Intellectual property protection. Types and objects of intellectual property. Liability for copyright infringement.
32. Information retrieval, accumulation and processing of scientific information. Search methods.
33. Scientific research software.
34. What is a dissertation. Basic requirements for dissertations.
35. The main stages of the preparation of the dissertation. Thesis defense.

4.1.3. Test - questions on the discipline "Methodology of scientific research"

Competence to be formed:
UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation
UC-1 ID-1To know methods of critical analysis and evaluation of modern scientific achievements; basic principles of critical analysis
UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies.
UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations.

1. What should be accompanied by reading scientific and special literature?
A. record keeping
B. rewriting the source text
C. rote learning
D. all above

2. What is the title of a qualifying scientific work in a certain field of science, which has internal unity, containing a set of scientific results, scientific provisions put forward by the author for public protection and testifying to the author's personal contribution to science and his qualities as a scientist?
A. report
B. monograph
V. thesis
G. dissertation

3. What is the title of a scientific publication containing a complete and comprehensive study of one problem or topic and owned by one or more authors?
A. selected works
B. complete works
B. monograph

D. dissertation

4. What is the title of the compressed characteristic of the original source, which lists the main problems considered in it?
A. thesis
B. abstract
B. introduction
D. conclusions

5. What is modeling?
A. this is a method of logical inference from general to particular, i.e. first, the state of the object as a whole is investigated, and then its main elements.
B. this is a method of research, which consists in the study of an object by mentally or practically dividing it into the main elements
B. this is the study of an object by creating and examining its copy (model), replacing the original at certain points of interest to the researcher
D. this is a method of cognition, in which, on the basis of the similarity of objects in some signs, a conclusion is made about their similarity in other signs

6. What sciences are aimed at obtaining new knowledge about the basic laws of the structure, functioning and development of man, society, the environment?
A. basic sciences
B..applied sciences
B. technical Sciences
D. natural Sciences

7. What is the title of purposeful cognition, the results of which appear in the form of a system of concepts, laws and theories?
A. scientific method
B. scientific research
B. scientific practice
D. scientific Theory

8. What sciences are aimed at applying new knowledge to achieve practical goals and solve specific problems?
A. applied sciences
B. basic Sciences
B. technical Sciences
D. natural Sciences

9. Which of the following is not a hallmark of scientific research?
A. evidence
B. off-system
B. focus
D. search for New

10. At what stage of scientific research is the hypothesis tested?
A. research (second)
B. final
B. first
D. preparatory

11. Which of the following stages of scientific research is superfluous?
A. preparatory
B. research
V. creative
D. final

12. What is a collection of scientific articles?
A. the scientific work of one or more consensus authors, which provides a comprehensive study of a single problem or topic
B. a critical review of one or more scientific works, where an analysis of the importance and relevance of the studies presented is given, the quality of the presentation is assessed, and expert feedback is given
B. publication of works by one or more authors who often consider one scientific problem from different points of view
D. A small print edition, usually of popular science content

13. What is system analysis?
A. method of studying objects in their entire variety, in the qualitative variety of real existence
B. method of investigating objects by presenting their elements in the form of special symbols
C. method of distraction from a number of properties and relationships of the studied phenomenon that are insignificant for this study with simultaneous identification of significant properties and relationships
D. study of the study object as a set of elements forming the system

14. What is a scientific research problem?
A. source of information required for the study
B. what is to be discovered, proved, something unknown in science
B. more specific source of information needed for the study
D. what the author of the scientific study does not succeed

15. What is a review?
A. publishing the works of one or more authors who often consider one scientific problem from different points of view
B. the scientific work of one or more authors of the same point of view, which contains a comprehensive study of one problem or topic
B. small print media, usually popular science content
D. critical review of one or several scientific works, where an analysis of the importance and relevance of the presented studies is given, the quality of the presentation is assessed, expert feedback is given

16. What should be the topic of scientific research?
A. with vague wording
B. precisely formulated
C. formulated so that you can reasonably depart from it
D. formulated at the end of the study

17. What is the purpose of scientific research?
A. a brief and precise statement of what the author intends to do as part of the study
B. what is to be discovered, proved, something unknown to science
B. clarification of the problem, specifying the main idea
D. source of information required for the study

18. What are the main empirical research methods?
A. observation, experiment, description, assumption
B. observation, experiment, description
B. observation, experiment, description, measurement
D. observation, experiment, description, measurement, assumption

19. What style is characteristic of an abstract, monograph, thesis, dissertation, report, review?
A. journalistic
B. scientific
V. artistic
D. official-business

20. What is Student's t-test used for?
A. to estimate and compare means of normally distributed random variables
B. to estimate and compare both maximum and minimum values of normally distributed random variables
B. for estimating and comparing minimum values of normally distributed random variables
D. for estimating and comparing maximum values of normally distributed random variables

21. What belongs to the genres of scientific style?
A. characteristics, Charter
B. talk, report
B. statement, claim
D. Monograph, abstracts

22. What are invasive research methods?
A. related to intravenous therapy
B. methods do not have a damaging effect on a living organism, but at the same time contribute to obtaining information about it
B. involve disruption of the integrity of tissues and organs, insertion into cavities, interference with the functions of individual organs, removal or damage to them
D. are associated with minor and short-term effects on a living organism

24. What are the main features of the scientific style in both oral and written speech?
A. accuracy, logic, objectivity
B. accuracy, standardization, prescriptive nature of presentation
B. relaxed nature of communication, emotionally - expressive color of speech, lexical variety
D. emotionality, variety of visual aids, metaphoricity, meaningful multiplicity

25. What is a thesis?
A. the thought expressed by the subject of speech
B. the point of view of the subject of speech
B. the process of bringing evidence to substantiate any thought
D. the main point of the text or speech, formulated as a sentence

26. What is a literary presentation in the form of an article?
A. this is an independent work intended for publication in the periodic scientific literature, containing certain scientific information obtained as a result of research
B. qualification scientific work in a certain field of sciences, containing a set of scientific results and provisions put forward by the author for public protection, and testifying to the author's personal contribution to the development of science

B. non-published scientific and technical document containing detailed information on the essence, methodology and results of the research work performed or its individual link
D. a brief written summary of the scientific work, which covers its main content

27. What is not characteristic of a scientific text?
A. semantic completeness
B. connectivity
B. emotionality
D. integrity

28. What is not allowed by the style of written scientific speech?
A. author's "I"
B. proposals with a painful pledge ("a new approach has been developed...")
B. form of presentation from a third person ("the author believes...")
D. use of past tense verbs.

29. What are the hallmarks of scientific research?
A. all listed features
B. systematic
B. rigorous evidence
D. focus

30. What is the title of the set of techniques, operations and methods of theoretical knowledge and practical transformation of reality when certain results are achieved?
A. principle
B. experiment
B. method
D. development

31. What is the title of the field of research aimed at obtaining new knowledge about nature, society, thinking?
A. science
B. concept
V. theory
D. approbation

32. What is the title of the doctrine of principles, forms, methods of cognition and transformation of reality, the application of the principles of worldview to the process of cognition, spiritual creativity and practice?
A. analogy
B. morphology
B. ideology
D. methodology

33. Which of the following is not related to the structure of general scientific methods and techniques?
A. formalization
B. experiment
B. comparison
D. observation

34. What types of cognitive activity does a person use?

A. study
B. Study and test
B. Study, Trial and Investigation
D. study

35. What is not related to general methods and techniques of cognition?
A. analysis
B. experiment
B. abstraction
D. synthesis

36. What kind of science can be based on the results of activity?
A. fundamental
B. in the form of developments
B. fundamental, applied, in the form of developments
D. Applied, Fundamental

37. In what period of time did science emerge as an immediate productive force?
A. from the middle of the XIX century.
B. in modern times
V. from the second half of the XX century.
D. in the period of antiquity

38. What methods are used to accumulate primary data on study subjects?
A. variational analysis and analysis of variance
B. experiment and variational analysis
B. observation and experiment
D. observation and analysis of variance

39. In what period of time did science emerge as a form of social consciousness?
A. in modern times
B. from the middle of the XIX century.
V. from the second half of the XX century.
D. in the period of antiquity

40. What experiments study the influence of several factors?
a. short-term
b. univariate
c. multiple-factor
d. long-term

Competence to be formed:

UC-2. Is able to manage the project at all stages of life cycle

UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work.

UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.

UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the

project's terms of reference, management of the implementation of specialized project work, its negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project.

41. What means: "purposeful focusing of the researcher on the phenomena of an experiment or nature, their quantitative and high-quality registration"?
A. experience
B. observation
B. experiment
D. statistical analysis

42. What there will be probability level, if significance value of 5%?
A. 90%
B. 95%
C. 5%
D. 100%

43. What kind of mistakes leads to overestimate or understating of results of researches under the influence of certain factors?
a. systematic
b. accidental
c. unidirectional
d. rough

44. How the mistakes arising at miscalculations in the course of work are called?
a. rough
b. unidirectional
c. accidental
d. systematic

45. What is shown a correlation form when at increase in some signs other signs respectively increase?
A. qualitative
B. curvilinear
B. rectilinear
D. quantitative

46. When communication between two signs is investigated?
A. multiple
B. average
B. simple
D. parallel

47. How the science or a complex of sciences in which researches are conducted is called?
A. scientific theory
B. scientific direction
C. scientific experiment
D. scientific concept

48. How the method of scientific knowledge which basis the procedure of connection of various elements of a subject in a whole, a system is is called, without what really scientific knowledge of this subject is impossible?
A. deduction
B. induction
C. analysis
D. synthesis

49. How the method of scientific knowledge based on studying any objects by means of their models is called?
A. modeling
B. synthesis
C. experiment
D.Analogy

50. How the method of scientific knowledge which consists in transition from some general parcels to private results – consequences is called?
Choose one answer:
A. deduction
B. induction
C.analysis
D.Synthesis

51. What is a median in statistics?
A. Statistical significance of result
B. this attitude of the sum of sizes towards their quantity
C. this most often repeating value of size in statistical set
D. an indicator of descriptive character, value of size which divides the statistical set ordered on increase or decrease into 2 parts, equal on number

52. How do call sciences about the nature?
A. natural sciences
B. social sciences
C. technical science
D. philosophical sciences

53. What is a subject of scientific research?
And. what it is necessary to open, prove, something unknown in science
B. more concrete source of information necessary for a research
C. the specification of a problem concretizing the main plan
D. information source necessary for a research

54. What is a hypothesis of scientific research?
A. information source necessary for a research
B. the fact that it is necessary to open, prove something unknown to science
C. presumable judgment of natural (causal) communication of the phenomena
D.the specification of a problem concretizing the main plan

55. What is studied by veterinary and biological sciences?
A. diseases of animals, ways of their development, prevention and elimination
B. impact on an organism of an animal of external factors, problems of optimization of the habitat of animals and questions of quality of products and raw materials of animal origin

C. building and activity of a healthy and sick organism of animals, infecting agents, influence on an organism of medicines
D. building and activity of a healthy and sick organism of animals

56. How purposeful studying objects which is based generally on the data of sense organs (feeling, perception, representation) is called?
A. theorization
B. experiment
C. observation
D.Comparison

57. How active and purposeful intervention in course of the studied process is called?
A. comparison
B. observation
C. vivisection
D.experiment

58. What sciences does belong to clinical sciences?
A. epizootologiya and infectious diseases, parasitology, internal noncontagious infections
B. zoohygiene, veterinary sanitation, veterinary and sanitary examination
C. epizootologiya and infectious diseases, parasitology, internal noncontagious diseases, mycology, microbiology
D. normal and pathological anatomy and animal physiology, biochemistry, virology and microbiology

59. What is an axiom?
A. situation which is accepted only with logical proofs
B. situation which in scientific research acts as a problem
C. situation which is accepted without logical proof
D. situation which in scientific research isn't applied regardless of that it has the logical evidence or not

60. What is induction as a general-logical method of a research?
A. use of the general scientific provisions at a research of the concrete phenomena
B. set of informative operations as a result of which the movement of a thought from less general provisions to more general is carried out
C. a method of knowledge which maintenance is the set of methods of connection of separate parts of a subject in a whole
D. the section of an object on components for the purpose of their independent study

61. How is unfunded scientific research funded?
A. all of the above
B. financed by customer organizations on the basis of business contracts
B. financing from the state budget
D. funding is provided from charitable foundations

62. What is deduction as a general method of research?
A. a set of cognitive operations, as a result of which the movement of thought from less general positions to more general
B. division of the object into components for the purpose of their independent study
B. the use of general scientific provisions in the use of specific phenomena

D. method of cognition, the content of which is a set of techniques for combining individual partsof an object into a single whole

63. What is the empirical level of cognition?
A. observation and Experiment
B. observation and experiment, grouping, classification and description of experiment results
B. formulation of laws and identification of logical consequences from them, comparison of various hypotheses and theories
D. construction and development of scientific hypotheses and theories, formulation of laws

64. What is the specificity of the scientific method?
A. a certain algorithm of cognition: observation - hypothesis - experiment - law - theory - observation, etc.
B. compliance with the object and subject of cognition
B. objectivity, reliability, accuracy and systemic knowledge gained
D. all of the above

65. What is the judgment: "All physical bodies are attracted to each other with a force directly proportional to the products of the masses and inversely proportional to the square of the distances between them"?
A. description
B. hypothesis
B. scientific fact
D. law

66. What form of knowledge does judgment refer to: "Ontogeny repeats phylogeny," i.e. the development of an individual organism repeats the evolution of its species?
A. description
B. hypothesis
B. scientific fact
D. law

67. What is scientific research?
A. the search for truth
B. scientific study
B. identification of objective laws
D. all of the above

68. What is the difference between the idealization method and the modeling method?
A. it is not the real object itself that is being studied
B. the ideal object being studied is an analogue of the real object (original)
B. the ideal object being studied is a mental construct
D. all of the above

69. What does controlled surveillance imply?
A. availability of independent observers
B. detailed observation procedure
B. investigator self-monitoring
D. control of the actions of the object under investigation

70. Is intuition used in scientific research?

A. is not used due to its irrational nature
B. performs the orienting function
B. has evidential value
D. is used if it is not possible to conduct an experiment

71. What is the concept?
A. assessment of the activities of the studied social facility
B. system of views on something
B. Fundamental idea
D. description of the results of social observation

72. By what method of processing social information was the knowledge obtained that cars of dark colors are more likely to get into accidents than cars of light colors?
A. ranking
B. correlation analysis
B. typologization
D. groupings

73. What is methodology?
A. a system of defined ways and methods of cognition
B. the doctrine of the system of methods and methods of cognition
V. the doctrine of the forms, structure and functions of scientific knowledge
D. all of the above

74. What is the scientific method?
A. a set of basic ways to gain new knowledge within the framework of any science
B. the method of organizing the theoretical development of reality, due to the laws of the studied object
B. combination of techniques, technological principle of object study
D. all of the above

75. What is the correlation analysis aimed at?
A. per site
B. per subject
B. on the search for truth
D. on the search for relationships

76. What is the title of a set of special techniques for using a particular method?
A. research technique
B. subject of investigation
B. study procedure
D. study Procedure

77. What stages of scientific planning are highlighted during research? (choose the most complete option)
A. planning, experimentation, drawing conclusions
B. planning, setting up an experiment, accumulating primary data, mathematical analysis with subsequent formulation of conclusions and proposals to production
B. conducting research, mathematical processing of data, formulating conclusions and proposals to production
D. study of special literature, funding, hypothesis proposal

78. What is the title of a certain sequence of actions, the method of organizing the study?
A. research technique
B. subject of investigation
B. study procedure
D. study Procedure

79. What is the title of the set of ways and techniques of cognition?
A. research technique
B. subject of investigation
B. study procedure
D. study Procedure

80. What is the main function of research methods?
A. internal organization and regulation of the process of knowledge or practical transformation of a particular subject.
B. the method is a system of prescriptions, principles, requirements that should orient in solving research problems, achieving a certain result in research activities.
B. the method disciplines the search for truth, allows you to save energy and time, move towards the goal in the shortest possible way.
D. all of the above
Competence to be formed:
UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education
UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity.
UC-6 ID-2 To be able to build the self process of mastering selected and structured information, including digital technologies.

81. What is the title of the method of philosophical research, in which all things, processes and phenomena are considered flexibly, critically, consistently, taking into account their internal contradictions, changes, development, causes and consequences, unity and the struggle of opposites?
A. dialectics
B. metaphysics
C. dogmatism
D. eclecticism

82. What is the title of the perception of the world around us through the prism of dogmas - once and for all accepted beliefs, as a rule, unproven, "data from above" and absolute in nature?
A. dialectics
B. metaphysics
C. dogmatism
D. eclecticism

83. What is the title of a method based on an arbitrary combination of disparate, not really having a single causal or creative principle of facts, concepts, concepts, as a result of which superficial, but outwardly plausible, seemingly reliable conclusions are achieved?
A. dialectics
B. metaphysics
C. dogmatism
D. eclecticism

84. What is the title of a method based on deduction from false, but skillfully and incorrectly submitted new judgment-conclusion, which is logically true, but false in meaning?
A. sophistry
B. hermeneutics
C. empiricism
D. rationalism

85. What is the title of the method of individualized reading and subjective interpretation of the meaning of texts?
A. sophistry
B. hermeneutics
C. empiricism
D. rationalism

86. What is the title of the method and direction in cognition, according to which knowledge is based solely on experience obtained in a sensory way?
A. sophistry
B. hermeneutics
C empiricism
D. rationalism

87. What is the title of the philosophical method and direction in philosophy, according to which true and reliable knowledge can be achieved only with the help of reason and abstract thinking without a significant influence of sensory experience and sensations?
A. sophistry
B. hermeneutics
C. empiricism
D. rationalism

88. What is the title of the method of thinking, which implies the separation of an integral object into its constituent parts (parties, features, properties or relationships) in order to comprehensively study them?
A. Analysis
B. synthesis
C. generalization
D. abstraction

89. What is the title of the method of thinking, which implies the combination of previously identified parts (sides, features, properties or relationships) of an object into a single whole?
A. Analysis
B. synthesis
C. generalization
D. abstraction

90. How is reception of thinking which consists in derivation from a number of properties and the relations of the studied phenomenon with simultaneous allocation of the properties and the relations interesting the researcher called?
A. analysis
B. synthesis
C. generalization
D. abstraction

91. How is reception of thinking as a result of which the general properties and signs of objects are established called?
A. analysis
B. synthesis
C. generalization
D.abstraction

92. How is the way of a reasoning and a method of a research in which the general conclusion is under construction on the basis of private parcels called?
A. induction
B. deduction
C. analogy
D. modeling

93. How is the way of a reasoning by means of which of the general parcels with need the conclusion of private character follows called?
A. induction
B. deduction
C. analogy
D. modeling

94. How is reception of knowledge at which on the basis of similarity of objects in some signs conclude about their similarity and in other signs called?
A. induction
B. deduction
C. analogy
D. modeling

95. How is studying an object (original) by creation and a research of his copy (model) replacing the original from the certain parties interesting knowledge called?
A. induction
B. deduction
C. analogy
D. modeling

96. How is purposeful perception of the phenomena of objective reality during which the observer receives knowledge of outer sides, properties and the relations of the studied object called?
A. observation
B. description
C. measurement
D.experiment

97. How is fixing by means of natural or artificial language of the information on objects supplied in observation called?
A. observation
B. description
C. measurement
D. experiment

98. How is informative operation as a result of which the numerical value of the measured sizes turns out called?
And. observation
B. description
C. measurement
D. experiment

99. How is the method of scientific knowledge by means of which the phenomena of real and subject reality in the conditions certain (set), reproduced by their controlled change are investigated called?
And. observation
B. description
C. measurement
D.experiment

100. What is statistics?
A. it is science about the relations between objects who aren't known, except some properties describing them.
B. it is the collecting which is scientifically organized according to the uniform program, group, systematization, representation, the analysis and interpretation of data.
C. is the science studying the most general and fundamental regularities defining structure and evolution of a material world century.
D. is a science about methods and processes of collecting, storage, processing, transfer, the analysis and assessment of information with use of the computer technologies providing a possibility of her use for decision-making.

101. What methods of the statistical analysis allocate by amount of the analyzed signs?
A. one-dimensional, two-dimensional and multiple-factor
B. parametrical and nonparametric
C. unilateral and bilateral tests
D. Tests of dependent and independent samples

102. What methods of the statistical analysis allocate by the statistical principles are the cornerstone of methods?
A. one-dimensional, two-dimensional and multiple-factor
B. parametrical and nonparametric
C. unilateral and bilateral tests
D.tests of dependent and independent samples

103. What methods of the statistical analysis allocate on whenever possible accounting of the assumptions which are available a priori?
A. one-dimensional, two-dimensional and multiple-factor
B. parametrical and nonparametric
C. unilateral and bilateral tests
D. tests of dependent and independent samples

104. What is a kind of average sizes which is defined by the attitude of the sum of sizes towards their quantity?
And. arithmetic average of several sizes
B. average quadratic
C. statistical fashion
D. median

105. What is a kind of average sizes which is applied when determining the average size of any surface?
And. arithmetic average of several sizes
B. average quadratic
C. statistical fashion
D.median

106. What is a kind of average sizes, an indicator of descriptive character – doesn't depend on parametrical characteristics of a row, and is value of size X which divides the statistical set ordered on increase or decrease into 2 parts, equal on number.
And. arithmetic average of several sizes
B. average quadratic
C. statistical fashion
D.Median

107. What is a kind of average sizes which is defined by the most often repeating value of size X in statistical set?
And. arithmetic average of several sizes
B. average quadratic
C. statistical fashion
D. median

108. What method of determination of reliability is applied mainly to the analysis of normally distributed quantitative signs?
And. nonparametric
B. criterion of Styyudent (t)
C. Mann-Whitney's (U) criterion
D. Vilkokson's (T) criterion

109. What is the situation which is put forward as a preliminary, conditional explanation of some phenomenon or group of the phenomena; assumption of existence of some phenomenon?
And. research objective
B. research problems
C. hypothesis
D. conclusions

111. What is the title of what opposes the subject and what, in fact, is his cognitive activity aimed at?
A. subject of scientific knowledge
B. object of knowledge
B. subject of knowledge
D. problem

112. What is the title of the parties, properties and relations of the object recorded in life experience and included in the process of practical activity of a person, studied with a definitely given goal in specific conditions of being and circumstances of life?
A. subject of scientific knowledge
B. object of knowledge
B. subject of knowledge
D. essence

113. What types of experiments are distinguished by the degree of impact on the studied object?
A. active, passive
B. material (classical), computational, mental;
C. qualitative, quantitative
D. univariate, multivariate

114. What types of experiments are distinguished by the nature of interaction with the object of study?
A. active, passive
B. material (classical), computational, mental;
C. qualitative, quantitative
D.univariate, multivariate

115. What types of experiments are distinguished by the expected results?
A. active, passive
B. material (classical), computational, mental;
C. qualitative, quantitative
D. univariate, multivariate

116. What types of experiments are distinguished by the number of variable factors?
A. active, passive
B. material (classical), computational, mental;
B. qualitative, quantitative
D. univariate, multivariate

117. What is the title of a scientific book publication composed of works containing research materials (articles, messages, abstracts), representing the scientific nature of the content?
A. study book
B. collection of scientific papers
B. monograph
D. dissertation

118. What is the title of a scientific publication containing preliminary materials published before the publication of the publication in which they will subsequently be placed?
A. preprint
B. encyclopedia
B. dictionary
D. reference Edition

119. What is the title of a single-volume or multi-volume reference publication containing in a generalized form the basic information on one or a monograph - a scientific publication in the form of a book or brochure containing a complete and comprehensive study of one problem or we and belonging to one or more authors?
A. preprint
B. encyclopedia
B. dictionary
D. reference Edition

120. What is the title of a reference publication containing an ordered list of language units (words, phrases, phrases, terms, signs) with their brief characteristics or translation into another language?
A. preprint

B. encyclopedia
B. dictionary
D. reference Edition

4.1.3.1. List of issues for test

Competence to be formed:

UC-1- Is able to carry out a critical analysis of problematic situations based on a systematic approach, to develop a strategy for manipulation

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

UC-1 ID-2 To be able to gain 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, experiment, experience, and information and communication technologies.

UC-1 ID-3 To possess skills of evaluation of the problem of professional activity with the analyze of synthesis and other methods of intellectual activity, including the use of information and communication technologies; identification of problems and the use of adequate methods to solve them; demonstration of value judgments to solve problematic professional situations

1. Define the concept of "science." What does the concept of "veterinary science" include?
2. What features of science as a form of knowledge of the world do you know?
3. What is research activity in general?
4. Tell us about the most important features of scientific research.
5. Characterize the object and subject of scientific research.
6. What conditionally distinguished groups of disciplines are included in the complex of veterinary science? Give them a brief characterization.
7. Tell us about the main historical stages of the formation of veterinary science.
8. Tell us about the development of veterinary science in Russia.
9. Describe the current state of veterinary science in the world.
10. Give a brief description of the main types of scientific research for the intended purpose
11. What two levels of knowledge are distinguished in the methodology of scientific research? Characterize them.
12. By what parameters do the levels of scientific knowledge differ?
13. Give a brief description to groups of methods of scientific cognition.
14. Give a brief description of the general scientific methods of scientific knowledge.
15. Define "analysis" and "synthesis." How are these general scientific methods used in veterinary science?
16. Define "induction" and "deduction." How are these general scientific methods used in veterinary science?
17. Tell us about the logical and historical general scientific methods.

Competence to be formed:

UC-2. Is able to manage the project at all stages of life cycle

UC-2 ID-1 To know methods of presentation and description of the project activities results; methods, criteria and parameters for evaluation of the results of project implementation; principles, methods and requirements for project work.

UC-2 ID-2 To be able to: substantiate 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 its solution in order to implement the project; calculate qualitative and quantitative results, deadlines for project work.

UC-2 ID-3 To possess skills of: project management in the field of relevant professional activity: assignment of tasks and motivation to achieve goals; management of the development of the project's terms of reference, management of the implementation of specialized project work, its

negotiation and datalisation; participation in the development of the project's terms of reference. Development of the project implementation program in the professional field; organization of professional discussion of the project, participation in the management of project documentation; design of the project implementation schedule; definition of the requirements for the results of the project.

1. What do you know about the use of analogy and simulation methods in veterinary medicine.
2. Characterize particular or specific methods common in veterinary medicine.
3. What is meant by the term "private technique"? What is the purpose of using private methods in veterinary medicine?
4. Tell us about empirical research methods.
5. Define "observation" and "experiment"
6. Tell us about the peculiarities of observation in veterinary medicine.
7. What characteristic features of the experiment do you know?
8. Tell us about the objective and theoretical sides of the experiment.
9. How is the preparation (planning) for the experiment?
10. Tell us about the peculiarities of preparing and performing experiments in veterinary medicine.
11. What are the criteria for the need to use laboratory animals for scientific and educational purposes?
12. What are the alternatives to biotesting?
13. Give a brief description of the main stages of the experiment.
14. What are the basic principles for obtaining and analyzing experimental data?
15. How are the results obtained during the experiment processed and documented?
16. What levels of research activity are used in veterinary medicine?
17. Tell us about the main conditionally distinguished groups of disciplines in veterinary medicine as a complex of sciences.
18. What general scientific research methods are used in veterinary research activities?

Competence to be formed:

UC-6. Is able to determine and implement the private priorities activities and ways to improve them based on self-assessment and life along education

UC-6 ID-1 To know: the content of the processes of self-organization and self-education, its features and technologies of implementation, based on the goals of improving professional activity.

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

UC-6 ID-3 To possess skills of: techniques of self-regulation of psycho-emotional and functional status.

1. What do you know about the use of analogy and simulation methods in veterinary medicine.
2. Characterize particular or specific methods common in veterinary medicine.
3. What is meant by the term "private technique"? What is the purpose of using private methods in veterinary medicine?
4. Tell us about empirical research methods.
5. Define "observation" and "experiment"
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7. What characteristic features of the experiment do you know?
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12. What are the alternatives to biotesting?
13. Give a brief description of the main stages of the experiment.
14. What are the basic principles for obtaining and analyzing experimental data?
15. How are the results obtained during the experiment processed and documented?
16. What levels of research activity are used in veterinary medicine?
17. Tell us about the main conditionally distinguished groups of disciplines in veterinary medicine as a complex of sciences.
18. What general scientific research methods are used in veterinary research activities?

5. METHODOLOGICAL MATERIALS DEFINING THE PROCEDURES FOR ASSESSING KNOWLEDGE, SKILLS AND ABILITIES AND WORK EXPERIENCE CHARACTERIZING THE STAGES OF COMPETENCE FORMATION

Criteria for assessing the knowledge of students during testing:

The test result is evaluated on a percentage rating scale. Each student is offered a set of test tasks of 25 questions:

- The mark "**excellent**" is 25-22 correct answers.
- The mark "**good**" is 21-18 correct answers.
- The mark "**satisfactory**" is 17-13 correct answers.
- The mark "**unsatisfactory**" is less than 13 correct answers

Criteria for assessing students' knowledge during report:

- The mark "**excellent**" - the problem is identified and its relevance is justified; an analysis of various points of view on the problem under consideration is made and one's own position is logically stated; conclusions are formulated, the topic is fully disclosed, the volume is maintained; the requirements for external design are met, the basic requirements for the report are fulfilled.
- The mark "**good**" - mistakes have been made. In particular, there are inaccuracies in the presentation of the material; there is no logical consistency in judgments; the volume of the report is not maintained; there are omissions in the design, there are significant deviations from the requirements for the presentation of materials.
- The mark "**satisfactory**" - the topic is only partially covered; factual errors were made in the content of the report; there are no conclusions, the topic of the report is not disclosed.
- The mark "**unsatisfactory**" - there is a significant misunderstanding of the problem or the report is not submitted.

Criteria for assessing the knowledge of students during the survey:

- The mark "**accepted** " must correspond to the parameters of any of the positive ratings ("excellent", "good", "satisfactory").
- The mark "**not accepted** " rating should correspond to the parameters of the "unsatisfactory" rating.
- The mark "**excellent**" – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in situations of increased complexity. At the same time, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations may be allowed.

- The mark "**good**" – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in standard situations. At the same time, minor errors, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations may be made.
- Mark "**satisfactory**" – one or more types of educational work provided for in the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, skills, and abilities with the indicators given in the tables, significant errors are made, a partial lack of knowledge, skills, and skills is manifested in a number of indicators, the student experiences significant difficulties in operating with knowledge and skills when transferring them to new situations. –
- The mark "**unsatisfactory**" – the types of educational work provided for in the curriculum have not been completed. demonstrates incomplete compliance of knowledge, skills, and abilities given in the tables of indicators, significant errors are made, a lack of knowledge, skills, and skills is manifested for a large number of indicators, the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations

Criteria of knowledge during the test

- The mark "**accepted** " must correspond to the parameters of any of the positive ratings ("excellent", "good", "satisfactory").
- The mark "**not accepted** " rating should correspond to the parameters of the "unsatisfactory" rating.
- The mark "**excellent**" – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in situations of increased complexity. At the same time, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations may be allowed.
- The mark "**good**" – all types of educational work provided for in the curriculum have been completed. The student demonstrates the compliance of knowledge, skills, and abilities with the indicators given in the tables, operates with acquired knowledge, skills, and applies them in standard situations. At the same time, minor errors, inaccuracies, difficulties in analytical operations, transfer of knowledge and skills to new, non-standard situations may be made.
- Mark "**satisfactory**" – one or more types of educational work provided for in the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, skills, and abilities with the indicators given in the tables, significant errors are made, a partial lack of knowledge, skills, and skills is manifested in a number of indicators, the student experiences significant difficulties in operating with knowledge and skills when transferring them to new situations. –
- The mark "**unsatisfactory**" – the types of educational work provided for in the curriculum have not been completed. demonstrates incomplete compliance of knowledge, skills, and abilities given in the tables of indicators, significant errors are made, a lack of knowledge, skills, and skills is manifested for a large number of indicators, the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations

6. ACCESSIBILITY AND QUALITY OF EDUCATION FOR DISABLED PEOPLE

If necessary, persons with disabilities and persons with disabilities are given additional, time to prepare an answer for the test.

When conducting the procedure for evaluating the learning outcomes of disabled people and persons with disabilities, their own technical means can be used.

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

For people with visual impairments:	– in printed form in 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 people with disorders of the musculoskeletal system:	– in printed form, the device; – in the form of an electronic document.

When conducting the procedure for evaluating the learning outcomes of disabled people and persons with disabilities in the discipline, it ensures that the following additional requirements are met, depending on the individual characteristics of the 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 assignment of assessment tools (in printed form, in printed form in enlarged font, in the form of an electronic document, assignments 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 the disabled, the procedure for evaluating the results of training in the discipline can be carried out in several stages.

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

6.