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 AA
April 10, 2026

Department of General, Private and Operative surgery

EDUCATIONAL WORK PROGRAM

for the discipline

"OPERATIVE SURGERY WITH TOPOGRAPHIC ANATOMY "

The level of higher education
SPECIALIST COURSE

Specialty 36.05.01. Veterinary Medicine
«General clinical veterinary medicine»
Full-time education
Education starts in 2026

Reviewed and adopted
at the meeting of the department
on march 18, 2026.
Protocol No. 8

Head of the Department
of General, Private and Operative surgery
Doctor of Veterinary Medicine, Professor
_____ Nechaev A.Yu.

Saint Petersburg
2026

1. GOALS AND OBJECTIVES OF DISCIPLINE

The main goals in training a veterinarian - a specialist in the discipline "Operative surgery with topographic anatomy" are to give graduates theoretical knowledge, practical skills and abilities to eliminate or alleviate painful conditions of animals through various bloody and non-bloody mechanical techniques; studying the basics of topographic anatomy of animals in species and age aspects; rules of fixation, pharmacological immobilization and anesthesia of animals, injections and punctures.

To achieve this goal, it is necessary to solve the following tasks:

a) The general educational task is to in-depth familiarize students with the structure of the animal body and provide fundamental biological education in accordance with the requirements for higher educational institutions of biological profile.

b) The applied task covers the fundamentals of topographic anatomy of animals in species and age aspects theoretical justification, technology for organizing and conducting surgical operations rules of fixation, pharmacological immobilization and anesthesiological protection of animals, injections, punctures, infusions II prevention of infectious complications during surgical operations and manipulations.

c) The special task is to master modern methods of medical care and prevention of various surgical diseases and surgical interventions to increase the yield of livestock products and improve the quality of raw materials of animal origin

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

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

Types of professional activities:

research activities:

- improvement of scientific research methodology, development and introduction into production of innovative technologies in the field of veterinary medicine and animal husbandry;
- collection of scientific information, preparation of reviews, annotations, preparation of abstracts and reports, bibliographies, analysis of information on research objects;
- participation in scientific discussions and procedures for defending scientific works at various levels;
- presentation of reports and messages on the topics of ongoing research, dissemination and popularization of professional knowledge, educational work with students;
- analysis of the state and dynamics of objects of activity, development of plans, programs and research methods, analysis of their results.

Student competencies formed as a result of mastering the discipline

The process of studying the discipline "Operative surgery with topographic anatomy" is aimed at developing the following competencies:

A) General educational competencies

GPC-1. Capable of determining the biological status and normative clinical indicators of organs and body systems of animals.

GPC-1 ID-1. Know safety precautionsand rules of personal hygiene when examining animals, methods of restraining them; animal clinical study diagrams and procedure

GPC-1 ID-2. Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals.

GPC-1 ID-3. Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies.

GPC-4. Capable of usingin professional activities, methods for solving problems using modern equipment in the development of new technologies and use modern professional methodology to conduct experimental studies and interpret their results

GPC-4 ID-1. Know the technical capabilities of modern specialized equipment, methods for solving problems of professional activity.

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

GPC-4 ID-3. Possess skills in working with specialized equipment to implement assigned tasks when conducting research and developing new technologies, including digital ones

B) Educational competencies

PC-7. Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method

PC-7 ID-1. Be able to produce anesthesia animals before operation With using narcotic, neuroleptic and local anesthetic drugs

PC-7 ID-2. Know surgical techniques for treating animals and indications for their use.

PC-7ID-3. Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects

PC-8. Carrying out surgical intervention in the body of animals in the treatment of various diseases, castration, sterilization, for cosmetic purposes

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

PC-8 ID-2. Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention PC-8 ID-3. Be able to stop bleeding using mechanical, physical, chemical and biological methods

PC-8$_{ID-4}$Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials

PC-8$_{ID-5}$Know the rules for using special equipment in the operating room, surgical instruments and dressings

PC-8$_{ID-6}$Know the technique of performing surgical operations in veterinary medicine

PC-8$_{ID-7}$Know the types and techniques of suturing and dressings used inveterinary surgery

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

Discipline B1.O.32 "Operative surgery with topographic anatomy" is a discipline in Block 1 of the mandatory part of the federal state educational standard of higher education in specialty 36.05.01 "Veterinary Medicine" (specialty level).

It is mastered in the 6th and 7th semesters of full-time study.

The total labor intensity of the discipline is 6 credit units, 216 hours.

When teaching the discipline "Operative surgery with topographic anatomy", we use knowledge and skills acquired by students while mastering basic disciplines:

1. Anatomy of animals 2. Physiology and ethology of animals
3. Veterinary microbiology with mycology
4. Veterinary pharmacology
5. Clinical diagnostics

The discipline "Operative surgery with topographic anatomy" is the basic one on which a number of subsequent disciplines are built:

1. Obstetrics and gynecology 2. General and private surgery
3. Pathological anatomy and forensic veterinary examination.

4. SCOPE OF THE DISCIPLINE "OPERATIVE SURGERY WITH TOPOGRAPHIC ANATOMY"

Scope of the discipline "Operative surgery with topographic anatomy" for full-time study Type of academic work	**Total hours**	**Semesters**	
		6	**7**
Classroom lessons (total)	**100**	**50**	**50**
Including:			
Lectures, including interactive forms	32	16	16
Practical lessons (PL), including interactive ones forms	68	34	34
Practical training (PT)	12	4	8
Self-work of students (total)	**116**	**22**	**94**
Course project (work)	+	-	+
Type of intermediate certification (test, exam)	**Test Exam**	**test**	**exam**
Total labor intensityhours/credits	**216/6**	**72/2**	**144/4**

5.MAINTAINING THE DISCIPLINE "OPERATIVE SURGERY WITH TOPOGRAPHICAL ANATOMY"

5.1. Contents of the discipline "Operative surgery with topographic anatomy" for full-time study.

No.	Name	Formed competencies	Semester	Types of educational work, including independent work of students and labor intensity (in hours)			
				L	PT	PL	SW
1	Introduction. Definition of "surgery". Subject and tasks of operative surgery. History of the formation of operative surgery. The doctrine of surgery.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8.** Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	2	-	1

2	Prevention surgical infection. The doctrine of antiseptics and asepsis.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	2	-	1

3	Concept of pain. Classification of anesthesia. Indications and Contraindications to anesthesia. General and special preparation Stages of anesthesia, adjusting its depth..	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	2	-	1

4	Neuroleptanalgesia. Local anesthesia.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8.** Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	2	1	1

5	Bleeding at surgeries and injuries. Stop And prevention of bleeding.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8.** Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used in veterinary surgery	6	1	2	1	1

6	Castration of males. Anatomical and topographic data. Classification of castration methods. Castration of males of different animal species. Complications during castration.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used in veterinary surgery	6	1	2	1	1

7	Anatomical and topographical data from the croup and pelvic cavity. Operations in the anus, rectum and tail.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used in veterinary surgery	6	1	2	1	1

8	Operations on the urinary bladder and penis. Operations in the perineal and thigh areas..	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	2	--	1

9	Operationsin the head area. Anatomical and topographical data of the head region. Operations: trepanation,rhinoplasty, hematomas, removal teeth, on the salivary glands, etc.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	2	-	1

10	Safety precautions for providing surgical care to animals. Tying the Kalmyk knot. The procedure for writing coursework	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used in veterinary surgery	6	1	2	-	1

11	Prevention surgical infection. Asepsis and antiseptics. Preparing the surgical field and the surgeon's hands for surgery.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	2	-	1

12	Surgical tools and rules for using them, suture material. Preparing them for surgery, sterilization and storage.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	2	-	1

13	Principles and technique separation and connection of tissues. Surgical sutures (skin, muscle, etc.).	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used in veterinary surgery	6	1	1	-	1

14	Intestinal sutures. Principles and overlay technique	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	1	--	1

15	Desmurgy. Concept of bandage and dressing. Types and properties of dressing material. Types of dressings.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	1	-	2

16	Colloquium. Written tests and surveys with demonstration of the technique on dummics, preparations, animals. Castration of bulls. Percutaneous castration. Pain relief for the penis.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	1	1	-	2

17	Castration of boars. Castration of adult boars. Castration of sheep. Features of castration of adult rams.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8.** Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6	-	1	-	2

18	Castration of a stallion. Complications during castration	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problcms professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	6		1	-	2

		SEMESTER 6		16	30	4	22

19	Anatomy of the lateral abdominal wall. Structure of the ventral abdominal wall. Conduction anesthesia of the abdominal wall.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7**. Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	2	1	5

20	Classification of hernias. Operations for umbilical, inguinal-scrotal and abdominal hernias	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	2	1	5

21	Injection technique and administration of medicinal substances. Abdominal aortic puncture. Stomach and intestinal surgeries.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	1	1	5

22	Castration of females: pigs cows, cats, bitches and other species.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	1	1	5

23	Rumenotomy. Blockade by V.V. Mosin.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8.** Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	1	1	5

24.	C-section. Epidural anesthesia.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	1	1	5

25	Laparotomy from various species of animals. Abomazotomy of sheep.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	1	1	5

26	Colloquium. Written tests and surveys with demonstration of the technique on dummies, preparations, animals.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8.** Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used in veterinary surgery	7	1	1	1	5

27	Operations on the udder. Pain relief Reconstructive surgery of the nipples. .	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	1	-	5

28	Conduction anesthesia nerves in the head region of cattle and horses. Dehorning. Prevention of horn formation.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	1	-	5

29	Neck operations. Resection external jugular vein. Tracheotomy. Esophagotomy. Injections and punctures.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	1	2	--	5

thirty	Conduction anesthesia in chest wall area. Rib resection. Operations in the neck area of a horse. Sub-occipital puncture	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8.** Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	2	-	5

31	Topographic anatomy thoracic limb	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8.** Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	2	=	5

32	Topographic anatomy pelvic limb.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8.** Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	2	-	5

33	Methods of pain relief limbs. Operations on fingers.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	-	-	6

34	Operations for fractures tubular bones. Surgery of the hip joint and pelvic bones.	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7	1	1	-	6

35	Colloquium. Writing answering control questions and a survey with a demonstration of the technique on dummies and animals		7	1	-	-	6

36	Clinical operations on animals	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals. **GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8.** Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	7		-	-	6

TOTAL FOR SEMESTER 7	16	26	8	94

6. LIST OF EDUCATIONAL AND METHODOLOGICAL SUPPORT FOR INDEPENDENT WORK OF STUDENTS

6.1. Guidelines for independent work

1. Some theoretical issues of the use of anesthesia in veterinary surgery: guidelines on operative surgery for students of the Federal State Educational Standard, full-time and part-time veterinary faculties and FPC / comp. K. V. Titov; Ministry of Agriculture of the Russian Federation, SPbGAVM. - Saint Petersburg : SPbGAVM Publishing House, 2004. - 23 p. - URL: https://search.spbguvm.informsystema.ru/viewer.jsp?aWQ9MzY2JnBzPTEy (accessed 03/18/2026). - Access mode: for authorization. EB SPbGUVM users.

6.2. Literature for self-work

1. Videnin, V.N. Surgical treatment of abdominal wall defects in animals : Approved by the Ministry of Higher Education of the Russian Federation for education in the field of animal science and veterinary medicine as a textbook for university students studying in the field of training (specialty) "Veterinary Medicine" (qualification (degree) "Specialist") / V.N. Videnin, B.S. Semenov. Saint Petersburg : Lan Publ., 2015. 224 p.

2. Videnin, V.N. Prevention of surgical infection in animals. Asepsis and antiseptics in veterinary surgery : a methodological guide for students of the Veterinary Faculty of full-time and part-time studies and students of the Faculty of Veterinary Medicine / V.N. Videnin; Ministry of Agriculture of the Russian Federation, SPbGAVM. - St. Petersburg : Publishing House of SPbGAVM, 2001. - 68 p. – URL: https://search.spbguvm.informsystema.ru/viewer.jsp?aWQ9MzY5JnBzPTM1 (accessed 03/18/2026). – Access mode: for authorization. EB SPbGUVM users.

3. Parshin, A. A. Surgical operations in dogs and cats / A. A. Parshin, V. A. Sobolev, V. A. Sozinov. - M. : Aquarium-Print, 2005. - 232 p.

4. Petrakov, K.A. Operative surgery with topographic anatomy of animals : textbook; rec. Ministry of Agriculture of the Russian Federation / K.A. Petrakov, P.T. Salenko, S.M. Paninsky. - 2nd ed., revised and add. - Moscow :KolosS, 2008. - 454 p.

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

7.1. Basic literature

1. Operative surgery with topographic anatomy : textbook / E. I. Veremey, B. S. Semenov, A. A. Stekolnikov [et al.] ; edited by E. I. Veremey, B. S. Semenov. - 2nd ed. - St. Petersburg : Quadro, 2022. - 560 p. - URL: https://elibrica.com/8afe68e4-864e-46e7-b980-c1deaac39352 (date of request: 03/18/2026). — Access mode: for authorization. EB SPbGUVM users.

2. Semenov, B. S. Practicum on operative surgery with the basics of topographic anatomy of domestic animals / B. S. Semenov, V. A. Ermolaev, S. V. Timofeev. Moscow : KolosS Publ., 2003. 263 p. (Textbooks and teaching aids for students of higher educational institutions).

7.2. Additional literature:

1. Operative surgery with the basics of topographic anatomy: textbook / E. I. Veremey, V. M. Vlasenko, A. N. Eliseev [et al.] ; Edited by E.I. Veremey, B.S. Semenov. Minsk : Urajay Publ., 2001. 537 p.

2. Clinical orthopedics and horse forging : a textbook / E. I. Veremey, V. M. Rukol, V. A. Zhurba [et al.] ; edited by E. I. Veremey. - St. Petersburg : Quadro, 2022. - 276 p. - URL: : https://elibrica.com/b083cc97-fc71-4929-9aac-3945514232a5 (accessed 03/18/2026). - Access mode: for authorization. users of the Elibrica EBS.Access mode: for authorization. users of the Elibrica EBS.

3. Clinical orthopedics of cattle : a textbook / E. I. Veremey, V. M. Rukol, V. A. Zhurba [et al.] ; edited by E. I. Veremey. - St. Petersburg : Quadro, 2022. - 200 p. - URL: https://elibrica.com/934dffa8-5032-4e24-bf95-2c5555ffd756 (accessed 03/18/2026). - Access mode: for authorization. users of the Elibrica

EBS. Access mode: for authorization. users of the Elibrica EBS.

8. LISTINFORMATION AND TELECOMMUNICATION NETWORK RESOURCES "INTERNET" REQUIRED FOR MASTERING THE DISCIPLINE

To prepare for practical classes and perform independent work, students can use the following Internet resources:

Electronic librarysystems:

1. EBS "SPBGUVM"
2. EBS "Student Consultant"
3. Legal reference system "Consultant Plus"
4. University information system "RUSSIA"
5. Full text database POLPRED.COM
6. Scientific electronic library ELIBRARY.RU
7. Russian Scientific Network
8. Electronic library system IQlib
9. Full-text interdisciplinary database for agricultural and environmental sciences ProQuest AGRICULTURAL AND ENVIRONMENTAL SCIENCE DATABASE
10. Electronic books from the publishing house "Prospekt Nauki" http://prospektnauki.ru/ebooks/
11. Collection "Rural farming. Veterinary" publishing houses "Quadro"http://www.iprbookshop.ru/586.html

9. METHODOLOGICAL INSTRUCTIONS FOR STUDENTS ON MASTERING 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 methodological recommendations, as a rule, may include:

- Tips for planning and organizing your study time disciplines. Description of the sequence of student actions, or "scenario for studying the discipline."

The morning time is the most fruitful for educational work (from 8-14 o'clock), then the afternoon (from 16-19 o'clock) and the evening time (from 20-24 o'clock). The most difficult material is recommended to be studied at the beginning of each time interval after rest. After 1.5 hours of work, a break (10-15 minutes) is required; after 4 hours of work, the break should be 1 hour. Part of the scientific organization of labor is mastering the technique of mental work. Normally, a student should devote about 10 hours a day to studying (6 hours at the university, 4 hours at home).

- Recommendations for working on lecture material When preparing for a lecture, the student is recommended to:

1) view previous records lectures and recall previously studied material;
2) It is useful to review the upcoming material of the future lecture;
3) if set to independente laboration of individual fragments of the topic of the last lecture, then it must be completed without delay;
4) prepare yourself psychologically for the lecture.

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

Note-taking means drawing up notes, i.e. a brief written statement of the content of something (oral presentation - speech, lecture, report, etc. or a written source - document, article, book, etc.).

The method of work when taking notes on oral presentations differs significantly from the method of work when taking notes from written sources.

By taking notes from written sources, the student has the opportunity to repeatedly read the desired passage of text, reflect on it, highlight the main thoughts of the author, briefly formulate them, and then write them down. If necessary, he can also note his attitude to this point of view. While listening to a lecture, the student must put off most of the above-mentioned work 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 taking notes from a lecture, it is recommended to separate fields on each page for subsequent entries in addition to the notes.

After recording a lecture or taking notes, you should not leave work on the lecture material until you begin preparing for the test. It is necessary to do as early as possible the work that accompanies note-taking of written sources and which was not possible to do while recording the lecture - read your notes, deciphering individual abbreviations, analyze the text, establish logical connections between its elements, in some cases show them graphically, highlight main thoughts, note issues that require additional processing, in particular, teacher consultation.

When working on the text of a lecture, the student needs to pay special attention to the problematic questions posed by the teacher when giving the lecture, as well as to his assignments and recommendations.

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

- Recommendations for preparing for practical classes

Practical (seminar) classes constitute an important part of students' professional training. The main goal of conducting practical (seminar) classes is to develop analytical, creative thinking in students by acquiring practical skills. Practical classes are also conducted with the aim of deepening and consolidating 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 adhere to the following algorithm;

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

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

Methodological instructions 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 curriculum of the disciplines in the sections "List of topics for practical (seminar) classes."

The most important component of any form of practical training is assignments. Basis in the task

- an example that is analyzed from the perspective of the theory developed in the lecture. As a rule, the main attention is paid to the formation of specific skills and abilities, which determines the content of students' activities - problem solving, laboratory work, clarification of the categories and concepts of science, which are a prerequisite for correct thinking and speech.

Practical (seminars)classes perform the following tasks:

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

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

Laboratory work constitutes an important part of students' professional training. They are aimed at experimental confirmation of theoretical principles and the formation of educational and professional practical skills.

Students' performance of laboratory work is aimed at:

- generalization, systematization, deepening, consolidation of acquired theoretical knowledge on specific topics of disciplines;
- formation of necessary professional skills and abilities;

The disciplines for which laboratory work is planned and their volumes are determined by the

working curriculum.

Guidelines for conducting laboratory work are developed for the duration of the working curriculum and include:

- title, which indicates the type of work (laboratory), its serial number, volume in hours and name;
- Objective;
- subject and content of the work;
- equipment, technical means, tools;
- the order (sequence) of performing the work;
- safety and labor protection rules for this work (if necessary);
- general rules for the design of work;
- Control questions;
- tasks;
- list of references (if necessary).

The content of laboratory work is recorded in the working curriculum of the disciplines in the section "List of topics for laboratory work."

When planning laboratory work, it should be taken into account that, along with the leading goal - confirmation of theoretical principles - in the course of completing tasks, students develop practical skills and skills in handling laboratory equipment, equipment, etc., which can form part of professional practical training, as well as research skills (observe, compare, analyze, establish dependencies, draw conclusions and generalizations, independently conduct research, document the results).

The composition of tasks for laboratory work should be planned in such a way that they can be completed efficiently by the majority of students in the allotted time.

Laboratory work as a type of educational activity should be carried out in specially equipped educational laboratories. The necessary structural elements of laboratory work, in addition to the independent activity of students, are instructions given by the teacher, as well as the organization of a discussion of the results of the laboratory work.

The completion of laboratory work is preceded by testing students' knowledge - their theoretical readiness to complete the task.

• Recommendations for working with literature.

Working with literature is an important stage of a student's independent work in mastering a subject, contributing not only to consolidation of knowledge, but also to broadening his horizons, mental abilities, memory, ability to think, present and confirm his hypotheses and ideas. In addition, research skills necessary for future professional activities are developed.

When starting to study literature on a topic, it is necessary to make notes, extracts, and notes. It is imperative to take notes on the works of theorists, which allow one to comprehend the theoretical basis of the study. For the rest, you can limit yourself to extracts from studied sources. All extracts and quotations must have an exact "return address" (author, title of work, year of publication, page, etc.). It is advisable to write an abbreviated name of the question to which the extract or quotation relates. In addition, it is necessary to learn how to immediately compile a card index of specialized 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, and abstract journals. In this case, publications of sources (articles, book titles, etc.) should be written on separate cards, which must be filled out in accordance with the rules of bibliographic description (surname, initials of the author, title of work. Place of publication, publisher, year of publication, number of pages, and for journals articles – journal name, 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 further 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 contents, structure, what sources it was written on, etc.

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

Testing is a check that allows you to determine whether the actual behavior of the program corresponds to the expected behavior 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 being tested or its part. Each question in the discipline must be answered correctly by choosing one option.

- Recommendations for completing course work (if it is included in the curriculum), defining their thematic focus, goals and objectives of implementation, requirements for content, volume, design and organization of management of their preparation by departments and teachers.
According to the guidelines presented in the list of guidelines.

10. EDUCATIONAL WORK

As part of the implementation of the discipline, educational work for the formation of a modern scientific worldview and a system of basic values, the formation and development of spiritual-moral, civil-patriotic values, a system of aesthetic and ethical knowledge and values, attitudes of tolerant consciousness in society, the formation in students of the need for work as the first necessity of life, the highest value and the main way to achieve success in life, to understand the social significance of your future profession.

11. LIST OF INFORMATION TECHNOLOGIES USED IN IMPLEMENTATIONEDUCATIONAL PROCESS

11.1 The educational process in the discipline providesuse of information technology:

✓ Conducting practical exercises using multimedia;

✓ interactive technologies (conducting dialogues, collective discussion of various approaches to solving a particular educational and professional problem);

✓ interaction with students via email;

✓ joint Job V Electronic information and educational environment SPbGUVM:https://spbguvm.ru/academy/eios/

11.2. Software

List of licensed and freely distributed software, including domestically produced ones

No.	Name of technical and technical programs recommended by sections and topics computer toolstraining	License
1	MS PowerPoint	67580828
2	LibreOffice	free software
3	OS Alt Education 8	AAO.0022.00
4	ABIS "MARK-SQL"	02102014155
5	MS Windows 10	67580828
6	System ConsultantPlus	503/KL
7	Android OS	free software

12. MATERIAL AND TECHNICAL BASE REQUIRED FOR THE IMPLEMENTATION, NECESSARY FOR THE EDUCATIONAL PROCESS IN THE DISCIPLINE.

Name of the discipline (module), practice in accordance with the curriculum	Name of special premises and premises for independent work	Equipping special rooms and rooms for independent work
Operative surgery with basics topographical anatomy	104(196084, St. Petersburg, st. Chernigovskaya, house 5) Classroom for conducting classes seminar type, group and individual consultations, ongoing control and intermediate certification	Specialized furniture: desks, chairs, stools, teaching board. Visual aids and educational materials: tools, bones, drugs; posters by surgery
	144 (196084, St. Petersburg, st. Chernigovskaya, house 5) Classroom for conducting classes seminar type, group and individual consultations, ongoing control and intermediate certification	Specialized furniture: desks, chairs, stools, teaching board,. Visual aids and educational materials: tools, bones, drugs; posters by surgery
	142 (196084, St. Petersburg, st. Chernigovskaya, building 5) Classroom for conducting seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification	Specialized furniture: desks, chairs, stools, blackboard.

Developer:

Doctor of Veterinary Sciences, Professor  Nechaev A.Yu.

Abstract of the work program of discipline
B1.O.32 "Operative surgery with topographic anatomy"
specialty 36.05.01 Veterinary medicine
«General clinical veterinary medicine»

The purpose of mastering the discipline: The main goal in training of the veterinary specialist in the discipline "Operative surgery with topographic anatomy" is to provide graduates with theoretical knowledge, practical skills and abilities in the prevention, diagnosis and treatment of the most common surgical diseases of animals.

Place of discipline in the curriculum: B1.O.32 "Operative surgery with topographic anatomy" basic part, studied by full-time students in the 6 and 7 semesters.

Requirements for the results of mastering the discipline: As a result of mastering the discipline, the following competencies are formed:

a) General professional competencies (GPC):

GPC-1 Capable of determining the biological status and normative clinical indicators of organs and body systems of animals

GPC -1 ID-1 Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; schemes for a clinical study of an animal and the procedure for studying individual body systems, including using digital technologies; methodology for recognizing the pathological process.

GPC -1 ID-2 Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals.

GPC -1 ID-3 Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies.

GPC -4 Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results

GPC -4 ID-1 Know the technical capabilities of modern specialized equipment, methods for solving problems of professional activity.

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

GPC -4 ID-3 Possess skills in working with specialized equipment to implement assigned tasks when conducting research and developing new technologies, including digital ones

b) Professional competencies (PC):

PC-7 Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method

PC-7 ID-1 Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs

PC-7 ID-2 Know surgical techniques for treating animals and indications for their use

PC-7 ID-3 Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects

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

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

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

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

PC-8ID-4 Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials

PC-8ID-5 Know the rules for using special equipment in the operating room, surgical instruments and dressings

PC-8ID-6 Know the technique of performing surgical operations in veterinary medicine

PC-8ID-7 Know the types and techniques of suturing and dressings used in veterinary surgery

Brief content of the discipline:

Concept of pain. Classification of anesthesia. Indications and contraindications for anesthesia. General and special training. Stages of anesthesia, adjustment of its depth. Neuroleptanalgesia. Local anesthesia. Prevention of surgical infection. Asepsis and antiseptics. Preparing the surgical field and the surgeon's hands for surgery. Surgical instruments and rules for their use, suture material. Preparing them for surgery, sterilization and storage. Principles and techniques of separating and joining tissues. Types of seams. Desmurgy. Bleeding during surgery and trauma. Stopping and preventing bleeding. Topographic anatomy of the abdominal and thoracic cavity. Castration of male and female animals. Dehorning. Operations on the head and neck. Classification of hernias. Laparotomy in various animal species. Operations for umbilical, inguinal-scrotal and abdominal hernias. Operations on the stomach and intestines. Rumenotomy. C-section. Operations on the udder. Topographic anatomy of the limbs. Operations on fingers in farm animals, tubular bones, joints.

The total labor intensity of the discipline is: 216 academic hours (6 credit).

Final control in the discipline: test - 1, exam - 1

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 General, Private and Operative surgery

FUND OF ASSESMENT TOOLS
for the discipline
"OPERATIVE SURGERY WITH TOPOGRAPHICAL ANATOMY"

Level of higher education
SPECIALIST COURSE

Specialty 36.05.01 Veterinary medicine
«General clinical veterinary medicine».
Full-time education

Education starts in 2026

Saint Petersburg
2026

No.	Formed competencies	Controlled Sections (topics) disciplines	Estimated means
1	**GPC-1.**Capable of determining the biological status and normative clinical indicators of organs and body systems of animals. **GPC-1id-1.**Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study designs and procedure. **GPC-1 id-2.**Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals.	Section 1. General Part	Colloquium, tests, course work.
2	**GPC-1 ID-3.**Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies. **GPC-4.**Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results. **GPC-4 ID-1.**Know the technical capabilities of modern specialized equipment, methods for solving problems professional activity. **GPC-4 ID-2.**Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained. **GPC-4id-3.**Possess the skills to work with specialized equipment to implement assigned tasks when implementing and developing new technologies, including digital ones. **PC-7.**Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method. **PC-7id-1.**Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs. **ID-2PC-7.** Know surgical techniques for treating animals and indications for their use. **ID-3PC-7.**Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects. **PC-8.**Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes. **ID-1PC-8**. Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues. **ID-2PC-8.**Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention. **ID-3PC-8.**Be able to stop bleeding using mechanical, physical, chemical and biological methods. **PC-8ID-4**Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials **PC-8ID-5**Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8ID-6**Know the technique of performing surgical operations in veterinary medicine **PC-8ID-7**Know the types and techniques of suturing and dressings used inveterinary surgery	Section 2. Special part	Colloquium, tests.

2. Approximate list of assessment tools

table 2

No.	Name of the assessment facilities	Brief description of the evaluation tool	Presentation of the assessment tool in the fund
1.	Colloquium	A means of monitoring educational mastery material of the topic, section or sections of the discipline, organized as a training session in the form of an interview between the teacher and the teaching staff	Questions on topics/sections of the discipline
2.	Test	System of standardized tasks, allowing you to automate the procedure measuring the level of knowledge and skills of the student	Test task fund
3.	Course work	A training tool for design and management of a clinical case.	Course work topics works

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

Table 3

Planned results mastering competence	Mastery level				Evaluation tool
	unsatisfactory	satisfactorily	Fine	Great	
GPC-1 Capable determine the biological status and normative clinical indicators of organs and body systems of animals.					
GPC-1$_{ID-1}$ Know the technique safety and personal rules hygiene during examination animals, methods of their fixation; clinical trial designs animal and order	Knowledge level below minimum requirements, had place of blunders	Minimum acceptable knowledge level, a lot was allowed minor mistakes	Level of knowledge in volume, appropriate training program, several allowed minor mistakes	Level of knowledge in volume, appropriate program preparation, without errors.	Colloquium, tests
GPC-1$_{ID-2}$ Know how to collect and analyze anamnestic data, conduct laboratory and functional studies with with help digital computer technologies needed for definitions of biological status of animals.	When solving standard problems Not basic skills demonstrated, took place gross mistakes	Demonstrated basic skills, solved typical tasks with not rude mistakes, all completed tasks, but not in full	All the main ones are demonstrated skills, solved all basic tasks with non-rough mistakes, All tasks have been completed in full, but some shortcomings	Demonstrated all major skills, all solved main tasks with separate insignificant shortcomings, all tasks completed in full	Colloquium, tests, coursework Job (story illnesses)
GPC-3$_{ID-3}$ Own practical skills in independent carrying out clinical examination animal using classical research methods and digital technologies.	When solving standard problems Not basic skills demonstrated, took place gross mistakes	There is a minimum set of skills to solve standard problems with some shortcomings	Demonstrated we have basic skills when solving standard problems with some short comings	Demonstrated skills at solving non-standard problems without errors and omissions	Colloquium, tests, coursework Job (story illnesses) Control Job

GPC-4 Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results					
GPC-4$_{ID-1}$ Know technical capabilities of modern specialized equipment, methods for solving professional problems activities.	Knowledge level below minimum requirements, had place of blunders	Minimum acceptable knowledge level, a lot was allowed minor mistakes	Level of knowledge in volume, appropriate training program, several allowed minor mistakes	Level of knowledge in volume, appropriate program preparation, without errors.	Colloquium, tests
GPC-4$_{ID-2}$ Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained.	When solving standard problems Not basic skills demonstrated, took place gross mistakes	Demonstrated basic skills, solved typical tasks with not rude mistakes, all completed tasks, but not in full	All the main ones are demonstrated skills, solved all basic tasks with non-rough mistakes, All tasks have been completed in full, but some shortcomings	Demonstrated all major skills, all solved main tasks with separate insignificant shortcomings, all tasks completed in full	Colloquium, tests
GPC-4$_{ID-3}$ Possess skills in working with specialized equipment to implement assigned tasks when conducting research and developing new technologies, including digital ones	When solving standard problems Not basic skills demonstrated, took place gross mistakes	There is a minimum set of skills to solve standard problems with some shortcomings	Demonstrated we have basic skills when solving standard problems with some short comings	Demonstrated skills at solving non-standard problems without errors and omissions	Colloquium, tests

PC-7. Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method					
PC-7$_{ID-1}$ Be able to produce anesthetizing animals before operation using drugs, neuroleptic and local anesthetic drugs	Knowledge level below minimum requirements, had place of blunders	Minimum acceptable knowledge level, a lot was allowed minor mistakes	Level of knowledge in volume, appropriate training program, several allowed minor mistakes	Level of knowledge in volume, appropriate training program, no mistakes.	Colloquium, Tests
PC-7$_{ID-2}$ Know operational animal treatment methods and indications for their use.	When solving standard problems Not basic skills demonstrated, took place gross mistakes	Demonstrated basic skills, solved typical tasks with not rude mistakes, all completed tasks, but not in full	All basic skills demonstrated, solved all main tasks with minor mistakes All tasks have been completed in full, but some with flaws	Demonstrated all major skills, all solved main tasks with separate insignificant shortcomings, all tasks completed in full	Colloquium, Tests
PC-7$_{ID-3}$ Know the drugs. used for pain relief animals in veterinary surgery. doses and methods applications, side effects	When solving standard problems Not basic skills demonstrated, took place gross mistakes	Demonstrated basic skills, solved typical tasks with not rude mistakes, all tasks completed, but not in full	All basic skills demonstrated, solved all main tasks with minor mistakes All tasks have been completed in full, but some with flaws	Demonstrated all major skills, all solved main tasks with separate insignificant shortcomings, all tasks completed in full	Colloquium, tests

PC-8. Carrying out surgical interventions in the body of animals in the treatment of various diseases, castration, sterilization, and for cosmetic purposes.					
PC-8$_{ID-1}$ Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues **PC-8$_{ID-2}$** Be able to perform surgical intervention usingsurgical instruments on the affected organ or tissue to ensure the effectiveness of surgical intervention **PC-8$_{ID-3}$** Be able to stop bleeding using mechanical, physical, chemical and biological methods **PC-8$_{ID-4}$** Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials	When deciding standard no tasks demonstrated basic skills, took place gross mistakes	Demonstrated basic skills, solved typical tasks with not rude mistakes, all completed tasks, but not in full	Basic skills demonstrated when deciding standard tasks with some shortcomings	Demonstrated skills at decision non-standard tasks without errors and shortcomings	Colloquium, Tests
PC-8$_{ID-5}$ Know the rules for using special equipment in the operating room, surgical instruments and dressings **PC-8$_{ID-6}$** Know the technique of performing surgical operations in veterinary medicine **PC-8$_{ID-7}$** Know the types and techniques of suturing and dressings used inveterinary surgery	Knowledge level below minimum requirements, had place of blunders	Minimum acceptable knowledge level, a lot was allowed minor mistakes	Level of knowledge in volume, appropriate training program, several allowed minor mistakes	Level of knowledge in volume, appropriate program preparation, without errors.	Colloquium, Tests

4. CHECKLISTTASKS AND OTHER MATERIALS, NECESSARY FOR ASSESSMENT OF KNOWLEDGE, ABILITIES, SKILLS AND ACTIVITY EXPERIENCE.

1.1. Typical tasks for ongoing progress monitoring

1.1.1. Questions for the colloquium

Competency Assessment Questions

GPC-1. Capable of determining the biological status and normative clinical indicators of organs and body systems of animals.

GPC-1$_{ID-1}$ Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study diagrams and procedure

GPC-1$_{ID-2}$ Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals.

GPC-1$_{ID-3}$ Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies.

1. Operative surgery – definition and content.
2. Describe the meaning of pain
3. Name the rules for separating tissues.
4. Problems solved by operative surgery?
5. List the indications and contraindications for anesthesia.
6. How to determine length of tissue cut.
7. What should be the shape of the tissue cut?
8. Define the concept of anesthesia and tell the classification of anesthesia.
9. What is surgery?
10. How to determine the direction of tissue cutting.
11. Tell us about preparing the patient for anesthesia - premedication.
12. What complications may arise during operations?
13. Name what principles form the basis for the classification of operations?
14. Stages of anesthesia.
15. How to determine tissue cut shape.
16. Classification of operations.
17. Tell us about the patient's recovery from anesthesia.
18. Name the types of suture material and their properties.
19. What are the indications for surgery?
20. How will you regulate the depth and duration of anesthesia?
21. What factors are taken into account when choosing suture material?
22. What are the contraindications to perform the operation?
23. Concept and application in clinical practice of neuroleptanalgesia. Properties of neurolept analgesics.
24. What factors are taken into account when choosing suture material?
25. Three stages of surgery
    i. Five stages during a surgical operation.
    ii. Use of anesthesia in horses.
    iii. Name the tools for joining fabrics. Rules for joining fabrics.

GPC-4 Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results

GPC-4$_{ID-1}$ Know the technical capabilities of modern specialized equipment, methods for solving problems of professional activity.

GPC-4$_{ID-2}$ Be able to apply modern technologies, including digital ones, and research methods in

professional activities, and interpret the results obtained.

GPC-4$_{ID-3}$ Possess the skills to work with specialized equipment to implement assigned tasks when conducting research and developing new ones

26. What makes up the name of a surgical operation?
27. Application of anesthesia cattle.
28. Name the most frequently operations performed, taking into account the name of the organ and surgical procedure.
29. What nodes are used in surgery.
30. Application of anesthesia to pigs.
31. Remember the classification of seams.
32. What are the purposes of fixing animals during operations and diagnostic studies?
33. Application of anesthesia to dogs and cats.
34. Surgical instruments and rules for their use.
35. What are some ways to restrain horses, cattle, pigs and small animals?
36. Possible complications during and after anesthesia.

PC-7 Able to carry out basic therapeutic measures for the most common diseases and conditions in adult livestock, young animals and newborns.

PC-7$_{ID-1}$ Know national and international experience.
PC-7$_{ID-2}$ Be able to prepare summary reports.

37. Dehorning of adult cattle.
38. Deaf amputation of horns in cows.
39. Prevention of horn formationin calves.
40. Anesthesia nerve horns in cows.
41. Anesthesia of the frontal nerve.
42. Anesthesia subtrochlear nerve.
43. Creation polled flocks
44. Partial amputation of a cow's horn.
45. Operations forbroken horn of a cow.
46. Herniotomy.
47. Tracheotomy
48. Esophagotomy
49. Resection of the external jugular vein.
50. Topographic anatomy of the ventral part of the neck.
51. Conduction anesthesia of intercostal nerves.
52. Rib resection.
53. Topographic anatomy of the lateral abdominal wall.
54. Nerves and their location on the lateral abdominal wall.
55. Conduction anesthesia of the lateral abdominal wall according to Magda I.I.
56. Conduction anesthesia of the lateral abdominal wallBashkirov B.A.
57. Paralumbar anesthesia of the lateral abdominal wall.

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

PC-8$_{ID-1}$ Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues
PC-8$_{ID-2}$ Be able to perform surgical intervention using surgical instruments on the affected organ or tissue to ensure the effectiveness of the surgical intervention
PC-8$_{ID-3}$ Be able to stop bleeding using mechanical, physical, chemical and biological methods

58. Perinealhernia in animals.
59. Strangulated hernia.
60. Hernia - definition,structure, classification.
61. Elements of a hernia and their structure.
62. Operations for umbilical hernias.

63. Operations for inguinal-scrotal hernias.
64. Operations for abdominal hernias.
65. Alloplasty.
66. Hernia, prolapse, eventration characteristics, classification.
67. Characteristic signs of a hernia, classification of hernias.
68. Laparotomy.Classification. Operation description.
69. Abomazotomyin lambs.
70. Displacement of the abomasum.
71. Castration of cats.
72. Castration of pigs.
73. Castration of bitches.

PK-8$_{ID-4}$ Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials
PK-8$_{ID-5}$ Know the rules for using special equipment in the operating room, surgical instruments and dressings
PK-8$_{ID-6}$ Know the technique of performing surgical operations in veterinary medicine
PK-8$_{ID-7}$ Know the types and techniques of suturing and dressings used inveterinary surgery

74. Herniotomy.
75. Conservative methods of treating hernias.
76. Irreversible hernia.
77. Dehorning of cattle.
78. Amputationcow horns with sutures.
79. Anesthesia infraorbital nerve.
80. Rhinoplasty at the bulls.
81. Nasal in sertionbull rings.
82. Thermal methods for preventing horn formation.
83. Gastrotomy at the dog.
84. Sluggishness in cows.
85. Structure nipple canal and nipple cistern.
86. Pathology of the nipple canal.
87. C-section at the dog
88. Nerve block cow's udder.
89. Udder pain relief in a cow according to B.A. Bashkirov
90. Caesarean section in a cat.
91. Elimination slow milk production in cows.
92. Enterotomy in cat.
93. Puncture abdominal aorta in a cow.
94. Supra pleural novocaine blockade according to V.V. Mosin
95. Sutures on the scar and abdominal wall during rumenotomy.
96. Operative approaches for caesarean section in animals in a standing and lying position.
97. Conservative and operative methods for eliminating milk production in cows.
98. Topographic anatomy of the lateral abdominal wall.
99. Udder pain relief in a cow according to Magda I.I.
100. Anesthesia for rumenotomy at the cow.
101. Epidural sacral anesthesia.
102. Udder blockade Logvinov D.D.
103. Ruminotomy in a cow.
104. Linea alba. Topography. Morphology.
105. Conservative treatment options abomasum displacements in cows.
106. Surgical treatment methods abomasum displacements in cows.
107. Creation polled flocks
108. Operations forbroken horn of a cow.

4.1.3 Tests.

GPC-1 Capable of determining the biological status and normative clinical indicators of organs and body systems of animals.

GPC-1$_{ID-1}$ Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study diagrams and procedure

GPC-1$_{ID-2}$ Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals.

GPC-3$_{ID-3}$ Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies.

1. What types of blunt scalpels are there?
   1) Abdominal
   2) Curved
   3) Straight
   4) Serpoidny

2. What are the ways to fix a scalpel surgeon's hand?
   1) Like scissors
   2) Like a violin bow
   3) Like a trocar
   4) Like a pen
3. What are they called differently scissors curved along the edge?
   1. Richter scissors
   2. Scissors IN Agner
   3.Geghar scissors
   4.Cooper scissors
4. What are they called differentlyscissors curved along a plane?
   1) Richter scissors
   2) Scissors Mathieu
   3) Scissors Agner
   4) Cooper scissors
5. What types of wound hooks are there?
   1) Sharp serrated
   2) Dull serrated
   3) Straight blunt
   4) Curved Pointed
6. What types of saws are there for separating bones?
   1) Wire
   2) Leafy
   3) Buttoned
   4) Arc
7. What is the name of the croeostana whether knurled clamp with short clamps atami?
   1) Wagner
   2) Richter
   3) Kocher
   4) Peana
8. What is the name of the cro eostana whether clamp with long clamp atom with notches and teeth?
   1) Kocher
   2) Richter
   3) Peana
   4) Cooper
9. What types of surgical needles are there?
   1) Direct
   2) Curved
   3) Semicircular

4) Ophthalmic

10. What is Vicryl made of?
    1) copolymer, which consists of 50% glycolide and 50% L-lactide
    2) copolymer, which consists of 10% glycolide and 90% L-lactide
    3) copolymer, which consists of 90% glycolide and 10% L-lactide
    4) copolymer, which consists of 70% glycolide and 10% L-lactide
11. How long does it take for Vicryl to completely dissolve?
    1) In 56-70 days
    2) In 50-60 days
    3) In 60-70 days
    4) In 5-7 days
12. What characterizes such suture material as Lavsan?
    1) Nerassasy retractable monofilament
    2) Nerassasy twisted braided or twisted material
    3) Rassasi twisted braided or twisted material
    4) Absorbable monofilament
13. What characterizes such suture material as Capron?
    1) non-rassasVaching wicker or twisted material fromnylonVs complex threads.
    2) non-rassasVabrasive monofilament shoVmaterial
    3) rassasVaching wicker or twisted material from nylonVy (polyamide) filament yarns.
    4) Natural suture material
14. What characterizes such suture material as Uniflex?
    1) RassasiVabout to fade
    2) NerassasyVretractable monofilament
    3) NerassasyVabout to fade
    4) Natural non-absorbable polyfilament
15. What threads are used forVof cardiovascular surgery?
    1) LaVsan
    2) INcaviar
    3) P.D.X.
    4) Uniflex
16. How long does it take for polyglycone to dissolve? 1) 180-240 days
    2) 90-120 days
    3) 120-160 days
    4) 1 month
17. Which threads have additional antibacterial impregnation?
    1) Silk
    2) Lavsan
    3) Polycon
    4) Polypropylene
18. In which surgery is tissue spreading most often used?
    1) Skin
    2) Muscle
    3) Tendon
    4) Vessels
19. In what operations is tissue compression used?
    1) Castration
    2) Disconnection of subcutaneous tissue
    3) Limb removal
    4) Skin separation
20. What is disarticulation?
    1) Removal of a limb at uroVnot sostaVA
    2) Removal of a limb at uroVnot bones
    3) Changing the limb axis duringVusing osteosynthesis
    4) Removing a finger

21. What is trepanation?
    1) INhiding the skull bones
    2) Creation of artVcavity
    3) Creation of artVfromVerstiaV bones
    4) Removing part of the bone
22. What is used to secure the edges of the wound using the bloodless method?
    1) paper clips
    2) sticky patch
    3) Liquid bandage
    4) Surgical glue

23. What is used to secure the edges of the wound using the bloody method?
    1) paper clips
    2) ByVtongue
    3) ShawVno material
4) Glue
24. In what cases is tissue joining contraindicated?
    1) Availability of deathVs fabricsV wound
    2) Foreign objectV
    3) Hemostasis disorders
    4) PurulentVinflammation
25. How does wound healing occur when sutures are applied?
    1) By laneVpersonaltension
    2) With the help of formiroVgranulation tissue ania
    3) ByVtorictension
    4) Chaotic
26. What types of tissue joining are there?
    1) AtraVmatic
    2) BescroVnom
    3) CroVAVth
    4) Biological
27. What is used to protect the edge v wounds from excessive tension when applying shVOV?
    1) Tampons
    2) INaliki
    3) Gauze
    4) INatu
28. What types of hemostatic clamps are there?
    1) Mosquito
    2) Geghara
    3) Koch
    4) Kirchner
29. What are the methods of finalstoppedVki croVswelling?
    1) Biological
    2) Mechanical
    3) Medication
    4) Mixed
30. What is torsion?
    1) ScruciVaniyevessel
    2) LigiroVvessel
    3) Fixation of the vessel with a clamp
    4. Wound antiseptic
31. From what structures can parenchymal bleeding occur?
    1) SpongyVyetVand bones
    2) Stomach
    3) Liver
    4) Bladder

32. At what indicatorsVand you can suspect gastrointestinal croVswelling of the dog?
    1) Low urineVina and normal creatinine
    2) None of themVthe aboveindicators
    3) Low urineVina andVhigh creatinine
    4) INhigh urineVina and normal creatinine
33. What kind of injury causes self-production? Vsolostop bleeding?
    1) SmallVen
    2) CapillaroV
    3) Small arteries andVen
    4) All vessels

34. For how long can you stay?Vapply a tourniquet to a limb in the summer or when placing aVrelativesVwarm rooms?
    1) 1.5-2 hours
    2) 1-2 hours
    3) 2.5 – 3 hours
    4) 30 minutes
35. For how long can you stay?VDo you wear a tourniquet on your limbs in winter?
    1) 30-40 minutes
    2) 46-60 minutes
    3) 15-20 minutes
    4) 5-7 minutes
36. For what time is it imposed?VI'm talking aboutVlanguage according toVHold it as usual and on soft tissuesVyut?
    1) 2 hours
    2) 3
    hours
    3) 1.5
    hours
    4) 1 hour
37. For how long do you use your finger?Voh pressing croVendocrine vesselsV with bloodVswelling from large arteriesAndVen for brieflyVbeltdeliveryVwhetherVania of the vessel?
    1) Up to 8 minutes
    2) Up to 20 minutes
    3) Up to 15 minutes
    4) Up to 10 minutes
38. Who was the first to use intestinal sutures?
    1) Galen
    2) Albukazim
    3) Celsus
    4) Pirogov
39. How many membranes does the intestinal wall consist of?
    1) 2 layers
    2) 3 layers
    3) 4 layers
    4) 5 layers
40. **Through which the time comes to glueVaniye serous shell after herwithv location?**
    1) 12-14 hours
    2) 14-16 hours
    3) 16-18 hours
    4) 3-4 days

GPC-4 Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to

conduct experimental studies and interpret their results

GPC-4$_{ID-1}$ Know the technical capabilities of modern specialized equipment, methods for solving problems of professional activity.

GPC-4$_{ID-2}$ Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained.

GPC-4$_{ID-3}$ Possess skills in working with specialized equipment to implement assigned tasks when conducting research and developing new technologies, including digital ones

1. What method is used to fell horses?
1. Russian
2. Hess
3. Italian
4. Caucasian
2. What method is used when felling cattle?
1. Reshetnyak
2. Russian
3. Berlin
4. Hess
3. Which method of felling cattle uses two ropes?
1. Reshetnyak
2. Russian
3. Caucasian
4. Hess
4. In what dose is Xylazine used to fix horses in a standing position?
1. 1-2 ml intravenously
2. 10-20 ml intravenously
3. 5-7 ml intramuscularly
4. 0.5-2 l intravenously

5. In what dose is homesedan used to fix a horse in position? standing?
1. 1 ml intravenously
2. 10 ml intravenously
3. 10-120 ml intravenously.
4. 5-7 ml intramuscularly

6.Which toolfix pigs by the upper jaw?
1. Herzen's forceps
2. Herzen clamp
3. Solovyov's forceps
4. Nose clip

7. Where is the horse's twist applied for fixation?
1. On the tail
2. On the neck
3. Onlip and ear
4. All options are possible

8. What is used for mechanical antiseptics?
1. Saline
2. Ultrasound
3. Chemotherapy drugs
4. Removal of necrotic tissue and foreign bodies from the wound

9. What is asepsis?
1. Preventing entrymicroorganisms into the wound.
2. Destruction of microorganisms in the wound
3. Treating the wound with an antiseptic

4. Treating the surgical field with an antiseptic.

10. What is antiseptic?

1. Preventing entrymicroorganisms into the wound.
2. Destruction of microorganisms in the wound
3. Treating the wound with an antiseptic
4. Treating the surgical field with an antiseptic.

eleven. How to properly treat the surgical field during abscess surgery?

1. From center to periphery
2. From the periphery to the center
3. Circular movements
4. Not important

12.Why is the skin of a surgeon's hands tanned?

1. To carry out asepsis
2. To prevent sebum secretion
3. To protect the surgeon's hands from negative influences
4. To prevent gloves from breaking

13. What instruments are used to isolate the surgical field?

1. Tsapki
2. Mosquito clamp
3. Kocher clamp
4. Halstead clamp14.What are they called differently? scissors curved along the plane?

1. Cooper
2. Richter
3. Halstead
4. Olivekova

15. What is the difference between anatomical tweezers and surgical tweezers?

1. The working surface of surgical tweezers is smooth
2. In surgical tweezers, the working surface is notched
3. Anatomicaltweezers are smaller than surgical ones
4. Surgicaltweezers are smaller than anatomical

16. What kind of gauze is there?

1. Medium-loop and small-loop
2. Small-lobed and large-lobed
3. Medium looped and large looped
4. Medium looped, small looped and large looped.

17. What type of suture material is PGA?

1. Absorbablemonofilament
2. Absorbablepolyfilament
3. Non-absorbable monofilament
4. Non-absorbable polyfilament

18. What material is catgut made from?

1. Caprona
2. Lavsana
3. Horse intestines
4. Intestines of small cattle.

19. Which of the following suture materials is non-absorbable?

1. Catgut
2. PGA
3. P.D.X.
4. Silk

20. What type of suture material is PDX?

1. Absorbablemonofilament
2. Absorbablepolyfilament
3. Non-absorbable monofilament
4. Non-absorbable polyfilament

21. What suture material is used when suturing the intestinal wall?

1. Absorbablemonofilament
2. Absorbablepolyfilament
3. Non-absorbable monofilament
4. Silk
22. What suture material is used for castration of pigs?
1. Catgut
2. PGA
3. Silk
4. Lavsan
23. Which suture material is preferable to use when suturing the wall of the bladder? bubble?
1. P.D.X.
2. PGA
3. Polyoxadone
4. Silk
24. What type of needle should not be used when suturing hollow organs?
1. Pricking
2. Cutting
3.Atraumatic
4.Disposable
25. How differentcalled intradermal suture?
1. According to Voronin
2. According to Olivekov
3. According to Halstead
4. According to Bashkirov.
26. Which suture is related to the seromuscular one?
1. According to Reverden
2. According to Schmieden
3. According to Sadovsky - Plakhotin
4. herringbone stitch
27. Which organs are double-layered sutures applied to?
1. For all hollow organs
2. For all parenchymal organs
3. On the stomach and intestines
4. For the liver and gallbladder
28. What is castration?
1. Removal of testes
2. Removal of testes and ovaries
3. Artificial termination of the function of the sex glands
4. Removal of genital organs.
29. What is the indication for removal of the scrotum during castration?
1. Wide inguinal rings.
2. Neoplasms of the testes
3. Prostatitis
4. Perineal hernia
30. At what age is it optimal to castrate piglets?
1. 1 month
2. 6 months
3. 1 year
4. Not important.
31. WhichDoes this method relate to bloodless castration methods?
1. On the break
2. Elastration
3. Closed method
4. Castration without removal of the scrotum
32. How long does it take for the testes to be rejected during elastration?
1. 7-9 days
2. 12-15 days

3. 20-22 days
4. The next day
33. What is the fundamental difference between the open method of castration and the closed one?
1. When openmethod, the common vaginal membrane is dissected.
2. With the open methodthe scrotum is removed.
3. With the open method, a wide incision is made
4. When openmethod, the wound is not sutured.
34. Why stallionsIs it possible to castrate using an open ligature?
1. Horses have fibrinous type of inflammation
2. Horses have a purulent-exudative type of inflammation
3. In horses there is a sequestration type of inflammation
4. Horses have a mixed type of inflammation
35. How long are Sand forceps applied when castrating stallions in a standing position?
1.5 minutes
2.10 minutes
3.15 minutes
4. Age of the stallion + 2 minutes.

36. In what method of castration are Telyatnikov's Forceps used?
1. When open
2. When closed
3. With percutaneous
4. With chemical
37. What suture material should be used when castrating a male dog?
1. PGA
2. Catgut
3. Silk
4. Capron
38. What is the name of the complication in which a castrated female comes into heat?
1. False pregnancy
2. Ovarian syndrome
3. Ovarioreminant syndrome
4. False oestrus
39. Which animals can develop urinary incontinence after castration at an older age?
1. In stallions
2. In males
3. In female dogs
4. In cats
40. What does a hernia consist of?
1. Hernial orifice, hernial contents, hernial sac.
2. Gryzhevsgate, hernial contents
3. Displaced internal organs.
4. Displaced internal organs subjected to compression.
PC-7 Determining the need to use surgical methods in treatment of animals, development of a plan for a surgical operation, including the choice of anesthesia method
PC-7$_{ID-1}$ Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs
PC-7$_{ID-2}$ Know surgical techniques for treating animals and indications for their use.
PC-7. ID-3. Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects

1. ThroughHow long does it take for complete fusion of the serous membrane to occur?
1) 16-18 hours
2) 24-48 hours
3) 12-24 hours
4) 1-2 hours

2. What are the types of seams in relation to the lumen?
1) Penetrating
2) Non-penetrating
3) End-to-end
4) Mixed
3. What are the characteristicsare inherent in the Pirogov seam?
1) Intestinal shoV s zakhVatom of the mucous membrane, the node of which is behindVlanguagesVseemsVinside
2) Intestinal shoVwithout zahVata of the mucous membrane, the node of which is behindVlanguagesVis outside
3) Intestinal shoVs zakhVatom of the mucous membrane, the node of which is behindVlanguagesVis outside
4) Continuous surface weld

4. What are the characteristicsinherent in the Mateshuk seam?
1) Mucomuscular single row shoV
2) Seromuscular single row shoV
3) Seromuscular dVdecent shoV
4) Mucus-serous through suture
5. What are the characteristicsinherent in the Schmieden seam?
1) NepreryVnyVVorachiVauspicious
2) preriesVnyVVorachiVauspicious
3) NepreryVnyVsVorachiVauspicious
4) Intermittent non-absorbable
6. What should intestinal sutures always be like?
1) Not important
2) DVUh-story
3) Single-story
4) Three-story
7. Which suture material is most suitable for the intestine?
1) PGA
2) P.D.X.
3) Silk
4) Lavsan
8. What are the characteristicsinherent in the Lambert seam?
1) SkVchilly
2) Mucoserous
3) Seromuscular
4) AboutVAndVNoah
9. Whichcharacteristics inherent in the Schmieden seam?
1) AboutVAndVNoah
2) Mucoserous
3) seromuscular
4) Through
10. What are the characteristicsinherent in the purse-string suture?
1) AboutVAndVNoah
2) Through
3) seromuscular
4) Double decker
11. What is used to treat the stump?
1) according to Schmieden and SadoVSky - Plakhotin
2) Z-shaped wVA
3) According to Schmieden andLambert
4) Purse string suture
12. What is resection?
1) intestinal wall incision

2) removal of a section of intestine
3) Bladder incision
4) Bone cut
13. What is enterotomy?
1) Intestinal wall incision
2) Removal of a section of intestine
3) Removal of a section of the stomach
4) Removal of a section of the bladder
14. WhichAre the characteristics inherent in the Kirpatovsky seam?
1) Single row
2) Double row
3) Three-row
15. What characteristics are inherentDoyen's seam?
1) Intermittent
2) Continuous
3) Seromuscular
4) Kisetny
16. What are the characteristicsinherent in the Jaubert seam?
1) U-shaped skVchilly
2) knotVoh seromuscular
3) KnotVoh skVchilly
4) Knotted with overlap
17. How is the intestinal wall connected after resection?
1) WallVwall
2) SideVside
3) EndVside
4) EndVend
18. Where is the figure-of-eight placed?Vlanguage?
1) Limbs
2) Joints
3) Tail
4) Maklok
19. What types of adhesive dressings are there?
1) SlingVidnaya
2) Oilcloth
3) Cotton colloid
4) Deaf
20. What types of sling-shaped dressings are there?
1) Bivalve
2) Tricuspid
3) Quadruple
4) Adhesive
21. In what cases is a cotton-colloid dressing used?
1) Post-operative wounds
2) To puncture sites of cavities
3) On weeping wounds
4) For all types of wounds.
22. How to make the last round of a spiralVlanguages?
1) make circular and fasten with flex
2) make circular and secure with adhesive tape
3) make it circular and finishVtie a knot
4) All of the above options are possible
23. Where are kerchiefs placed?Vlanguages?
1) On your head
2) On the stomach

3) To the dewlap area
4) On the fetlock joint
24. What are the types of immobilizing agents?Vlanguages?
1) Protective
2) Medicinal
3) Transport
4) Cotton
25. What to do when applyingcreeping alongVlanguagesbetween bandage rounds?
1) NotpuffsVat leastVI speak a lot
2) OstaVgo withVrim spaces
3) Release the tensionbetween rounds
4) Make kinks.
26. Where do you put rubber?Vring with gauzeVumm ribbons?
1) On the horn
2) Na maklok
3) On the ischial tuberosity
4) On the wrist joint
27. How is paraffin fixed?Vlimb areas?
1) Oilcloth byVtongue-in-cheek
2) slingVgoing byVtongue-in-cheek
3) Thermal insulatingVtongue-in-cheek
4) Bandage - flex.
28. What type of tourniquet is it?
1) Marley
2) cotton wool
3) Pakli
4) Bandage
29. What types of cotton wool are divided into?
1) Heat capacity
2) Moisture-intensive
3) Compress
4) Hygroscopic
30. How much stretch should an elastic bandage have? 1) 50%
2) 30%
3) 25%
4) 10%
31. Where is lignin obtained from?
1) Wood
2) Resins
3) Marley
4) cotton wool
32. What is gauze?
1) Linen fabric, madeVmade from loosely twisted threads
2) Fabric, madeVwoven from straight threads
3) Cottonfabric, madeVmade from loosely twisted threads
4) Cut bandage
33. Where to performsubcutaneous injections in small cattle?
1) INOVinternal informationVthigh surface
2) INXVstrictlyVy fold
3) INposterofemoralmuscle group
4) INneck and shoulder blade areas
34. Where are subcutaneous injections given to horses?
1) Behind the shoulder blade
2) INmiddle third of the neck,Vabove the jugular groove
3) INdewlap area

4) INXVstrictlyVy fold
35. What is an injection?
1) This is a method of enteral food body medicine funds
2) This is a method of parenteral food organism medicine funds
3) This is a method of mixed administration of drugs
4) Oral administration of drugs
36. What can lead to pathological fractures?
1) direct blows to the bone
2) food oh hyper parathyroidism
3) renal hyper parathyroidism
4) Road accident
37. What happens due to the development of hyperparathyroidism?
1) By Increased bone density
2) By improvement of the level nya phosphorus kro And
3) Uro calcium and does not change
4) decreased bone density
38. Why can't you use What about intramedullary osteosynthesis for a mandibular fracture?
1) Since the knitting needle is very thin and will not be able to fix break a fracture
2) Because in the mandibular canal passes through the nerve
3) since it is necessary to use a plate
4) Contradicts the rules of osteosynthesis.
39. What to use for a broken legin a dog to fix a fracture?
1) plate
2) Gypsum
3) Kirchner spokes
40. What is used for surgical treatment of inflammationVit's roughVat least the tibiaVoh bones in a dog?
1) External fixator
2) Screw
3) Wire
4) Kirchner spokes

PC-8. Be able to stop bleedingusing mechanical, physical, chemical and biological methods

PC-8$_{ID-1}$ Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues

PC-8$_{ID-2}$Be able to perform surgical intervention usingsurgical instruments on the affected organ or tissue to ensure the effectiveness of surgical intervention

PC-8$_{ID-3}$Be able to stop bleeding using mechanical, physical, chemical and biological methods

PC-8$_{ID-4}$Be able to connect tissue using bloodless and bloody methods methods, drainage of cavities, application of a bandage using dressings and frame materials

PC-8$_{ID-5}$Know the rules for using special equipment in the operating room, surgical instruments and dressings

PC-8$_{ID-6}$Know the technique of performing surgical operations in veterinary medicine

PC-8$_{ID-7}$Know the types and techniques of suturing and dressings used inveterinary surgery

1. What type of bleeding is characterized by constant flow of cherry-colored blood?
1. Arterial
2. Venous
3. Capillary
4. Mixed
2. Which of Does the following apply to physical methods of stopping bleeding?
1. Application of a coagulator
2. Application of collagen hemostatic sponge
3. Using a mosquito clip
4. All of the above
3. Which of the following refers to biological methods of stopping bleeding?

1. Application of a coagulator
2. Application of collagen hemostatic sponge
3. Using a mosquito clip
4. All of the above

4.Which of the following drugs are hemostatic?
1. Tranexam
2. Flexoprofen
3. Tolfedin
4. Onsior

5. Where does the rectus abdominis muscle begin?
1. In the area of the xiphoid cartilage
2.On the transverse costal processes of the lumbar vertebrae.
3. On maklok.
4. On the last rib

6.Where does the internal oblique abdominal muscle begin?
1. On maklok
2. On the costal arch.
3. At the pubic fusion.
4. On the xiphoid cartilage

7. Why is suprapleural blockade according to Mosin performed?
1. Abdominal pain relief
2. Chest pain relief
3. Udder pain relief
4. Prevention of peritonitis

8. What instrument is used for surgical removal slow milk production in cows?
1. Shkolnikov's knife
2. Disposable scalpel
3. Bougie
4. Metal catheter

9. Where is the needle directed when blocking the anterior lobe of the udder according to Logvinov?
1. To opposite knee joint
2. To the wrist joint
3. To the fetlock joint
4. To the tail

10. What is disarticulation?
1. Removal of the peripheral part of the organ at the level of the joint
2. Removal of the peripheral part of the organ at the bone level
3. Creating an artificial hole in the bone
4. Fixing the phalanx in the correct position

11. Where is the median abdominal incision made?
1. Along the transverse abdominis muscle
2. Along the rectus abdominis muscle
3. Bypassing the rectus abdominis muscle
4. Along the white line of the abdomen.

12. Where is the paramedian incision of the abdominal wall made?
1 Along the white line of the abdomen
2. Along the rectus abdominis muscle
3. In a hungry hole.
4. along the transverse abdominal muscle.

13. In what area is it carried out puncture of the horse's cecum?
1. In the area of the right hungry fossa
2. In the area of the left hungry fossa
3. In the hypochondrium area
4. In the area of the xiphoid cartilage.

14. In what area is it carried out Rumenocentesis in cattle?

1. In the area of the right hungry fossa
2. In the area of the left hungry fossa
3. In area hypochondrium
4 In the umbilical region
15.What instrument is used to fix the scar during rumenotomy?
1. Kocher clamp
2. Halstead clamp.
3. Herzen clamp
4. Retainer Magd
16. In what area is the scar incision made when performing rumenotomy?
1. In the cranial 2.
Caudal 3. Dorso-
caudal 4. Ventral.
17. In what area is the uterine incision made during a cesarean section?
1. Along the greater curvature of the uterine horn
2. Along the lesser curvature of the uterine horn
3. By body uterus
4. Up to the cervix.
18. In what position perform caesarean sections on cows?
1. Only in a supine position
2. Standing only
3 In a standing and lying position.
4 Cows are not given caesarean sections.
19. Who developed the paramedian incision when performing caesarean section in mares?
1. Herzen
2 Magda
3. Bashkirov
4. Voronin
20 What ways Is tooth extraction performed in horses?
1. Tooth extraction
2. Luxation of teeth
3. Rocking Teeth
4. Knocking and extraction of teeth
21. Where is the injection point for pain relief frontal nerve in a horse?
1. In the supraorbital foramen, on the zygomatic process of the frontal bone
2. In the supraorbital foramen, on the orbital process of the frontal bone 3
In the frontal bone
4 Above orbit.
22. How many ligatures must be applied when resection of the external jugular vein in a horse or cow?
1.2
2.4
3.6
4.5
23. In what cases is a puncture performed jugular veins in dogs and cats?
1. Conducted for blood sampling in daily practice
2. When collecting donor blood
3. When taking blood to test it for gases.
4. When collecting blood to test it for electrolytes.
24. What is abomazotomy?
1. Opening the
rumen
2. Opening the owl
3. Intestinal autopsy
4. Surgery of the gastrointestinal tract
25. What is conduction anesthesia?
1. Introduction of anesthetic into the paraneural space of large nerve trunks

2. Diffuse impregnation of soft tissues with anesthetic
3. Intravenous administration of anesthetic.
4. Injection of anesthetic into the nerve trunk.
26. Which of the following drugs has the longest lasting anesthetic effect when applied topically?
1. Lidocaine
2. Novocaine
3. Naropin
4. Dicaine
27. What is infiltration anesthesia?
1. Introduction of anesthetic into the paraneural space of large nerve trunks
2. Diffuse impregnation of soft tissues with anesthetic
3. Intravenous administration of anesthetic.
4. Injection of anesthetic into the nerve trunk
28. What is it called differently occipitospinous ligament?
1. Nuchal
2. Muscular.
3. Hanging
4. Interosseous
29. What should be done if urethral catheterization is difficult?
1. Carry out a cystotomy
2. Perform perineal urethrostomy
3. Conduct decompression cystocentesis
4. Perform prepubic urethrostomy
30. What complications may there be in an animal after urethrostomy?
1. Ascending infection
2. Urethral injury
3. Urinary incontinence
4. Excessive pain.
31. What suture material is used when performing urethrostomy?
1. Monofilament
2. Multifilament
3. Silk
4. Catgut
32. Why cryptorchids are a mustneed to be neutered?
1. Such animals show excessive aggression.
2. Cryptorchid testes can degenerate into malignant tumors
3. Such animals exhibit excessive lethargy 4.
Cryptorchidism can lead to urethral hyperplasia
33. For which hernias is it necessary to castrate the male?
1. Perineal
2. Umbilical
3. Traumatic
4. Everyone
34. What structures are included in the shuttle block in the horse?
1. Shuttle bone, navicular bursa, deep digital flexor tendon.
2. Shuttle bone, navicular bursa, superficial digital flexor tendon.
3. Shuttle bone, navicular bursa, common digital extensor tendon
4. The navicular bone and the navicular bursa.
35. Where does the tendon end?extensor digitorum commonus in the horse?
1. On the soft cartilages
2. On the extensor surface of the coffin bone
3. On the opposite surface of the coffin bone
4. On the lateral epicondyle of the coronoid bone
36. Where does the interosseous third muscle begin?on a horse's chest limb?
1. On the palmar surface of the carpal joint capsule
2. On the ulnar tubercle
3. On the medial epicondyle of the humerus

4. On the lateral epicondyle of the humerus

37. Where is injection point for administering an anesthetic to anesthetize the shuttle block in a horse?

1. Above the soft cartilages
2. Above the fetlock train
3. Above the coffin joint
4. In the shuttle bursa

38. What suture is applied when realigning the rectum?

1. Furrier
2. Lambert
3. Purse string
4. Mattress

39. What will be the indication for intestinal resection?

1. Foreign body
2. Hernia.
3. Necrosis of the intestinal wall
4. Prolapse of the intestinal wall

40. What are the options for connecting the intestinal wall after its resection?

1. End to end, end to side, side to side.
2. end to end
3. double-layer seam connection
4. Connection with a three-story seam.

1.2. Typical tasks for intermediate certification

1.2.1. List of questions for testing

GPC-1. Capable of determining the biological status and normative clinical indicators of organs and body systems of animals.

GPC-1$_{ID-1}$ Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; schemes for the clinical study of an animal and the GPC-1 procedure. ID-2. Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals.

GPC-3$_{ID-3}$. Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies.

GPC-4 Able to use methods for solving problems in professional activities using modern equipment when developing new technologies and use modern professional methodology to conduct experimental studies and interpret their results

GPC-4$_{ID-1}$ Know the technical capabilities of modern specialized equipment, methods for solving problems of professional activity.

GPC-4$_{ID-2}$ Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained.

GPC-4$_{ID-3}$ Possess skills in working with specialized equipment to implement assigned tasks when conducting research and developing new technologies, including digital ones.

1. Safety precautions when providing surgical care to horses. Fixing and felling of horses, pigs, small livestock.
2. Safety precautions when providing surgical care to cattle, dogs, cats. Fixing and felling of cattle, restraining dogs and cats.Prevention of surgical infection (work procedure in the operating room, preparation
hands, sterilization of instruments).
3. Preparation of the surgical field. Suture and dressing material, its characteristics and sterilization. Surgical linen, its characteristics and sterilization.
4. Principles of separation and connection of bones. Types of surgical sutures (skin, muscle, etc.). Connection of bones.
5. Operations on the intestines and stomach, intestinal resection. Principles of intestinal sutures.

6. Mastering technologyadministration of medicinal substances. Castration of pigs.
7. Head surgeriesin cattle.
8. Neck operations.
9. Desmurgy.
10. Castration of stallions.
11. Castration of boars.
12. Surgical treatment of hernias.
13. What pharmaceuticals are used to calm, relax and immobilize large and small animals?
14. How to pacifya horse without the use of sedatives and neuroleptics?
15. Which neuroleptanalgesics are most effective in pigs?
16. How are sire bulls taken out for a walk?
17. Why do horses use a spin?on the upper lip, not the lower?
18. Why do stud bulls have to have nose rings inserted?
19. What precautions should be taken when working with wild animals?
20. What animals is the kaptsung intended for?
21. What operating tables and machines for fixing large animals are used in clinical practice?
22. How to warninfection in the wound during operations?
23. What are the requirements for surgeon's hand hygiene?
24. In what sequence are the surgeon's hands washed, dried and disinfected?
25. How to hold your hands correctly after preparing them for surgery?
26. What are the requirements for surgical gloves?7. How to properly sterilize surgical gloves?
27. Why should the size of the surgical field bebe larger than the intended cut?
28. Why is the surgical field isolated?
29. How to prepare instruments for sterilization?
30. How to properly sterilize instruments by boiling?
31. For what purpose are alkaline solutions used to sterilize instruments?
32. How to sterilize instruments in the field using Karetnikov liquid? PC-7. Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method

PC-7$_{ID-1}$ Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs PK-7 ID-2. Know surgical techniques for treating animals and indications for their use.

PC-7$_{ID-3}$ Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects

PC-8$_{ID-1}$ Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues

PC-8$_{ID-2}$ Be able to perform surgical intervention usingsurgical instruments on the affected organ or tissue to ensure the effectiveness of surgical intervention

PC-8$_{ID-3}$ Be able to stop bleeding using mechanical, physical, chemical and biological methods

PC-8$_{ID-4}$ Be able to connect tissue using bloodless and bloody methodsmethods, drainage of cavities, application of a bandage using dressings and frame materials

PC-8$_{ID-5}$ Know the rules for using specialequipment in the operating room, surgical instruments and dressings

PC-8$_{ID-6}$ Know the technique of performing surgical operations in veterinary medicine

PC-8$_{ID-7}$ Know the types and techniques of suturing and dressings used inveterinary surgery

33. How to give, receive and hold a syringe correctly?
34. What requirements must a scalpel meet?
35. How many ways to hold a scalpel?
36. How to hold surgical scissors correctly?
37. What surgical saws do you know?
38. What are the Farabeuf and Doyen raspators used for?
39. What are the requirements for sutures used in surgery?
40. What suture material is used for skin sutures?
41. What wounds are 8-shaped and purse-string sutures applied to?

42. Why is it recommended for hollow organs?apply a two-story suture?
43. Which suture ensures complete closure of the hernial orifice?
44. What complications can arise from strong compression of tissues at the time of tying knots?
45. In what cases is only part of the skin sutures removed first?
46. Why shouldn't it be applied to a purulent wound?seams? 9. What tissues are Michel braces applied to?
47. What are the indications for the use of compresses and wet wrapping?
48. What are bandages and dressings called?
49. How long after application are bandages removed: bandage, adhesive, frame?
50. What are the types and forms of dressing material?
51. What are the requirements for bandages?
52. In what areas of the animal's body can adhesive and frame bandages be applied?
53. What are the indications for the use of compresses and wet wrapping?
54. What is called a bandage and dressing.
55. How long after application are the bandages removed: splints, plaster?
56. What are the types and forms of dressing material?
57. In what areas of the animal's body can adhesive and frame bandages be applied?
58. How long is a pressure (hemostatic) bandage applied?
59. What serves as a guideline for making a scrotal incision during castration of males?
60. What is the difference between the open method of castration and the closed one?
61. What is the advantage of percutaneous castration of males over complete removal of the testes?
62. How to achieve complete hemostasis withbleeding from the vessels of the scrotum in stallions?
63. How to castrate old boars and rams without complications?
64. After castration, a horse suffered loss of the spermatic cord stump. What are your actions?
65. What dangers and complications are fraught with castration of males "to tear off" the spermatic cord?

3.3. Questions for the exam.

GPC-1 Capable of determining the biological status and normative clinical indicators of organs and body systems of animals.

GPC-1$_{ID-1}$ Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study diagrams and procedure

GPC-1$_{ID-2}$ Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals.

GPC-1$_{ID-3}$ Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies.

GPC-4 Able to use in professional activities methods for solving problems using modern equipment when developing new technologies and
use modern professional methodology to conduct
experimental studies and interpretation of their results

OPK-4$_{ID-1}$ Know the technical capabilities of modern specialized equipment, methods for solving problems of professional activity.

OPK-4$_{ID-2}$ Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained.

OPK-4$_{ID-3}$ Possess skills in working with specialized equipment to implement assigned tasks when conducting research and developing new technologies, including digital ones

1. A brief history of the development of veterinary surgery.
2. Definition of surgery. Stages of surgical operations.
3. Cattle fellings.
4. Horse falls, their comparative assessment.
5. Asepsis and antiseptics in the modern sense.
6. Antiseptic drugs used in veterinary surgery.
7. Sterilization and storage of instruments.
8. Cold methods of sterilizing instruments.

9. Suture material and requirements for it.
10. Methods for sterilizing silk and cotton threads.
11. Cold methods of silk sterilization.
12. Characteristics of catgut and methods of sterilization.
13. Methods of hand preparation and their comparative characteristics.
14. Preparation of hands according to Olivekov and Spasokukotsky -Kochergin.
15. Preparation of hands according to Kiyashev and Alfeld.
16. Preparation of the surgical field.
17. Preparation of mucous membranes for surgery.
18. Equipment of the operating room and rules of work in it. The use of surgical gloves during operations.
19. Types of anesthesia.
20. Pharmacological preparation of animals for anesthesia.
21. Anesthesia in cattlelivestock
22. Anesthesia of horses.
23. Methods of local anesthesia and their comparative characteristics.
24. Tight creep methodinfiltration according to Vishnevsky.
25. The use of neuroleptics and neuroleptanalgesics in surgery.
26. Muscle relaxants and their use in veterinary surgery.
27. Principles and methods of tissue separation. Tools.
28. Ways to stop bleeding.
29. Tools and material to stop bleeding.
30. Prevention of bleeding.
31. Surgical instruments and material for connecting tissues.
32. Comparative evaluation of interrupted and continuous seams.

PC-7 Determining the need to use surgical methods in the treatment of animals, developing a plan for a surgical operation, including the choice of anesthesia method
PC-7$_{ID-1}$ Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs
PC-7$_{ID-2}$ Know surgical techniques for treating animals and indications for their use
PC-7$_{ID-3}$ Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects
PC-8 Carrying out surgical intervention in the body of animals in the treatment of various diseases, castration, sterilization, for cosmetic purposes
PC-8$_{ID-1}$ Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues
PC-8$_{ID-2}$ Be able to perform surgical intervention usingsurgical instruments on the affected organ or tissue to ensure the effectiveness of surgical intervention
PC-8$_{ID-3}$ Be able to stop bleeding using mechanical, physical, chemical and biological methods
PC-8$_{ID-4}$ Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials
PC-8$_{ID-5}$ Know the rules for using special equipment in the operating room, surgical instruments and dressings
PC-8$_{ID-6}$ Know the technique of performing surgical operations in veterinary medicine
PC-8$_{ID-7}$ Know the types and techniques of suturing and dressings used inveterinary surgery

33. Intermittent sutures on the skin and muscles.
34. Intestinal sutures.
35. Types of dressing material and its characteristics.
36. Technique for applying splints and plaster casts.
37. Anesthesia of the infraorbital nerve.
38. Conduction anesthesia of the infra trochlear and frontal nerves in horses and cattle.
39. Plastic surgery of the nasolabial planum.
40. Trepanation of the frontal sinusin cows.
41. Frontal trephination horse's sinuses.

42. Methods prevention of horn formation in calves.
43. Dehorning of cattle.
44. Extraction of teeth.
45. Esophagotomy.
46. Tracheotomy and tracheostomy.
47. Resection of the external jugular vein in cattle.
48. Anesthesia of the nerves of the chest wall.
49. Blockade of the stellate ganglion.
50. Rib resection.
51. Operations for foamy tympania.
52. Abdominal puncture aorta in animals.
53. Topographical anatomy of the abdominal wall in cattle.
54. Blockade of the splanchnic nerves according to Mosin.
55. Paralumbar anesthesia in the horse and cattle.
56. Epidural sacral anesthesia and indications for its use.
57. Anesthesia of the abdominal wall in large cattle according to B. A. Bashkirov
58. Abdominal wall pain relief in cattle according to Magda I.I.
59. Methods of laparotomy.
60. Operative approaches for opening the abdominal cavity.
61. Puncture of scar and book.
62. Rumenotomy (methods of fixing a scar and isolating its wound, suturing the abdominal wall)
63. Rumenotomy (indication, pain relief, surgical approaches)
64. Abomazotomyin sheep.
65. Bowel resection.
66. Operations on the rectum (in the absence of anus and prolapse)
67. Operations byabout umbilical hernias.
68. Operations for inguinal and scrotal hernias.
69. Operationsregarding abdominal hernias.
70. Preparation and conduct of mass castrations.
71. Classification of methods of castration of males.
72. Castration of bulls.
73. Castration of boars.
74. Methods of castration of boars.
75. Castration of rams and goats.
76. Castration of stallions.
77. Castration of rabbits.
78. Castration of camels.
79. Topographic anatomy of the croup.
80. Topographic anatomy of the pelvic cavity.
81. Rational cuts in the thigh area.
82. Topographic anatomy of the thigh area and rational incisions for purulent processes in this area.
83. Castration of cows.
84. Castration of pigs.
85. Caesarean section in cows (ventrolateral incision, topography of the abdominal wall, hysterotomy, suturing of the uterus and abdominal wall).
86. Caesarean section in cows (indications, pain relief,quick access)
87. Caesarean section in cowsin a standing position.
88. Anesthesiacows' udders.
89. Udder nerve blockin cows according to B.A. Bashkirov
90. Conduction anesthesia of the mammary mirror in cows.
91. Elimination of tightness and stricturesteat cistern in cows.
92. Anesthesia of the penis in a bullVoronin.
93. Penile amputationat the stallion.
94. Urethrotomy and urethrostomy.
95. Joints of the thoracic limb in horses and cattle (anatomical and topographic data).
96. Joints of the pelvic limb in horses and cattle (anatomical and topographic data).

97. Puncture of the joints of the thoracic limb in a horseand cattle (points and equipment)
98. Puncture of the joints of the pelvic limb in cattle and horses (points and technique)
99. Bursae of the thoracic limb in cattle and horses (localization, puncture).
100. Bursa of the pelvic limb in cattleand horses (localization, puncture).
101. Tendon sheaths in the areatoes in horses and cattle.
102. Topographic anatomy of the lower leg.
103. Topographic anatomy of cattle toes.
104. There is little pain relief - and the tibial nerves in horses and cattle.
105. Pain relief for finger nervesin cattle.
106. Block of the plantar nerves and their branches of the horse's fingers.
107. Exathirculation of the third phalanx of the large fingercattle
108. Amputation of a large fingercattle
109. Amputation and disarticulationtail in animals.

3.4 Topics of coursework

GPC-1 Capable of determining the biological status and normative clinical indicators of organs and body systems of animals.

GPC-1$_{ID-1}$ Know safety precautions and rules of personal hygiene when examining animals, methods of restraining them; animal clinical study diagrams and procedure

GPC-1$_{ID-2}$ Be able to collect and analyze anamnestic data, conduct laboratory and functional studies using digital computer technologies necessary to determine the biological status of animals.

GPC-1$_{ID-3}$ Possess practical skills in independently conducting a clinical examination of an animal using classical research methods and digital technologies.

GPC-4 Able to use in professional activities methods for solving problems using modern equipment when developing new technologies anduse modern professional methodology to conduct
experimental studies and interpretation of their results

GPC-4$_{ID-1}$ Know the technical capabilities of modern specialized equipment, methods for solving problems of professional activity.

GPC-4$_{ID-2}$ Be able to apply modern technologies, including digital ones, and research methods in professional activities, and interpret the results obtained.

GPC-4$_{ID-3}$ Possess skills in working with specialized equipment to implement assigned tasks when conducting research and developing new technologies, including digital PC-7 Determining the need to use surgical methods in the treatment of animals, developing a plan for conducting a surgical operation, including the choice of anesthesia method

PC-7$_{ID-1}$ Be able to anesthetize animals before surgery using narcotic, neuroleptic and local anesthetic drugs

PC-7$_{ID-2}$ Know surgical techniques for treating animals and indications for their use

PC-7$_{ID-3}$ Know the drugs. used for animal anesthesia in veterinary surgery. doses and methods of their use, side effects

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

PC-8$_{ID-1}$ Be able to dissect animal tissue using surgical instruments to create rapid access to the affected organ or tissues

PC-8$_{ID-2}$ Be able to perform surgical intervention usingsurgical instruments on the affected organ or tissue to ensure the effectiveness of surgical intervention

PC-8$_{ID-3}$ Be able to stop bleeding using mechanical, physical, chemical and biological methods

PC-8$_{ID-4}$ Be able to connect tissue using bloodless and bloody methods, drainage of cavities, application of a bandage using dressings and frame materials

PC-8$_{ID-5}$ Know the rules for using special equipment in the operating room, surgical instruments and dressings

PC-8$_{ID-6}$ Know the technique of performing surgical operations in veterinary medicine

PC-8$_{ID-7}$ Know the types and techniques of suturing and dressings used inveterinary surgery

1. Castration of a stallion.

2. Castration of rams, bulls, goats.
3. Castration of boars.
4. Castration of pigs.
5. Dehorningadult cattle.
6. Prevention of horn formationin calves.
7. Frontal trephinationhorse's sinuses.
8. Trepanation of the frontal sinus in a largecattle
9. Treatment of intravaginal hernias.
10. Hernia repairfor abdominal hernias.
11. Hernia repairwith umbilical hernias.
12. Rumenotomy.
13. Cesarean section of cows in a standing position.
14. Caesarean section of cows in a lying position.
15. Disarticulation of the third phalanx of the large fingercattle
16. Amputation of a large fingercattle
17. Resection of the rectum.
18. Bowel resection (in the abdominal cavity).
19. Abomazotomy of sheep.
20. Operations on the udder (elimination of poor milk production).
21. Treatment of udder wounds.
22. Resection of the external jugular vein

5. METHODOLOGICAL MATERIALS DETERMINING PROCEDURES FOR ASSESSING KNOWLEDGE, ABILITIES AND SKILLS AND ACTIVITY EXPERIENCE CHARACTERIZING THE STAGES OF COMPETENCY FORMATION

Criteria for assessing students' knowledge during the colloquium:

- **Mark "excellent"**- the student clearly expresses his point of view on the issues under consideration, giving relevant examples.
- **Mark "good"**- the student makes some errors in the answer
- **Mark "satisfactory"**- the student discovers gaps in knowledge of the basic educational and regulatory material.
- **Mark "unsatisfactory"**- the student discovers significant gaps in knowledge of the basic principles of the discipline, and the inability, with the help of the teacher, to obtain the correct solution to a specific practical problem.

Criteria for assessing students' knowledge during testing:

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

- **Mark "excellent"**– 25-22 correct answers.
- **Mark "good"**– 21-18 correct answers.
- **Mark "satisfactory"** –17-13 correct answers.
- **Mark "unsatisfactory"**– less than 13 correct answers

Knowledge criteria for the test:

- **Grade "passed"**must meet the parameters of any of the positive ratings ("excellent", "good", "satisfactory").
- **Grade "Not accepted"** must correspond parameters assessments "unsatisfactory"
- **Mark "excellent"**– all types of educational work provided for by the curriculum have been completed. The student demonstrates the correspondence of knowledge, skills and abilities to the indicators given in the tables, operates with acquired knowledge, skills and abilities, and applies them in situations of increased complexity. In this case, inaccuracies and difficulties may occur during analytical operations and the transfer of knowledge and skills to new, non-standard situations.

• **Mark "good"**– all types of educational work provided for by the curriculum have been completed. The student demonstrates the correspondence of knowledge, skills and abilities to the indicators given in the tables, operates with acquired knowledge, skills and abilities, and applies them in standard situations. In this case, minor errors, inaccuracies, and difficulties during analytical operations and the transfer of knowledge and skills to new, non-standard situations may be made.

• **Mark "satisfactory"**– one or more types of educational work provided for by the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, abilities, skills with the indicators given in the tables, significant mistakes are made, a partial lack of knowledge, abilities, and skills is manifested in a number of indicators, the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations. –

• **Mark "unsatisfactory"**– the types of educational work provided for by the curriculum have not been completed. demonstrates incomplete compliance of knowledge, abilities, and skills with those given in the tables of indicators, significant errors are made, a lack of knowledge, abilities, and skills is manifested in a larger number of indicators; the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations

Knowledge criteria for the exam:

• **Mark "excellent"**– all types of educational work provided for by the curriculum have been completed. The student demonstrates the correspondence of knowledge, skills and abilities to the indicators given in the tables, operates with acquired knowledge, skills and abilities, and applies them in 44 situations of increased complexity. In this case, inaccuracies and difficulties may occur during analytical operations and the transfer of knowledge and skills to new, non-standard situations. –

• **Mark "good"**– all types of educational work provided for by the curriculum have been completed. The student demonstrates the correspondence of knowledge, skills and abilities to the indicators given in the tables, operates with acquired knowledge, skills and abilities, and applies them in standard situations. In this case, minor errors, inaccuracies, and difficulties during analytical operations and the transfer of knowledge and skills to new, non-standard situations may be made.

• **Mark "satisfactory"**– one or more types of educational work provided for by the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, abilities, skills with the indicators given in the tables, significant mistakes are made, a partial lack of knowledge, abilities, and skills is manifested in a number of indicators, the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations. –

• **Mark "unsatisfactory"**– the types of educational work provided for by the curriculum have not been completed. demonstrates incomplete compliance of knowledge, abilities, and skills with those given in the tables of indicators, significant mistakes are made, a lack of knowledge, abilities, and skills in a larger number of indicators is manifested; the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations.

Criteria for assessing students' knowledge when checking coursework:

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

6. ACCESSIBILITY AND QUALITY OF EDUCATION FOR PERSONS WITH DISABILITIES

If necessary, disabled people and persons with limited health capabilities are given additional time to prepare an answer for the test.
When carrying out the procedure for assessing the learning outcomes of people with disabilities and people with limited health capabilities, their own technical means may be used.

The procedure for assessing the learning outcomes of people with disabilities and people with limited health capabilities 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 persons with musculoskeletal disorders	– in printed form, apparatus: – in the form of an electronic document.

When carrying out the procedure for assessing the learning outcomes of disabled people and persons with limited health capabilities in the discipline, it ensures the fulfillment of the following additional requirements 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 for submitting assignments 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 assignments (written on paper, typing answers on a computer, orally).
If necessary, for students with disabilities and people with disabilities, the procedure for assessing learning outcomes in a discipline can be carried out in several stages.
The procedure for assessing the learning outcomes of disabled people and persons with limited health capabilities is permitted using distance learning technologies.