



**MINISTRY OF EDUCATION AND SCIENCE OF
State Biotechnology University**

Faculty of Veterinary Medicine
(name of the educational and research institute/faculty)

"Approved"
Head of the Department of
Veterinary Surgery and
Reproductive Medicine
(name of the department)

(signature)

D.V.
Slyusarenko
(last name and initials)

" 18 " 06 2025 p.

Department in of veterinary surgery and reproductive medicine
(name of the department)

WORK PROGRAM
ACADEMIC DISCIPLINE
OPERATIVE SURGERY WITH THE BASICS OF TOPOGRAPHIC
ANATOMY AND ANESTHESIOLOGY
(code and name of the discipline)

Level of higher education Second (master's) degree
(name)

Field of expertise 21 Veterinary medicine
(code and name)

Specialty. 211 Veterinary medicine
(code and name)

Educational program Veterinary medicine
(name)

Kharkiv - 2025.

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The curriculum of the discipline was approved at an expanded meeting of the
Department of Veterinary Surgery and Reproductive Medicine

Protocol of: " № 11 "18.06.2025.

Work program agreed upon

Guarantor of the educational
program

Veterinary medicine

(name of the TPO)

" 5 " 06 2025



Naumenko S.V.

(signature)

(last name and initials)

The validity period has been extended to:

" ____ " ____ 202__, minutes No. ____ of " ____ " ____ 202__ p.

Head of the Department of Veterinary
Surgery and Reproductive Medicine

(signature)

(last name and initials)

" ____ " ____ 202__, minutes No. ____ of " ____ " ____ 202__ p.

Head of the Department of Veterinary
Surgery and Reproductive Medicine

(signature)

(last name and initials)

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Head of the Department of Veterinary
Surgery and Reproductive Medicine

(signature)

(last name and initials)

1 Description of the discipline

Name of indicators	Characteristics of the discipline			
	full-time education			
Number of credits - 8	Status of the discipline:			
	<i>mandatory</i>			
Sections - 2	A year of preparation:			
	2	3		
	Semester			
Total number of hours <u>240</u> .	4	5		
	Lectures			
	18 hours.	16 hours.		
	Laboratory and practical			
	38 hours.	30 hours.		
	Independent work			
	34 hours.	74 hours.		
	Practical training			
Weekly hours for full-time students: classrooms - 102 independent work of the applicant - 108 hours		30		
	Type of control:			
	offset	examination		

2 Aims and objectives of the discipline

The aim of the discipline "Operative Surgery with the Basics of Topographic Anatomy and Anesthesiology" is the theoretical and practical study of the rules of correct surgery, anesthesia and free orientation in the surgical field.

The objectives of the course are to:

- solving practical issues of animal husbandry,
- studying the basics of anesthesiology, topographic anatomy, basic techniques and methods of performing surgical interventions; features, achievements and prospects of operative surgery;
- the ability to safely handle animals,
- have an idea of the projections on the skin of the organs to be intervened on,
- perform surgical procedures related to anesthesia, diagnosis and treatment of surgical diseases of animals,
- be able to apply in practice surgical methods and techniques aimed at improving the economic qualities of farm animals.

The subject of discipline is methods and techniques of performing surgical operations.

The basic disciplines for the successful mastering of the program material of the discipline are the courses "Anatomy of domestic animals" and "Animal physiology".

This discipline ensures the formation of the following program learning outcomes:

PLO1 Know and correctly use the terminology of veterinary medicine

3 Program of the discipline

Section 1: General part of operative surgery. Prevention of surgical infection.

Injections, infusions and bloodletting

Prevention of surgical infection. Asepsis and antisepsis. A brief history of the fight against surgical wound infection.

Sterilization of instruments, linen, sutures and dressings. Preparation of the surgical field and surgeon's hands. Methods and stages of preparation of the surgeon's hands and surgical field. Organization of surgical work in medical institutions and on the farm.

Injections, infusions and bloodletting. Definition of concepts. Main instruments and their nomenclature. Classification of injections and their purpose. Infusions in different species of animals.

Bleeding, purpose and method of performance. Indications for different types of injections and infusions. Areas of the animal body where various injections and infusions are performed. Areas of the animal body where various injections are performed

Recommended reading:1-11

Section 2. Anesthesiology. Elements of surgical operations

Anesthesiology. The importance of anesthesia and limitation of animal mobility in the provision of medical care and as an element of safety and health protection of agricultural animals. The concept of premedication and potential analgesia.

Anesthesia: definition of the concept, its types and main agents. Anesthesia of different types of agricultural animals. Contraindications and complications of anesthesia, their prevention and elimination.

Local anesthesia. Definition of the concept, terminology. Indications and contraindications. The main methods of local anesthesia. Diagnostic and therapeutic value of local anesthesia.

Elements of surgical operations. Methods of tissue separation. Tools for tissue separation. Their characteristics and purpose.

Bleeding: its types, ways to stop it. Connection of tissues. Surgical suture, its types. Purpose of different types of sutures. Principles of application and removal. Features of the intestinal suture and its principles.

Recommended reading:1-11

Section 3. Special part of operative surgery. Desmurgy. Operations on the head and ventral neck area

Desmurgia. Definition of the concept.

Characteristics of the dressing material. Type and form of dressings. Methods of application of dressings. The main types of dressings. Special adhesive and frame dressings. Gypsum dressings. Principles of its application and removal.

Blockage of the trigeminal nerve branches in horses and cattle. Rhinoplasty. Indications, technique of performance.

Figure. Anatomical and topographic data of the horn. Indications, technique.

Amputation of the ears in dogs. Indications. Anesthesia and technique. Anatomical and topographic data of the ventral neck.

Recommended reading:1-11

Section 4. Surgeries in the lateral chest wall and abdomen. Operations in the male perineum, castration, operations on the limbs

Anatomical and topographic data of the lateral chest wall.

Novocaine blockade of the vagosympathetic trunk and stellate node. Tracheotomy. Resection of the jugular vein. Ligation of the common carotid artery. Esophagotomy.

Methods of anesthesia of the lateral chest wall. Suprapleural novocaine block by Mosin. Pleurocentesis. Resection of the rib.

Aortopuncture. Anesthesia of the soft abdominal wall. Laparotomy. Types of laparotomies. Principle and technique of intestinal suturing. Roumenotomy.

Operations on rennet. Enterotomy. Enterectomy. Hernia operations. Operations on hernias. Anatomical and topographic data.

Conductor anesthesia of the male perineum of a horse, bull, small animals. Opening of the urogenital canal. Operations on the bladder. Anatomical and topographic data.

Castration of males. Purpose and economic importance. Anatomical and topographical data. Methods of castration of males. Castration of cryptorchids. Castration of females. Purpose and economic importance. Anatomical and topographic data. Ovarioectomy of pigs, cows, heifers, cats and bitches. Methods of anesthesia, surgery technique.

Anatomical and topographic data. Structure of tendon nerves, synovial formations. The structure of the joint. Operations on the limbs. Conductor anesthesia. Surgical and diagnostic value of anesthesia on the limbs. Blockade of nerves of the thoracic and pelvic extremities. Puncture of synovial formations.

Recommended reading:1-11

4. Structure of the discipline

Title. sections and topics	Number of hours					
	full-time form					
	Total volume	classroom			Independent work	
		of all	including			
	lectures		laboratory	Training practice		
1	2	3	4	5	6	7
Section 1. General part of operative surgery Prevention of surgical infection. Injections, transfusions and bloodletting	44	26	8	18		18
Section 2. Anesthesiology. Elements of surgical operations	46	30	10	20		16
Total	120	64	32	32		56
Section 3. Special part of operative surgery. Desmurgia. Operations on the head and ventral neck area	50	20	6	14		30
Section 4. Surgeries in the lateral chest wall and abdomen. Operations in the male perineum, castration, operations on the limbs	70	26	10	16		44
Total	120	46	16	30	30	74
Total hours	240	102	34	68	30	108

5 Seminar sessions

No. s/n	Name of the class topic	Number of hours
<i>Section 1. General part of operative surgery Prevention of surgical infection. Injections, transfusions and bloodletting</i>		
1.	Introductory lecture.	2
2.	The main elements of safety techniques when handling animals of various species.	2
3.	Prevention of surgical infection.	2
4.	Injections, infusions and bloodletting.	2
<i>Section 2. Anesthesiology. Elements of surgical operations</i>		
5.	Anesthesiology. Narcosis.	2
6.	Local anesthesia.	2
7.	Elements of surgical operations.	2
8.	Desmurgia.	2
9.	Elements of plastic surgery.	2

<i>Section 3. Special part of operative surgery. Desmurgia. Operations on the head and ventral neck area</i>		
10.	Operations on the head. Areas of skin innervation.	2
11.	Operations in the scalp. Rhinoplasty, operations on the auricles, enucleation of the eyeball. Decoration of cattle.	2
12.	Operations in the ventral area of the neck.	2
<i>Section 4. Surgeries in the lateral chest wall and abdomen. Operations in the male perineum, castration, operations on the limbs</i>		
13.	Operations in the chest area.	2
14.	Operations in the abdomen.	2
15.	Operations on genitourinary organs.	2
16.	Operations on the penis. Operations in the area of the male perineum.	2
17.	Limb operations.	2
Total hours		34

6. Laboratory classes

No. s/n	Name of the class topic	Quantity. hours of film
<i>Section 1. General part of operative surgery Prevention of surgical infection. Injections, transfusions and bloodletting</i>		
1	Introductory class. Familiarization with the rules of work in a surgical clinic. Safety precautions when handling animals.	2
2	Fixation of agricultural animals. Techniques for fixing a horse in a standing position. Techniques for fixing a horse in a supine position	2
3	Fixation of agricultural animals. Methods and features of fixing pigs. Techniques and features of fixing small animals and poultry.	2
4	Fixation of agricultural animals. Techniques for fixing cattle in a standing position. Techniques for fixing cattle in a supine position.	2
5	Prevention of surgical infection Sterilization of instruments, sutures and dressings. Methods of sterilization, methods of control.	2
6	Prevention of surgical infection Preparation of the surgical field and surgeon's hands	2
7	Injections and infusions Technique of intradermal, subcutaneous, intramuscular injections, intravenous injections and infusions in large animals.	2
8	Injections and infusions Intravenous injections and infusions in small animals.	2
9	Injections and infusions Intravenous injections. Intraperitoneal injections. Technique of performance.	2
<i>Section 2. Anesthesiology. Elements of surgical operations</i>		

10	Local anesthesia Technique of performing superficial, infiltration, and conduction anesthesia. Technique of performance. Indications.	2
11	Epidural anesthesia Types of epidural anesthesia. Technique of performance. Indications.	2
12	Anesthesia of agricultural animals. Premedication. Anesthesia of horses (chloral hydrate, intravenous, oral, rectal). Anesthesia of cattle (alcohol, chloral hydrate, keta mine)	2
13	Anesthesia of agricultural animals Anesthesia of small animals (inhalation, barbiturate).	2
14	Elements of surgical operations Separation of tissues. Bleeding. Types of bleeding. Prevention of bleeding. Ways to stop bleeding.	2
15	Elements of surgical operations Practicing the technique of tying marine and surgical knots. Knotted, situational, looped sutures	2
16	Elements of surgical operations Practice the technique of suturing with rollers. Suturing of furrier, mattress and pouch sutures.	2
17	Elements of surgical operations Technique for removing sutures.	2
18	Elements of surgical operations Practicing the technique of intestinal suturing. Suturing according to Lamber, Schmidt, Pirogov-Chern, and Lambda sutures	2
19	Dermatoplasty Closure of various skin defects using loosening incisions in dogs and cattle. Stop bleeding. Study the theoretical material. Practicing various types of involuntary dermatoplasty on live subjects.	2
<i>Section 3. Special part of operative surgery. Desmurgia. Operations on the head and ventral neck area</i>		
20	Desmurgia Study of the properties, types and forms of dressings. Application of bandages, frame, special dressings. Adhesive and immobilizing dressings. Their application and removal. Learn recipes for adhesives for fixing dressings	2
21	Surgery on the head Practice blocking trunks and branches of the trigeminal nerve on cadaveric material. Blockade of the trigeminal nerve branches. Topography near the nasal sinuses and their trephination.	2
22	Surgery on the head Topography of the cattle horn. Prevention of horn growth in calves. Surgical removal of horns in adult cattle. Study the theoretical material.	2

23	Surgery on the head Practicing the technique of decortication on living objects in the farm. Blockade of the mandibular nerves. Blockage of the suborbital nerves. Rhinoplasty. Study theoretical material.	2
24	Operations on the auricle Amputation of ears in dogs. Study the theoretical material.	2
25	Operations in the neck area Draw the layered structure of the ventral neck. Study of the topography of the area. Blockade of the vagosympathetic trunk. Blockage of the cranial cervical node.	2
26	Operations in the neck area Topographic anatomy. Features of different methods of performing operations. Jugular vein puncture. Tracheotomy, esophagotomy. Practice the operation technique on live objects.	2
<i>Section 4. Surgeries in the lateral chest wall and abdomen. Operations in the male perineum, castration, operations on the limbs</i>		
27	Operations in the breast area Study the layered structure of the ventral chest wall. Study the topography of the area. Anesthesia of this area. Supra-rectal blockade. Aortopuncture. Resection of the rib	2
28	Operations in the abdomen Study of the topography of the area. Study the layered structure of the ventral and lateral abdominal wall. Anesthesia of the lateral abdominal wall. Enterotomy and enteroectomy on a living object.	2
29	Operations in the abdomen Intestinal suture. Principles of intestinal suturing according to Lamberts. Practicing the technique on cadaveric material. Application of different types of intestinal sutures depending on the injured organ.	2
30	Operations in the abdomen Types of anastomoses in enterotomy. Practicing the technique of intestinal suturing and anastomoses on cadaveric material	2
31	Operations in the abdomen Topography of the scar. Rumenotomy. Indications, contraindications. Technique of the operation.	2
32	Operations in the abdomen Abdominal hernias. Types of hernias and their characteristics. Herniotomy. Indications, contraindications. Technique of herniotomy for umbilical, inguinal and scrotal hernias. Practicing the herniotomy technique on live objects. Characteristics and technique of laparotomies on the lateral and ventral abdominal wall in different species of animals. Practice the laparotomy technique on live animals.	2

33	Operations on the genitourinary organs Cystotomy on a living object (dog). Conductor anesthesia of the penis in the horse and bull. Performing a blockade on a living object. Urethrotomy, urethrostomy. Indications for performance. Technique of performance Anatomical and topographic features of the genitourinary organs in different species of animals. Castration of boars, stallions, bulls by open and closed methods. Castration of males, cats, nutria, rabbits. Anatomical and topographic features of the structure of the inguinal canals. Castration technique. Anatomical and topographic characteristics of genital organs in females of different animal species. Operative access. Surgical technique.	2
34	Operations on the thoracic and pelvic limbs Blockade of the nerves of the thoracic and pelvic limbs. Puncture of synovial formations. Draw a diagram of the innervation of the thoracic and pelvic limbs. Amputation of a finger in a big horn livestock Performing an operation on a live object.	2
Total of laboratory and practical classes: 64 hours		

8 Independent work

№ s/n	Topic title	Quantity. hours
1.	Methods of fixing large and small animals.	2
2.	Methods of fixing zoo animals and birds	2
3.	Medicinal preparation of animals for fixation	2
4.	Means and devices used for fixing wild and domestic animals	2
5.	The main elements of safety precautions when handling animals. Features of the defense response in different species of animals	2
6.	A short essay from the story of the fight against surgical wound infection.	2
7.	Modern means of asepsis and antiseptics.	2
8.	Modern methods of sterilization of instruments, suture material, and medicines in the production environment.	2
9.	Modern methods of surgical hand antisepsis	2
10.	Organization of surgical work in medical institutions and on livestock farms	2
11.	Improving the technique of preparing the surgical field and the surgeon's hands in various ways before performing a surgical operation	6
12.	A short essay on the history of the invention of the syringe and injection needles	2
13.	Improvement of the technique of performing intradermal,	6

	subcutaneous, intramuscular, intravenous and other injections on living objects.	
14.	A short essay on the history of pain relief	2
15.	Features of fixation and anesthesia of zoo animals.	2
16.	Contraindications and complications of anesthesia. Features of animal resuscitation.	2
17.	Anesthesia of different types of farm animals. Modern narcotic drugs	2
18.	Modern local anesthetics. Their characteristics, doses, methods of use	2
19.	Types of suture material. Their characteristics. Methods of use.	2
20.	Modern types of suture material. Their characteristics. Methods of use.	2
21.	Elements of plastic surgery. The concept of plastic surgery. Their types and characteristics.	4
22.	Modern materials used for the manufacture of pins, plates, orthopedic wires, etc. in osteosynthesis.	2
23.	Modern suture materials used for tendon and nerve injuries. Their characteristics.	4
24.	Tail exarticulation in different species of animals. Modern tools used in the performance of this operation. Surgical technique and indications.	2
25.	Development and improvement of the technique of tying surgical, marine and classic knots.	4
26.	Development and improvement of the technique of interrupted and continuous suturing on cadaveric material	4
27.	Voluntary and involuntary dermatoplasty. Their purpose. Types and methods of performance.	2
28.	Different methods of anesthesia in small and large animals during operations in the head area. Their characteristics.	2
29.	Practicing the technique of blockades in the head area on live objects	4
30.	Anatomical features of the structure in the ventral part of the neck in different species of animals.	2
31.	Features of esophagotomy in large animals.	6
32.	The modern concept of bandages, dressings and their application.	4
33.	Practicing the technique of decorum in young cattle	4
34.	Modern types of dressings used for bone fractures in animals.	4
35.	A modern view of the use of adhesive bandages in production conditions	6
36.	Technique of performing operations on the vessels in the veins of	4

	the tracheal region of the neck in large and small animals.	
37.	Principles of intestinal suturing. Types of anastomoses.	4
	Together	108

9 Teaching methods

(According to the structure of the discipline)

1. Lecture classes.
2. Practical classes.
3. Laboratory classes.
4. Independent study.

*The content of the section is advisory in nature and is adjusted in accordance with the content of the discipline.

10. Method of control

- ❖ oral interview;
- ❖ test control;
- ❖ test;
- ❖ exam.

During the current and final control, standardized computer tests are used to assess learning outcomes in the discipline.

The final semester control (test) is determined by the sum of the actual rating points gained from the current control and individual research task.

Current control is carried out during the semester by questioning (oral or test), as well as checking the quality of mastering the topics of independent work.

When choosing the criteria for assessing the student's mastery of the discipline, the program implementation and mastery of the material in terms of lectures and laboratory classes, as well as the implementation of the independent work provided for by the program are taken into account.

All types of control (oral examination, written examination, test examination) are closely related and organized in such a way as to stimulate effective independent work of applicants and ensure an objective assessment of their knowledge.

After completing the study of the discipline (part of the discipline), the final control is carried out in the form of an exam (test) and the applicant can score from 60 to 100 points inclusive at the control points during the semester.

11. Distribution of points received by applicants

In the course of studying the course, the success of applicants is determined by conducting current and final controls (test and exam).

Current testing, answers in the classroom and control of independent work				Total points
Section. 1	Section. 2	Section. 3	Section. 4	
T__1-9	T__10-19	T__20-26	T__27-34	60-100
0-100	0-100	0-100	0-100	

T__, T__... T__ – section topics.

The grade that a higher education student receives for the intermediate (current) control (CC) consists of the points that the student receives during testing (T), which is 30%; points that the student receives during classroom activity (CA), which is 40% and points for mastering the independent work block (I), which is 30%.

$$CC = T \times 0.3 + Z \times 0.4 + S \times 0.3$$

In each section of the educational component, current control is carried out (current control - CC).

For applicants in the autumn (spring) semester, when the final control of knowledge ends with an undifferentiated test (UT), the final sum of points (Points FS) is the arithmetic mean of the points of the four current controls of the autumn (spring) semester:

FS points = (CC1 + CC2 + CC3 + CC4) / 4 Based on the results of the semester control, the applicant is assigned a grade "passed/not passed" on the national scale in the academic record.

12. Distribution of points received by applicants

Ongoing testing and independent work				Total points	
Section. 1	Section 2	Section. 3	Section. 4	Based on the results of the sections (P)	Examination (E)
T__1-9	T__10-19	T__20-26	T__27-34	((T ₁ +T ₂ +... T ₁₁)/n) x 60 %	E x 40 %
0-100	0-100	0-100	0-100		
Overall rating score (ORS = P+E)				60-100	

T₁, T₂... – topics of chapters,

n – ammount of topics.

The final control of students' academic performance is carried out in the form of an exam based on the results of computer testing. The exam grade in the educational component (discipline) is determined on a 100-point scale.

The exam grade (EG) accounts for 40% of the total final grade (FG).

$$FG = ETS \times 0.4$$

Where: EE - exam grade; ETS - exam test scores, which are 40% of the points gained during the exam test.

The final grade in the discipline is assigned on a 100-point scale. It is calculated as the arithmetic mean (AM) of all grades received by the student on the current control (CC) of mastering the material of the sections with their subsequent conversion to points using the following formula:

$$CAE = (PCs.1 + PCs.2 + PCs.3 + PCs.4) / 4 \quad BOD = CAE \times 0.6$$

Where: COD - points from the current control, which make up 60% of the points from the total final grade; GPA - the arithmetic mean of all grades received by the student from the current control.

The applicant can score up to 60 points inclusive at the points of control of mastering the sections within 2 semesters.

Thus, the final score (FS) is calculated using the formula:

$$FS = CAE + COD$$

The test results are displayed in the Moodle system of BSTU. All forms of control are included in the 100-point evaluation scale.

13. Scale: national and ECTS and assessment criteria for determining the level of knowledge and skills

The control of students' knowledge and skills in the discipline is carried out in accordance with the credit-module system of organizing the educational process adopted at the university.

Main provisions:

The total number of current control measures that a student must pass in the discipline is determined taking into account the number of credits in the discipline. Based on the results of the current control measure, the level of student learning is assessed according to the national scale and the ECTS scale.

The number of points received by the student in the assessment of the final control correlates with the grades on the national scale and the ECTS scale in accordance with Table 1.

EVALUATION SCALE

<i>100-point scale</i>	Score on the national scale	Identification	Evaluation on the ECTS
------------------------	------------------------------------	-----------------------	-------------------------------

			scale
90 – 100	excellent	Excellent - an excellent answer, completing the work with only a few errors	A
82 – 89	good	Very good - above average with a few errors	B
74 – 81		Good – generally correct answer, work with a certain number of gross errors	C
64 – 73	satisfactorily	Satisfactory - not bad, but with a lot of shortcomings	D
60 – 63		Enough – answer, the work meets the minimum criteria	E
35– 59	unsatisfactorily	Unsatisfactory with the possibility of reassembly	FX
0-34		Unsatisfactory with mandatory re-study of the discipline	F

Passing current tests is mandatory. A section is considered passed if the student has scored the minimum required number of points or more.

The results of the rating for the section are brought to the attention of students no later than the third working day after the control event and, in the absence of claims from the students, are considered final.

If the student does not agree with the decision to assign him rating points for the section, then he must immediately after their announcement file a written appeal to the head of the department and, within the specified period, take an oral attestation for the section before the commission. The composition of the appeal commission in each specific case is determined by the head of the department. The decision of the commission is final.

A student who did not appear for the current test has the right to take the missed current test during the assessment week.

The final rating of current performance in the discipline is calculated by averaging the ratings from all sections. The semester grade is given to the student taking into account the results of the final and current tests. The maximum number of points that a student can receive when studying a discipline is 100.

The exam involves the presence of a final test. If there is permission for automatic enrollment of the exam, a student who has passed all current control measures in a timely manner and has been certified with an “excellent” grade based on their results can receive a credit automatically. The semester grade in this case is the average grade for the sections.

The teacher is obliged to submit the completed credit and examination report to the educational department within the following deadline: for the exam - no later than the next working day after its completion.

The mastery of the independent work block is assessed on a scale in accordance with the following regulations (table 2)

Table 2.

EVALUATION SCALE FOR INDEPENDENT WORK

Evaluation criteria (100-point system, oral survey).

№	Criterion.	Maximum number of points	Description
1	Completeness of the answer	30 points	The answer covers all the main aspects of the question, revealing its content in accordance with the curriculum.
2	Correctness and accuracy of presentation	20 points	The answer does not contain any factual, logical or terminological errors.
3	Consistency and logic	10 points	The answer is logically structured, without inconsistent or chaotic fragments.
4	Language and style of presentation	10 points	The statement is competent, clear, using professional terminology.
5	Independence of thinking	10 points	The student demonstrates the ability to draw their own conclusions, analyze, compare, and give examples.
6	Additional knowledge (outside the main program)	10 points	The answer contains references to modern sources, interdisciplinary connections, and the latest data.
7	Ability to answer additional questions	10 points	The student confidently responds to clarifying or deepening questions from the teacher, provides additional arguments or examples.

The conversion of grades on a 100-point scale to the national and ECTS scales is carried out according to the table:

Sum of points for all types of learning activities	ECTS evaluation	Score on the national scale
90 – 100	A	excellent
82 – 89	B	good
74 – 81	C	
64 – 73	D	satisfactorily
60 – 63	E	
35 – 59	FX	unsatisfactory with the possibility of reassembly
0 – 34	F	unsatisfactory with mandatory re-study of the discipline

Activity in the classroom is evaluated on a scale with a maximum score of 100 points in accordance with the following regulations (Table 3)

Table 3.

SCALE FOR EVALUATING ACTIVITY IN THE CLASSROOM

ECTS scale	National scale	Points	Decoding points
A	excellent	90-100	the student actively works during classes, provides complete answers to the teacher's questions and shows a deep mastery of the material, is able to express his/her own opinion when discussing situational tasks, shows the ability to independently and reasonably present the material, analyze phenomena and facts, make independent generalizations and conclusions, correctly performs educational tasks, has a full synopsis of theoretical material, regularly visits the Moodle system

B	good	82-89	the student is actively working during the class, the issues are covered in full, the presentation of the material is logical, substantiated by facts, with references to literary sources, the coverage of issues is completed with conclusions, the student has shown the ability to analyze facts and events, as well as to perform learning tasks. However, the answers contain inaccuracies, some minor errors, the presence of a full synopsis of theoretical material, regular visits to the Moodle system
C	good	74-81	the student is actively working during the class, the issues are covered in full, the presentation of the material is logical, substantiated by facts, with references to literary sources, the coverage of issues is completed with conclusions, the student has shown the ability to analyze facts and events, as well as to perform learning tasks. But the answers contain inaccuracies, some minor mistakes, insufficient reasoning in the presentation of the material, incomplete outline of theoretical material, partial use of the Moodle system
D	satisfactorily	64-73	the student has generally mastered the essence of the subject matter, shows knowledge of the lecture material and educational literature, tries to analyze facts and events, draw conclusions and solve situational problems. But in class, he/she behaves passively, answers only when called by the teacher, gives incomplete answers to questions, makes gross mistakes in covering theoretical material, incomplete notes on theoretical material, partial attendance at Moodle
E	satisfactorily	60-63	the student lacks understanding of the main essence of the issues, conclusions, generalizations, revealed inability to solve situational problems, incomplete notes of theoretical material, partial attendance at the

			Moodle system
F	unsatisfactorily	0	lack of desire to participate in the discussion of issues, lack of notes, irregular visits to the Moodle system

Example: a student wrote test tasks of the current control with 85 points. Multiply by 0.3. The result for the tests is 25.5 points. For independent work, the student received 88 points. Multiply by 0.3. The result is 26.4 points. For activity in the classroom, the student received 74 points. Multiply by 0.4. We get 29.6. The total number of points for the current control is 81.5 points. We average upward and get 82 points, which is good B.

As for the final certification of the student, the result obtained for the current work of the student (the average value for 4 sections, multiplied by 0.6) and the final test work (multiplied by 0.4) is taken into account.

Example: Section I - 83 points, Section II - 95 points, Section III - 73 points, Section IV - 88 points. The sum of the points for the sections is $339 / 4 = 84.75$ (85) points - this is the average value. Then $85 \times 0.6 = 51$ points. The student wrote the final exam with 91 points. $91 \times 0.4 = 36.4$ points. So, the total number of points for the course is $51.0 + 36.4 = 87.4$. We average downward and get 87 points, which equals a grade of good or B.

15 Methodological support

1. Materials of the discipline "Operative surgery with the basics of topographic anatomy and anesthesiology" for applicants for the second (master's) level of higher education in the specialty 211 Veterinary Medicine of full-time education in the system of educational web environment. URL: <http://moodle.btu.kharkiv.ua/course/view.php?id=439>

2. Sarbash DV, Slyusarenko DV, Sinyagovska KA, Zaika PA Methodical recommendations for conducting laboratory and practical classes in the course of general surgery for teachers and students of the 3rd year of the Faculty of Veterinary Medicine. KHDZVA 2018. - 46 c.

3. Sarbash D.V., Slyusarenko D.V., Sinyagovska K.A., Zaika P.O. Methodical recommendations for conducting laboratory and practical classes in the course of special surgery for teachers and students of 3,4 courses of the Faculty of Veterinary Medicine. KHDZVA 2018. - 46 c.

4. Sarbash D.V., Slyusarenko D.V. Sinyagovska K.A., Zaika P.O. Methodical recommendations for clinical practice for 4th year students of the Faculty of Veterinary Medicine, specialty 6.110101 "Veterinary Medicine" Kh. KHDZVA. 2018. 16 c.

16 Recommended reading

Main literature:

1. Magda I.I. Operative surgery with the basics of topographic anatomy and anesthesiology. -K.: Higher School, 1995. - 235 p..

2. Magda I.I. Workshop on operative surgery.

3. Vlasenko VM Dictionary of Veterinary Surgery Terms / VM Vlasenko, LA Tikhoniuk - Bila Tserkva: Bila Tserkva State Agrarian University, 2008. 357 p.

4. Vlasenko V.M. Operative surgery, anesthesiology and topographic anatomy. - Special part. - Bila Tserkva: 2006. - 544 c.

5. Vlasenko V.M. Operative surgery, anesthesiology and topographic anatomy. - General part. Bila Tserkva. 2006. - 531 c

Supporting literature:

6. Vlasenko VM Surgery in dairy farming: a textbook / VM Vlasenko, LA Tikhoniuk - Kyiv: Urozhay, 1994. 173 p.

7. Marunchyn A.A. General anesthesia of wild animals: Study guide / A.A. Marunchyn, V.Y. Izdepskyi; Center for Economic Education and Information - K., 2010 -222 p.

8. Vlasenko VM Surgery in horse breeding: a textbook / VM Vlasenko, LA Tikhoniuk. - Kyiv: Urozhay, 1995. - 256 p.

9. Rublenko S.V. Anesthesia of domestic animals and methods of its control: Methodical recommendations / S.V. Rublenko - Bila Tserkva, 2009. 56 c.

10. Vlasenko V.M. Modern methods of instrumental research in veterinary surgery: Scientific and methodological manual / V.M. Vlasenko, M.V. Rublenko, M.G. Ilnytskyi et al.

11.Vlasenko V.M. Veterinary anesthesiology. Textbook / V.M. Vlasenko, L.A. Tikhoniuk, Bila Tserkva. 2000. - 1911 c.

17 Electronic information resources

(link)

<http://moodle.btu.kharkiv.ua/course/view.php?id=3253>

18 Amendments and additions

(to the methodological support and recommended literature)

What is removed from the work program	What is introduced to the work program	Date of consideration by the department