

**NATIONAL UNIVERSITY OF LIFE
AND ENVIRONMENTAL SCIENCES OF UKRAINE**
Department of Veterinary Surgery named after I. Povazhenko

APPROVED
Faculty of Veterinary Medicine
« 01 » of June 2026

**CURRICULUM OF ACADEMIC DISCIPLINE
GENERAL AND SPECIAL SURGERY**

Area of knowledge 21 «Veterinary»

Specialty 211 «Veterinary medicine»

Academic programme «Veterinary medicine»

Faculty of Veterinary Medicine

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Description of the discipline

General and special surgery is divided into the following sections: general surgery - considers the patterns of occurrence and development of surgical pathology, its most characteristic signs, basic principles of treatment; special surgery - studies surgical diseases of individual parts and organs of the animal body; ophthalmology - studies anatomy, physiology, research methods and eye diseases; orthopedics - studies the structure, function of hooves and hoofs, prevention and treatment of diseases in the toe area of animals.

Area of knowledge, specialty, academic programme, academic degree		
Academic degree	Master	
Specialty	211 «Veterinary medicine»	
Academic programme	«Veterinary medicine»	
Characteristics of the discipline		
Type	Compulsory	
Total number of hours	210	
Number of ECTS credits	7	
Number of modules	7	
Course project (work)	Course project	
Form of assessment	<i>Credit / Credit / Exam</i>	
Indicators of the discipline for full-time and part-time forms of study		
	Full-time form of study	Part-time form of study
Year of study	4, 5	–
Term	7, 8, 9	–
Lectures	60 hr.	– hr.
Practical classes and seminars	–	– hr.
Laboratory classes	90 hr.	– hr.
Self-study	60 hr.	– hr.
Number of hours per week for full-time students	4 Year, 1 Semester – 4, 4 Year, 2 Semester – 3, 5 Year, 1 Semester – 3.	–

1. Aim, competencies and program learning outcomes of the discipline

Aim mastering the basics of surgical pathology with a specific idea of the causes, etiology, pathogenesis, diagnosis and apply a comprehensive approach to the treatment of surgically ill animals.

Objectives to combine in practice knowledge and skills in general biological disciplines directly with clinical, to learn the basics of surgical pathology, to form a clear idea of the causes, pathogenesis, principles of treatment and prevention of surgical diseases of animals.

List of academic disciplines that precede the study of the discipline "General and Special Surgery": "Inorganic Chemistry", "Biophysics", "Latin Language and Terminology", "Organic Chemistry", "Animal Anatomy", "Animal Physiology", "Veterinary Microbiology", "Veterinary Virology", "Veterinary Immunology", "Animal Pathophysiology", "Veterinary Pharmacology", "Clinical and Laboratory Diagnostics", "Operative Surgery and Anesthesiology".

Competences acquired:

Integral competency (IC): the ability to solve specialized tasks and problems in professional activities in the field of veterinary medicine

General competencies (GC):

GC 2. Ability to apply knowledge in practical situations.

GC 7. Ability to conduct research at an appropriate level.

GC 9. Ability to make informed decisions.

GC 13. The ability to make decisions and act in accordance with the principle of non-acceptance of corruption and any other manifestations of dishonesty.

Professional (special) competencies (PC):

PC 2. The ability to use tools, special devices, devices, laboratory equipment and other technical means to carry out the necessary manipulations during professional activities.

PC 7. Ability to organize and conduct laboratory and special diagnostic studies and analyze their results.

PC 9. Ability to perform obstetric and gynecological and surgical procedures and operations.

PC 12. Ability to develop and implement measures aimed at protecting the population from diseases common to animals and humans.

PC 13. Ability to develop strategies for the prevention of diseases of various etiologies.

Expected learning outcomes (ELO):

ELO 3. To determine the essence of physico-chemical and biological processes that occur in the body of animals in normal and pathological conditions.

ELO 4. To collect anamnestic data during registration and examination of animals, make decisions on the choice of effective methods of diagnosis, treatment and prevention of animal diseases.

ELO 7. Formulate conclusions about the effectiveness of the selected methods and means of keeping, feeding and treating animals, prevention of contagious and non-contagious diseases, as well as production and technological processes at enterprises for the keeping, breeding or exploitation of animals of various classes and species.

ELO 20. To have specialized software tools for performing professional tasks

First day competencies:

1. Act in a way that shows understanding of the ethical and legal framework within which veterinarians should work, including professional-, animal welfare-, client-, public health-, societal- and environmental-related aspects.

4. Promote, monitor and contribute to maintaining health and safety of oneself, patients, clients, colleagues and the environment in the veterinary setting; demonstrate knowledge about the principles of quality assurance; apply principles of risk management in practice.

9. Be able to review and evaluate literature and presentations critically.

10. Understand and apply principles of One Health to ensure veterinary Good Clinical Practice, and research-based and evidence-based veterinary medicine.

12. Use of professional capabilities to contribute to the advancement of veterinary knowledge and the One Health concept, in order to promote the health, safety and welfare of animals, people and the environment, as well as the United Nations Sustainable Development Goals.

18. Perform a complete clinical examination and demonstrate ability in clinical decision-making.

19. Develop appropriate treatment plans and administer treatment in the interests of the animals under their care with regard to the resources available and to appropriate public health and environmental considerations.

20. Attend in an emergency and perform first aid in common animal species. Prioritise situational urgency and allocate resources accordingly.

24. Use basic diagnostic equipment and carry out an examination effectively as appropriate to the case, in accordance with good health and safety practice and current regulations. Understand the contribution of digital tools and artificial intelligence in veterinary medicine.

25. Recognise signs of possible notifiable, reportable and zoonotic diseases as well as abuse of animals and take appropriate action, including notifying the relevant authorities.

27. Prescribe and dispense medicines correctly and responsibly in accordance with legislation and latest guidance.

30. Perform aseptic procedures appropriately.

31. Safely perform sedation, and general and regional anaesthesia; implement chemical methods of restraint.

32. Prevent, assess and manage pain.

33. Recognise when euthanasia is appropriate and perform it with respect of the animal and its owners, using an appropriate method, with due regard to the safety of those present; advise on ethical and legal disposal of the carcass.

2. Program and structure of the discipline

Modules and topics	Hours quantity						
	full-time education						
	week	total	у тому числі				
			lecture	pract.	laboratory	ind	s.st.
Module 1. <i>General information about surgical diseases of animals</i>							
Topic 1. A brief history of veterinary medicine. The subject of general medicine and its connection with other disciplines	1	2	1	-	1	-	-
Topic 2. General information about surgical diseases of animals, methods of treatment and prevention.	2	2	1	-	1	-	-
Topic 3. Injuries to animals (classification, prevention). The impact of injury on the body.	3	3	2	-	1	-	-
Topic 4. Bleeding. Acute anemia. Classification of bleeding and ways to stop it.	4	4	2	-	2	-	-
Topic 5. Closed animal injuries.	5	4	2	-	2	-	-
Total Module 1	-	15	8	-	7	-	-
Module 2. <i>Open injuries and their complications</i>							
Topic 6. Wounds (open mechanical damage). Symptoms, classification, types of healing.	6	10	4	-	5	-	1
Topic 7. Surgical infection: types and clinical manifestations.	7	5	2	-	2	-	1
Topic 8. Diseases of blood and lymphatic vessels. Damage to peripheral nerves.	8	5	2	-	2	-	1
Topic 9. Necrosis, ulcers, fistulas. Foreign bodies.	9	5	2	-	2	-	1
Topic 10. Displacement of internal organs.	10	5	2	-	2	-	1
Total Module 2	-	30	12	-	13	-	5
Module 3. <i>Surgical pathologies of different tissues</i>							
Topic 11. Skin diseases (symptoms, diagnosis and treatment).	11	6	2	-	2	-	2
Topic 12. Muscle diseases (myositis, myopathosis and atrophy).	12	6	2	-	2	-	2
Topic 13. Diseases of tendons, tendon sheaths and bursae.	13	6	2	-	2	-	2

Topic 14. Diseases of bones and joints.	14	6	2	-	2	-	2
Topic 15. Neoplasms. Classification. Methods of diagnosis and treatment.	15	6	2	-	2	-	2
Total Module 3	-	30	10	-	10	-	10
Credit (Test)							
Total in 7th Semester	-	60	30	-	30	-	10
Module 4. Orthopedics							
Topic 16. Anatomical and physiological characteristics of the fingers in animals. Features of the structure	1-2	8	2	-	4	-	2
Topic 17. Hoof care and deformities.	3-4	8	2	-	4	-	2
Topic 18. Diseases of the hooves in cows.	5-6	7	2	-	4	-	1
Topic 19. Features of deformities and diseases of the hooves of horses.	7-8	7	2	-	4	-	1
Total Module 4	-	30	8	-	16	-	6
Module 5. Ophthalmology							
Topic 20. Anatomy and physiology of the visual organ in animals.	9-10	8	1	-	4	-	3
Topic 21. Research of the organ of vision.	11-12	8	2	-	4	-	2
Topic 22. Diseases of the eyelids, conjunctiva and cornea.	13-14	8	2	-	4	-	2
Topic 23. Inflammation of the vascular tract and retinal disease.	15	6	2	-	2	-	2
Total Module 5		30	7	-	14	-	9
Course work				-		-	
Total in 8th Semester	-	60	15	-	30	-	15
Credit (Test)							
Module 6. Surgical pathology in different parts of the animal body							
Topic 24. Diseases in the head area (injuries, diseases of bones and peripheral nerve endings). Diseases of the oral cavity. Diseases of the hearing organ.	1-2	13	2	-	6	-	5
Topic 25. Diseases in the neck and withers. Diseases in the chest cavity. Diseases in the abdominal cavity.	3-4	11	2	-	4	-	5
Topic 26. Diseases of the spine. Diseases of the pelvic cavity.	5-6	8	2	-	1	-	5
Topic 27. Diseases of the	7-8	13	2	-	4	-	7

genitourinary organs. Diseases of the mammary gland.							
Total Module 6		45	8	-	15	-	22
Module 7. <i>Surgical pathology of limbs</i>							
Topic 28. Static and dynamic apparatus of limbs. Classification of lameness. Diagnosis of diseases of the limbs.	9-10	9	2	-	5	-	2
Topic 29. Diseases in the area of the thoracic and pelvic limbs.	11-12	12	2	-	6	-	4
Topic 30. Plastic surgery. Minimally invasive surgery.	13-15	9	3	-	4	-	2
Total Module 7		30	7	-	15	-	8
Total in 9th Semester		75	15	-	30	-	30
Total hours		210	60	-	90	-	60
Exam							

3. Lecture topics

No	Topic	Hours Qty
1	A brief history of veterinary medicine. The subject of general medicine and its relationship with other disciplines.	2
2	General information about surgical diseases of animals, methods of treatment and prevention.	2
3	Animal traumatism (classification, prevention). The effect of trauma on the body.	2
4	Bleeding in animals. Acute anemia. Classification of bleeding and ways to stop it.	2
5	Closed injuries of animals.	2
6	Wounds (open mechanical injuries). Symptoms, classification, types of healing.	2
7	Surgical infection: types and clinical manifestations.	2
8	Diseases of blood and lymphatic vessels. Damage to peripheral nerves.	2
9	Necrosis, ulcers, fistulas. Foreign bodies.	2
10	Displacement of internal organs.	2
11	Skin diseases (symptoms, diagnosis and treatment).	2
12	Diseases of muscles (myositis, myopathies and atrophy).	2
13	Diseases of tendons, tendon sheaths and bursae.	2
14	Diseases of bones and joints.	2
15	Neoplasms. Classification. Methods of diagnosis and treatment.	2
16	Anatomical and physiological characteristics of fingers in animals. Features of the structure.	2
17	Hoof care and deformities.	2
18	Diseases of the hoof in cows.	2
19	Features of deformities and hoof diseases in horses.	2
20	Anatomy and physiology of the organ of vision in animals.	2
21	Research of the organ of vision.	2
22	Diseases of the eyelids, conjunctiva and cornea.	2
23	Inflammation of the vascular tract and retinal diseases.	2
24	Diseases of the choroid and pathological conditions of the chamber moisture.	2
25	Diseases in the head area (injuries, diseases of bones and peripheral nerve endings). Diseases of the oral cavity. Diseases of the hearing organ.	2

26	Diseases in the neck and withers. Diseases in the chest cavity.	2
27	Diseases in the abdominal cavity.	2
28	Diseases of the spine. Diseases of the pelvic cavity.	2
29	Diseases of the genitourinary organs. Diseases of the mammary gland.	2
30	Static and dynamic apparatus of the limbs. Classification of lameness. Diagnosis of diseases of the extremities.	2

4. Laboratory class topics

No	Topic	Hours Qty
1.	Introduction to the work of the surgical clinic. Outpatient and inpatient treatment of animals. Documentation.	2
2.	Methods of clinical examination of animals with surgical pathology. Preparation of animals for surgery. Postoperative care of animals.	2
3.	Local reaction of the body to trauma: inflammatory processes. General methods of treatment of animals with inflammatory processes.	2
4.	Novocaine therapy. Methods of stimulation therapy in surgical diseases.	2
5.	Shock. Classification, symptoms and methods of prevention and treatment.	2
6.	Closed injuries. Thermal and chemical injuries. Electrocution.	2
7.	Techniques for examining the general condition of a wounded animal, wound examination, surgical treatment of wounds. Treatment of wounds. Application of primary and secondary sutures.	2
8.	Sepsis (classification, clinical picture, treatment and prevention).	2
9.	Diagnosis and treatment of diseases of blood vessels and peripheral nerves.	2
10.	Diagnosis and treatment of animals with diseases of death, ulcers and fistulas. Foreign bodies (symptoms and treatment of animals with this pathology).	2
11.	Types of internal organ displacements, causes, diagnosis and treatment.	2
12.	Causes of dermatitis and eczema in animals. Diagnosis and treatment.	2
13.	Symptoms of myositis and myopathies. Causes of muscle atrophy. Diagnosis and treatment.	2
14.	Methods of diagnosis and treatment of bone fractures.	2
15.	Diagnosis and treatment of animals with various neoplasms.	2
16.	Anatomical and physiological features of the structure of the horse's hooves, toes and hooves of productive animals and toes of small animals.	
17.	The mechanism of the hoof and hooves, limb positioning and its effect on the shape of the hoof.	
18.	Pododermatitis. Diagnosis and treatment.	
19.	Septic pododermatitis.	
20.	Lesions of synovial formations.	
21.	Hoof diseases characteristic of horses.	
22.	General issues of prevention of hoof diseases. Horseshoeing of horses.	
23.	Anatomical structure and physiology of the organ of vision.	2
24.	Research of the eye and its protective devices.	2
25.	Operations and surgical interventions in the treatment of animals with pathologies of the organ of vision.	2
26.	Diseases of the eyelids, connective tissue and lacrimal apparatus.	2
27.	Diseases of the cornea and keratoconjunctivitis.	2
28.	Diseases of the choroid and pathological state of the chamber moisture.	2
29.	Diseases of the lens, pathology of the vitreous and optic nerve.	2
30.	Pathology of internal pressure, eye trauma and viral eye diseases.	
31.	Diseases in the oral cavity: inflammation and dislocation of the mandibular joint,	2

	retention cysts and wounds, diseases of the teeth and salivary glands.	
32	Hematoma of the auricle and otitis media.	2
33	Necrosis of the spinous ligament and diseases of the esophagus.	2
34	Closed injuries and purulent processes in the withers.	2
35	Pneumothorax and hemothorax: etiology, diagnosis and treatment.	2
36	Bone diseases in the chest and lumbar region.	2
37	Displacement of internal organs: torsion, strangulation, entrapment, prolapse, prolapse.	2
38	Hernias, classification, clinical signs and treatment.	2
39	Causes and treatment of peritonitis.	2
40	Surgical diseases in the mammary gland.	2
41	Andrology.	2
42	Post-castration complications.	2
43	Diseases of the thoracic limb.	2
44	Diseases of the pelvic limb.	2
45	Minimally invasive surgery and plastic surgery.	2

5. Self-study topics

No	Topic	Hours Qty
1	Methods of studying animals with surgical pathology. Fixation of animals in different positions.	3
2	Anesthesia and immobilization of animals. Novocaine therapy in surgical pathology.	3
3	Diseases in the oral cavity: jaw fractures, joint dislocation, tongue diseases.	3
4	Otitis media, etiology, diagnosis and treatment. Studies of animals with hearing impairments.	3
5	Diseases in various parts of the esophagus. Methods of diagnosis and treatment.	3
6	Closed injuries and purulent processes in the withers of horses.	3
7	Pneumothorax and hemothorax: etiology, diagnosis and treatment.	3
8	Diseases in the abdominal cavity: surgical interventions for surgical pathology.	3
9	Bone diseases in the chest and lumbar region.	3
10	Displacement of internal organs: torsion, strangulation, entrapment, prolapse, prolapse.	3
11	Hernias, classification, clinical signs and treatment.	3
12	Causes and treatment of peritonitis.	3
13	Surgical diseases in the mammary gland.	3
14	Andrology.	3
15	Post-castration complications.	3
16	Diseases in the area of the thoracic limb.	3
17	Diseases of the pelvic limb.	3
18	Structure of hooves and hooves in different species of ungulates.	3
19	Features of the structure and physiology of the organ of vision in different species of animals.	3
20	Minimally invasive surgery.	3

6. Methods of assessing expected learning outcomes:

- oral and written questioning;
- interview;
- test passing;
- course work examination.

7. Teaching methods:

- project-based learning method;
- method of flipped classroom, blended learning;
- method of learning through research;
- method of educational discussions and debates;
- method of teamwork, brainstorming

8. Results assessment.

The student's knowledge is assessed by means of a 100-point scale converted into the national grades according to the "Exam and Credit Regulations at NULES of Ukraine" in force.

8.1. Distribution of points by type of learning activity

Type of learning activity	Learning outcomes	Evaluation
Module 1: General information about animal surgical diseases		
Topic 1: Brief history of veterinary medicine. The subject of general medicine and its relationship with other disciplines		
Lecture 1	To know a brief history of veterinary medicine, the subject of general medicine and its relationship with other disciplines.	2
Laboratory work 1.	Familiarize yourself with the work of a surgical clinic. Know the rules of outpatient and inpatient treatment of animals. Be able to keep records.	10
Self-study 1.	Know the methods of research of animals with surgical pathology.	2
Topic 2. General information about animal surgical diseases, methods of treatment and prevention		
Lecture 2	Know general information about surgical diseases of animals, methods of treatment and prevention.	2
Laboratory work 2.	Be able to perform various methods of clinical examination of an animal with a surgical pathology. Know how to prepare animals for surgery and postoperative care of animals.	10
Self-study 2.	Be able to perform anesthesia and immobilization of animals and novocaine therapy in surgical pathology.	2
Topic 3: Animal traumatism (classification, prevention). Effect of trauma on the body		
Lecture 3	Know what animal rheumatism is (classification, prevention) and the effect of trauma on the body.	2
Laboratory work 3.	Know the local reaction of the body to trauma: inflammatory processes and general methods of treating animals with inflammatory processes.	10
Self-study 3.	Apply novocaine therapy. Know the methods of stimulation therapy in surgical diseases.	2
Topic 4. Bleeding. Acute anemia. Classification of bleeding and ways to stop it		
Lecture 4	Know what bleeding and acute anemia are. Learn the classification of bleeding and	2

	how to stop it.	
Laboratory work 4	Be able to conduct anti-shock therapy. Differentiate between shock. Know the classification, symptoms and methods of prevention and treatment of animals with this pathology.	10
Self-study 4	To repeat and master the anatomy and physiology of the hearing organ to understand the development of otitis media, their etiology, diagnosis and treatment. Be able to conduct research on animals with hearing impairment.	2
Topic 5. Closed injuries of animals		
Lecture 5	To study closed injuries of animals, to understand the causes of their occurrence.	2
Laboratory work 5	Be able to differentiate between closed injuries. Know how to treat animals with thermal and chemical injuries and electrical injuries.	10
Self-study 5	Learn methods of diagnosis and treatment of animals with diseases in different parts of the esophagus.	2
Module intermediate control 1		30
Total Module 1		100
Module 2: Open injuries and their complications		
Topic 6. Wounds (open mechanical injuries). Symptoms, classification, types of healing		
Lecture 6	Know what wounds (open mechanical injuries) are, their symptoms, classification and types of healing.	2
Laboratory work 6	Know the technique for examining the general condition of an injured animal, be able to conduct wound examination, surgical treatment and treatment of wounds with primary and secondary suturing.	10
Self-study 6	Closed injuries and purulent processes in the withers of horses.	2
Topic 7. Surgical infection: types and clinical manifestations		
Lecture 7	Learn the types and clinical manifestations of surgical infection in animals.	2
Laboratory work 7	Be able to diagnose sepsis, study the classification, clinical picture, methods of treatment and prevention in animals.	10
Self-study 7	Know the etiology, diagnosis and treatment of pneumothorax and hemothorax in animals.	2
Topic 8: Diseases of blood and lymphatic vessels. Damage to peripheral nerves		
Lecture 8	To study diseases of blood and lymphatic vessels and peripheral nerve damage.	2
Laboratory work 8	To know and be able to apply various methods of diagnosis and treatment of animals with diseases of blood vessels and peripheral nerves.	10

Self-study 8	To repeat and master the anatomy and physiology of the abdominal cavity and surgical interventions for surgical pathology.	2
Topic 9: Necrosis, ulcers, fistulas. Foreign bodies		
Lecture 9	To study the causes of death, ulcers, fistulas and foreign bodies.	2
Laboratory work 9	Know the methods of diagnosis and treatment of animals with diseases of mortification, ulcers, fistulas, and foreign bodies.	10
Self-study 9	Repeat bone diseases in the chest and lumbar region.	2
Topic 10. Displacement of internal organs		
Lecture 10	To study the classification of displacements of internal organs of animals.	2
Laboratory work 10	Know the types of internal organ displacements, causes of their occurrence, methods of diagnosis and treatment.	10
Self-study 10	Be able to differentiate between the following pathologies: torsion, strangulation, entrapment, prolapse, prolapse.	2
Module intermediate control 2		30
Total Module 2		100
Module 3: Surgical pathologies of various tissues		
Topic 11: Skin diseases (symptoms, diagnosis and treatment)		
Lecture 11	Learn surgical skin diseases (symptoms, diagnosis and treatment).	2
Laboratory work 11	Know and understand the causes of dermatitis and eczema in animals. Be able to diagnose and treat animals with skin diseases of various etiologies.	10
Self-study 11	Be able to differentiate hernias, know their classification, clinical signs and methods of treatment.	2
Topic 12: Muscle diseases (myositis, myopathies and atrophy)		
Lecture 12	To study muscle diseases (myositis, myopathosis and atrophy).	2
Laboratory work 12	Know the symptoms of myositis and myopathies. Understand the causes of muscle atrophy. Be able to diagnose and treat these pathologies in animals.	10
Self-study 12	Know the causes and treatment regimens for animals with peritonitis.	2
Topic 13: Diseases of tendons, tendon sheaths and bursae		
Lecture 13	To study diseases of tendons, tendon sheaths and bursae.	2
Laboratory work 13	Know the pathogenesis, clinical picture and methods of treatment of diseases of tendons, tendon sheaths and bursae in	10

	animals.	
Self-study 13	To study surgical diseases in the mammary gland.	2
Topic 14: Diseases of bones and joints		
Lecture 14	Diseases of bones and joints	2
Laboratory work 14	Know and master various methods of diagnosis and treatment of bone fractures.	10
Self-study 14	To repeat the andrology of animals.	2
Topic 15: Neoplasms. Classification of tumors. Methods of diagnosis and treatment		
Lecture 15	To learn what tumors are, their classification and methods of diagnosis and treatment of animals with cancer.	2
Laboratory work 15	Know and be able to diagnose and treat animals with various neoplasms.	10
Self-study 15	Review information about post-castration complications.	2
Module intermediate control 3		30
Total Module 3		100
Class work		(M1 + M2)/2*0,7 ≤ 70
Credit (Test)		30
Module 4: Orthopedics		
Topic 16. Anatomical and physiological characteristics of fingers in animals. Features of the structure		
Lecture 16	Study the anatomical and physiological characteristics of fingers in animals. Know the features of the structure.	1
Laboratory work 16	To know the anatomical and physiological features of the structure of the hoof of a horse, the toe and hooves of productive animals and the toe of small animals.	8
Laboratory work 17	To study and understand the mechanism of the hoof and hooves, limb positioning and its influence on the shape of the hoof.	8
Self-study 16	Know the structure of hooves and hooves of different species of ungulates.	1
Topic 17. Hoof care and deformities		
Lecture 17	Know how hoof care is performed on ungulates.	1
Laboratory work 18	Learn and understand what pododermatitis is. Be able to apply in practice various methods of diagnosis and treatment of this pathology in animals.	8
Laboratory work 19	Be able to diagnose, differentiate and treat septic pododermatitis.	8
Self-study 17	To study different types of hoof deformities in horses.	1
Topic 18: Hoof diseases in cows		
Lecture 18	To study hoof diseases in cows.	1
Laboratory work 20	Know the causes of synovial lesions in ungulates.	8
Laboratory work 21	Be able to differentiate hoof diseases characteristic of horses.	8

Self-study 18	Repeat the structure of the toe in different species of animals.	1
Topic 19: Features of hoof deformities and diseases in horses		
Lecture 19	To study the features of hoof deformities and diseases in horses.	1
Laboratory work 22	To know the general issues of prevention of hoof diseases.	7
Laboratory work 23	To study and know the stages of hoof clearing and shoeing techniques.	7
Self-study 19	To study diseases in the toe area of animals.	1
Module intermediate control 4		30
Total Module 4		100
Module 5: Ophthalmology		
Topic 20: Anatomy and physiology of the organ of vision in animals		
Lecture 20	Know the anatomy and physiology of the visual organ in animals.	2
Laboratory work 24	Learn the anatomical structure of the organ of vision and understand its physiology.	8
Laboratory work 25	Be able to conduct research on the eye and its protective devices in animals of different species.	8
Self-study 20	To study the features of the eye structure in different species of animals.	2
Topic 21: Examination of the visual organ		
Lecture 21	Learn various methods of examination of the visual organ.	2
Laboratory work 26	To master surgical techniques and be able to perform surgical interventions in the treatment of animals with pathologies of the visual organ.	8
Laboratory work 27	Know and differentiate between diseases of the eyelids, connective tissue and lacrimal apparatus.	8
Self-study 21	Learn the anatomy of the head area of different animal species.	2
Topic 22. Diseases of the eyelids, conjunctiva and cornea		
Lecture 22	Study diseases of the eyelids, conjunctiva and cornea.	2
Laboratory work 28	Know and differentiate between corneal diseases and keratoconjunctivitis.	8
Laboratory work 29	Know and differentiate between diseases of the lens, pathology of the vitreous and optic nerve.	8
Self-study 22	To study the physiology of the organ of vision and the inertia of the animal head.	2
Topic 23. Inflammation of the vascular tract and retinal diseases. Diseases of the choroid and pathological state of chamber moisture.		
Lecture 23	To study the causes of inflammation of the vascular tract and symptoms of retinal disease. To know the diseases of the choroid and the pathological state of	1

	chamber moisture.	
Laboratory work 30	To know and be able to differentiate between the pathology of internal pressure, eye trauma and viral eye diseases.	8
Self-study 23	To study various methods of animal research in pathology of the organ of vision.	1
Module intermediate control 5		30
Total Module 5		100
Class work		(M1 + M2)/2*0,7 ≤ 70
Credit (Test)		30
Module 6.		
Topic 24. Diseases in the head area		
Lecture 24	To study diseases in the head area (injuries, diseases of bones and peripheral nerve endings). Diseases in the oral cavity. Diseases of the hearing organ.	1
Laboratory work 31	To know and be able to differentiate between diseases of the oral cavity: inflammation and dislocation of the mandibular joint, retention cysts and wounds, diseases of the teeth and salivary glands.	8
Laboratory work 32	Know and be able to differentiate between auricular hematoma and otitis media classification.	8
Self-study 24	To master the topographic anatomy of the head in animals of different species.	1
Topic 25: Diseases of the neck and withers. Diseases in the thoracic and abdominal cavities		
Lecture 25	Study diseases in the neck and withers. Diseases in the thoracic cavity. Diseases in the abdominal area	1
Laboratory work 33	To know and be able to differentiate between necrosis of the spinous ligament and diseases of the esophagus. Be able to provide medical care.	8
Laboratory work 34	To know and be able to differentiate between closed injuries and purulent processes in the withers. Be able to provide medical care.	8
Self-study 25	To study the topographic anatomy of the neck and withers in animals.	1
Topic 26: Diseases of the spine and pelvic area		
Lecture 26	To study diseases of the spine and diseases of the pelvic cavity.	1
Laboratory work 35	To know and be able to differentiate between pneumothorax and hemothorax, to study the etiology, diagnose and treat.	8
Laboratory work 36	To know and be able to differentiate between bone diseases in the chest and lumbar region.	8
Self-study 26	To study the topographic anatomy of the	1

	lumbar region in animals.	
Topic 27: Diseases of the genitourinary organs and the breast area		
Lecture 27	To study diseases of the genitourinary organs and in the breast area	1
Laboratory work 37	To know and be able to differentiate surgical pathology of the genitourinary system.	8
Laboratory work 38	To know and be able to differentiate surgical diseases in the mammary gland.	8
Self-study 27	To study the topographic anatomy of the genitourinary system of animals.	1
Module intermediate control 6		30
Total Module 6		100
Module 7.		
Topic 28. Static and dynamic apparatus of the limbs.		
Lecture 28	To study the static and dynamic apparatus of the limbs, the classification of lameness and the diagnosis of limb diseases.	2
Laboratory work 39	To know and be able to diagnose surgical pathology in the thoracic limb in animals.	8
Laboratory work 40	To know and be able to diagnose surgical pathology in the pelvic limb in animals.	8
Laboratory work 41	To learn instrumental methods of diagnosing surgical pathology in animals.	8
Self-study 28	To study the structure of limbs in animals.	2
Topic 29: Plastic surgery		
Lecture 29	To learn the basics of plastic surgery in animals.	3
Laboratory work 42	Know the indications and contraindications for the use of various plastic surgery techniques.	8
Laboratory work 43	Methods of surgical treatment of limb pathologies in animals.	8
Self-study 29	Recall various suturing techniques.	2
Topic 30. Minimally invasive surgery		
Lecture 30	Learn the methods of minimally invasive animal surgery.	3
Laboratory work 44	Indications for the use of minimally invasive surgery.	8
Laboratory work 45	Complications and contraindications in the use of minimally invasive surgery.	8
Self-study 30	Learn the history of minimally invasive surgery in animals.	2
Module intermediate control 7		30
Total Module 7		100
Class work	$(M1 + M2)/2 * 0,7 \leq 70$	
Exam	30	
TOTAL for discipline	$(\text{Educational work} + \text{Exam}) \leq 100$	
Course work		100

8.2. Scale for assessing the knowledge of a higher education student

Higher education student rating, points	National grade based on credit / exam results
90-100	Excellent
74-89	Good
60-73	Satisfactory
0-59	Unsatisfactory

8.3. Assessment policy

Deadlines and exam retaking rules	works that are submitted late without valid reasons will be assessed with a lower grade. Module tests may be retaken with the permission of the lecturer if there are valid reasons (e.g. a sick leave).
Academic integrity rules	cheating during tests and exams is prohibited (including using mobile devices). Term papers and essays must have correct references to the literature used
Attendance rules	Attendance is compulsory. For good reasons (e.g. illness, international internship), training can take place individually (online by the faculty dean's consent)

9. Teaching and learning aids:

- e-learning course of the discipline (on the educational portal of NULES of Ukraine eLearn - <http://elearn.nubip.edu.ua/course/view.php?id=584>);
- textbooks, manuals, workshops:
Загальна і спеціальна хірургія. Частина І. /навчальний посібник/ Солонін П.К., Куліда М.А., Климчук В.В. Київ, Компрінт, 2025, 320 с.
- методичні матеріали щодо вивчення навчальної дисципліни для здобувачів вищої освіти денної та заочної форм здобуття вищої освіти:
Сухонос В.П., Малюк М.О., Куліда М.А., Солонін П.К. «Інноваційна хірургія тварин», методичні вказівки, К.: КОМПРИНТ, 2020, 34 с.
- програма навчальної та виробничої практики навчальної дисципліни.

10. Recommended sources of information

- 1 Kulida, M., Nicpoń, J., Solonin, P., & Oliynyk, V. (2025). Clinical and morphological indicators of halitosis in cats. *Ukrainian Journal of Veterinary Sciences*, 16(1), 104-122. <https://doi.org/10.31548/veterinary1.2025.104>
- 2 Gorkava, I., Kulida, M., Horbachov, A., Postoi, V., & Postoi, R. (2024). Treatment of dog's osteoarthritis using autologous platelet-rich plasma. *Ukrainian Journal of Veterinary Sciences*, 15(4), 95-111. <https://doi.org/10.31548/veterinary4.2024.95>
- 3 Maliuk, M., Tul, O., Kulida, M., & Kovalenko, D. (2024). Prevalence and diagnostic methods of surgical pathology in the digestive system of animals. *Ukrainian Journal of Veterinary Sciences*, 15(1), 104-121. <https://doi.org/10.31548/veterinary1.2024.104>
- 4 Stadnik N.V., Bokotko R.R., Savchuk T.L., Kulida M.A., Mazurkevich A.Y. (2021). Creatinphosphokinase activity in rabbit serum during regeneration of experimentally damaged muscle tissue and after her stimulation by the transplanted msc. *Ukrainian Journal of Veterinary Sciences*, 12(4) 68-78.
- 5 Solonin P.C., Kulida M.A. (2021). Infusion therapy in the perioperative period in dogs and cats. *Ukrainian Journal of Veterinary Sciences*, 12(1)60-68.<https://doi.org/10.31548/ujvs2021.01.007>
- 6 Kulida, M.A., Tkachenko, S.M. (2021). Periodontal diseases in dogs (etiology, clinical signs, diagnosis). *Ukrainian Journal of Veterinary Sciences*, 12(1)23-31. <https://doi.org/10.31548/ujvs2021.01.003>
- 7 Kulida, M.A., Tkachenko, S.M. (2020). Complications of the otitis in small domestic animals and methods of treatment, «*Ukrainian journal of veterinary sciences*», 11(1):81-88.

- 8 Manual of Small Animal Surgical Emergencies. Filippo Cinti, Matteo Rossanese, Marie Burnek. ISBN 9781962679459 Edra Publishing, 2024, 416p.
- 9 Surgical Techniques in Veterinary Medicine. Maria Muray. ISBN 9781639875092 Murphy & Moore Publishing, 2022, 252p.
- 10 Small Animal Soft Tissue Surgery. Eric Monnet. ISBN 9781119693680 Wiley & Sons, Incorporated, John, 2023, 1040p.
- 11 Veterinary Surgical Oncology. Bernard Séguin. ISBN 9781119089056 Wiley & Sons, Incorporated, John, 2022, 880p.
- 12 Surgery of Exotic Animals. Geoff W. Pye ISBN 9781119139584. Wiley & Sons, Incorporated, John, 2022, 480p.
- 13 Veterinary Anesthesia and Analgesia, the 6th Edition of Lumb and Jones. Kurt Grimm. ISBN 9781119830276 Wiley & Sons, Incorporated, John, 2024, 1456p.
- 14 Veterinary Arthroscopy for the Small Animal Practitioner. Timothy C. Mccarthy. ISBN 9781119548973 Wiley & Sons, Incorporated, John, 2021, 336p.