SYLLABUS OF THE EDUCATIONAL COMPONENT

GENERAL AND SPECIAL SURGERY

Specialty	**211 – Veterinary Medicine**	**Discipline Status**	**Mandatory**
Educational Program	**Veterinary Medicine**	**Faculty**	**Veterinary Medicine**
Educational Level	**Master's Degree**	**Department**	**Veterinary Surgery and Reproductology**

TEACHERS

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16.00.05 - Veterinary Surgery
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GENERAL INFORMATION ABOUT THE COURSE

Course Objectives	**To teach students the fundamental principles of species-specific animal reactivity, inflammation, surgical infection. To instruct students in the principles of pathogenetic treatment of diseases in various parts of the animal body. To enable students to recognize different groups of diseases, correctly treat animals, and prevent diseases.**
Course Format	**Lectures** **Practical classes** **Self-study** **Individual assignments**
Detailed Learning Outcomes and Assessment Methods:	• **Ability to use tools, specialized devices, instruments, conduct research, make informed decisions, evaluate and ensure the quality of work (Competencies: GK7, GK11, SC2, PLO1, PLO7) / Individual practical assignments.** • **Ability to apply knowledge in practical situations, perform obstetric and surgical procedures and operations, collect case history data during animal examination, make decisions on the choice of effective methods of diagnosis, treatment and disease prevention (Competencies: GC 2, SC 9, PLO 2, PLO4) / Individual practical assignments.** • **Ability to comply with occupational health and safety regulations, asepsis and antiseptics during professional activities, recommend health-improving measures, methods of therapy, diagnosis and treatment of diseases (Competencies: SC 3, PRN5, PRN6) / Individual practical assignments.** • **Ability to make informed decisions, conduct clinical studies to formulate conclusions about the condition of animals or establish a diagnosis (Competencies: GC9, SC 4, PLO10) / Individual test assignments**
Course Volume and Assessment Methods	**12 ECTS credits (360 hours); 44 hours of lectures; 120 hours of laboratory-practical classes; 136 hours of self-study; current control (5 chapters).** **Assessment forms: Pass/Fail (non-differentiated), term paper, exam**
Teacher requirements	**Timely completion of assignments** **Active participation** **Teamwork**
Enrollment Conditions	**Mandatory component**

COMPLIANCE WITH THE EDUCATION STANDARD AND EDUCATIONAL PROGRAM

Competencies:	**Ability to apply knowledge in practical situations (GC 2)** **Ability to conduct research at the appropriate level (GC 7)** **Ability to make informed decisions (GC 9)** **Ability to evaluate and ensure the quality of work performed (GC 11)** **Ability to use tools, specialized devices, instruments, laboratory equipment and other technical means for carrying out the necessary manipulations during professional activity (SC 2)** **Ability to comply with occupational health and safety regulations, asepsis and antiseptics during professional activities (SC 3)** **Ability to conduct clinical studies to formulate conclusions about the condition of animals or establish a diagnosis (SC 4)** **Ability to perform obstetric-gynecological and surgical procedures and operations (SC 9)**	**Program Learning Outcomes:**	**Know and correctly use the terminology of veterinary medicine (PLO 1)** **Use information from domestic and foreign sources to develop diagnostic, treatment and business strategies (PLO 2)** **Collect case history data during registration and examination of animals, make decisions on the choice of effective methods of diagnosis, treatment and prevention of animal diseases (PLO 4)** **Establish a link between the clinical manifestations of the disease and the results of laboratory tests (PLO 5)** **Develop quarantine and health-improving measures, methods of therapy, prevention, diagnosis and treatment of diseases of various etiologies (PLO 6)** **Formulate conclusions on the effectiveness of selected methods and means of keeping, feeding and treating animals, preventing infectious and non-infectious diseases, as well as production and technological processes at enterprises for keeping, breeding or exploiting animals of different classes and species (PLO 7)** **Propose and use appropriate innovative methods and approaches to solving problematic situations of professional origin (PLO 10)**

COURSE STRUCTURE

Chapter 1. Traumatism of farm animals. Surgical infection. Pathogenetic therapy in veterinary surgery.

Lecture 1	**Introductory lecture on general and special surgery**	**Practice 1**	**Features of work in a modern surgical clinic** **Animal body reactions to trauma**	**Independent work**	**General and special methods of treatment of aseptic and purulent inflammation in different animal species. Differential diagnosis of edema, infiltrates and proliferations. Exudates. Types of exudates.**
Lecture 2	**Surgical infection and its clinical manifestations**	**Practice 2**	**Aerobic infection: boil, carbuncle, abscess, phlegmon, gangrene.**		**Classification and differential diagnosis of phlegmon and abscesses. Surgical methods**

Lecture 3	**Hemotransfusion in animals**	**Practice 3**	**Anaerobic infection: gas abscess, gas phlegmon, gas gangrene, malignant edema.**		**of their treatment. Pathogens of anaerobic infection. Modern aspects of the treatment of sepsis in animals.** **Methodology for the manufacture and use of tissue preparations of animal and plant origin in the treatment of animals with surgical pathology. Specific features of the use of novocaine blockades in animals with surgical pathology.**
		Practice 4	**General surgical infection – sepsis**		
		Practice 5	**Skin diseases.**		
		Practice 6	**Pathogenetic therapy**		
		Practice 7	**Physiotherapy in the treatment of animals with surgical diseases.**		
		Practice 8	**Light and electrotherapy.**		
		Practice 9	**Novocaine therapy.**		
		Practice 10	**Hemotransfusion.**		
		Practice 11	**Types and methods of hemotransfusion.**		
		Practice 12	**Features of work in a modern surgical clinic**		
Chapter 2. Open and closed mechanical tissue injuries. Necrosis, ulcers and fistulas. Burns and frostbite. Diseases of muscles, tendons and ligaments.					
Lecture 4	**Open soft tissue injuries**	**Practice 13**	**Closed soft tissue injuries.**	**Independent work**	**Gunshot wound. Its features. Diagnosis, complications and treatment methods. Features of the course of the wound process in different types of domestic animals.** **Differential diagnosis of edema, hematomas, lymphoextravasations. Features of conducting diagnostics of closed injuries of various degrees and providing medical care to animals.**
Lecture 5	**Closed soft tissue injuries and their clinical manifestations**	**Practice 14**	**Open soft tissue injuries, bleeding and methods of stopping it.**		
Lecture 6	**Muscle diseases**	**Practice 15**	**Methods of examining a wounded animal.**		
Lecture 7	**Diseases of tendons and tendon sheaths, mucous bags**	**Practice 16**	**Treatment of wounded animals.**		
		Practice 17	**Burns. Frostbite.**		

		Practice 18	Necrosis. Ulcers. Fistulas		Coagulative and colliquative necrosis, gangrene. Their etiopathogenesis, differential diagnosis and principles of treatment. Basic principles and modern methods of treatment of aseptic myositis, tendovaginitis in animals. Contractures. Types of contractures. Etiopathogenesis, clinical signs, treatment.
		Practice 19	Muscle diseases.		
		Practice 20	Diseases of tendons and their sheaths.		
		Practice 21	Tendon ruptures, types of tendon sutures.		
		Practice 22	Diseases of mucous membranes and synovial bags.		
Chapter 3. Diseases of bones and joints, neoplasms and hernias. Diseases of blood and lymphatic vessels and peripheral nerves.					
Lecture 8	Joint diseases	Practice 23	Inflammatory joint diseases	Independent work	Differential diagnosis of arthrosis, hemarthrosis, ankylosis, dystrophy and dislocation. Modern methods of treatment of joint dysplasia in small animals. Features of treatment of purulent inflammation of the joints. Complications of purulent arthritis and methods of their elimination. Complications arising from open fractures. Their diagnosis, clinical signs, treatment and prevention. Bone regeneration. Phases and conditions that contribute to the acceleration of bone healing. Differential diagnosis of periostitis, hyperostoses, exostoses. Clinical signs, treatment and prevention. Papillomatosis. Features of the course and treatment in different species of animals. Surgical methods of treatment of benign tumors in animals. Modern principles of reconstructive surgery.
Lecture 9	Bone diseases	Practice 24	Non-inflammatory joint diseases		
Lecture 10	Neoplasia	Practice 25	Classification of bone fractures.		
		Practice 26	Fracture healing. Phases and stages of bone callus formation.		
		Practice 27	Osteosynthesis, its types and indications.		
		Practice 28	Neoplasms.		
		Practice 29	Modern methods of treating animals with neoplasms		
		Practice 30	Hernias		
		Practice 31	Diseases of peripheral nerves: paralysis, paresis.		
		Practice 32	Diseases of blood and lymphatic vessels.		
Chapter 4. Хвороби ділянки голови, потилиці, шиї, грудей та холки. Хвороби ділянки живота, попереку та тазу, сечостатевих органів. Діагностики хвороб кінцівок.					

Lecture 11	**Special surgery, its purpose and tasks. Diseases of the head**	**Practice 33**	**Diseases of the head.**		
Lecture 12	**Diseases of the oral cavity in animals**	**Practice 34**	**Dental pathology in animals. Dental diseases.**		
Lecture 13	**Diseases of the chest and withers**	**Practice 35**	**Dental pathology in animals. Periodontal diseases.**		
Lecture 14	**Diseases of the abdomen**	**Practice 36**	**Diseases of the nape and neck**		
		Practice 37	**Diseases of the chest and withers. Pneumothorax, its types.**		
		Practice 38	**Diseases of the lumbar and pelvic regions.**		
		Practice 39	**Diseases of the abdomen. Ileus.**		
		Practice 40	**Complications associated with castration in various species of animals.**		
		Practice 41	**Diseases of the genitourinary organs of an inflammatory nature.**		
		Practice 42	**Neoplasms of the genitourinary organs.**		
		Practice 43	**Diagnosis of diseases of the extremities. General and special methods of examination**	**Independent work**	**Ear diseases. Otitis. Classification and distribution of dental diseases. Anomalies of tooth development and dental occlusion. Caries, gingivitis, periodontitis, periodontitis, osteomyelitis. X-ray diagnostics in veterinary dentistry. Drawing up a plan for receiving animals with diseases of the oral cavity. Justification of the prescribed diagnostic and treatment methods.** **Inflammation of the jugular vein, obstruction of the esophagus. Drawing up a plan for receiving animals with diseases of the occiput and neck, diseases of the chest. Justification of the prescribed diagnostic and treatment methods.** **Diseases in the lumbar region: spondylitis, spondyloarthritis, fractures, dislocations. Diseases in the pelvic and perineal region. Pelvic bone fractures, paraproctitis, perineal hernia, rectal prolapse. Drawing up a plan for receiving animals with diseases of the lumbar region and pelvis. Justification of the prescribed diagnostic and treatment methods.**
		Practice 44	**Diseases of the thoracic extremities.**		
		Practice 45	**Diseases of the pelvic extremities.**		

Chapter 5. Veterinary orthopedics and ophthalmology

Lecture 15	Definition of the concept of “veterinary orthopedics”	Practice 46	The structure of individual parts of the hooves and hooves in different species of animals.	Independent work	Innervation and blood supply of hooves and hooves in animals. Necrosis and ossification of soft cartilage in horses. Features of the use of conductive anesthesia in diseases of the hooves and hooves in animals. Features of hoof care in various methods of keeping cows. Differential diagnosis of keratitis using modern devices and equipment. Pathological state of the aqueous humor of the eye. Causes of occurrence, diagnosis and treatment. Diagnosis and treatment of mass eye lesions in cattle. Breed-specific features of the spread of eye diseases in animals. Diseases of the lacrimal apparatus. Inflammation of the lacrimal sac, lacrimal tubules and nasolacrimal duct. Their diagnosis and treatment.
Lecture 16	Hoof diseases	Practice 47	Diagnosis of hoof diseases in animals.		
Lecture 17	Diseases of the skin base of the hoof. Pododermatitis	Practice 48	Research of animals with diseased hooves in production conditions with different forms of animal keeping		
Lecture 18	Hoof deformities	Practice 49	Hoof diseases. Differential diagnosis. Sole wounds, inflammation in the area of the corolla and pulp, Rusterholtz ulcer, laminitis, PPD, hoof rot, necrobacteriosis.		
Lecture 19	Veterinary ophthalmology	Practice 50	Diseases of deep hoof structures. Diseases of the hoof joint, navicular bursa, subtrochleitis. Founder and sinker.		
Lecture 20	Diseases of the eyelids and conjunctiva	Practice 51	Horse shoeing. Types of horseshoes, their structure and manufacture. Purpose and characteristics.		
Lecture 21	Diseases of the cornea	Practice 52	Methods of cleaning hooves in cattle during inflammatory processes and the use of pathogenetic treatment agents.		
Lecture 22	Diseases of the refractive structures of the eye, lens diseases.	Practice 53	Morpho-physiological characteristics of the organ of vision		
		Practice 54	General and special methods of studying animals with eye diseases.		
		Practice 55	Methods and features of the use of drugs in the treatment of eye diseases in animals.		

		Practice 56	Diseases of the eyelids, conjunctiva and cornea		
		Practice 57	Diseases of deep structures of the eye: vascular tract, retina, optic nerve.		
		Practice 58	Diseases of the refractive structures of the eye. Diseases of the vitreous body: hemorrhages, opacities and detachments.		
		Practice 59	Diseases of all parts of the eye and emergencies in veterinary ophthalmology.		
		Practice 60	Types of surgical interventions for the treatment of animals with eye diseases.		

BASIC LITERATURE AND METHODOLOGICAL MATERIALS

Basic literature

1. Hendrickson DA. Chapter 12. Equine Dental and Gastrointestinal Surgery. In: Turner and McIlwraith's Techniques in Large Animal Surgery, 4th Edition. Hendrickson DA, Baird AN (Eds). John Wiley & Sons Inc, 2013, pp. 191-210
2. Gopal S, Majumder S, Batchelor AG, et al: Fix and flap: the radical orthopaedic and plastic treatment of severe open fractures of the tibia. J Bone Joint Surg Br 82:959, 2000.
3. Gatineau M, Plante J: Ulnar interlocking intramedullary nail stabilization of a proximal radio-ulnar fracture in a dog. Vet Surg 39:1025, 2010
4. Chakraborti S, Mandal M, Das S, et al: Regulation of matrix metalloproteinases: an overview. Mol Cell Biochem 253:269, 2003.
5. Doblare M, Garcia J, Gomez M: Modelling of bone tissue fracture and healing: a review. Engineering Fracture Mechanics 71:1809, 2004.
6. Kirshen C, Woo K, Ayello EA, et al: Debridement: a vital component of wound bed preparation. Adv Skin Wound Care 19:506, 2006.
7. Horan T, Andrus M, Dudeck M: CDC/NHSN surveillance definition of health care-associated infection and criteria for specific types of infections in the acute care setting. Am J Infect Control 36:309, 2008.

Methodological support

1. 1. Slyusarenko D.V., Synyagovska K.A., Sarbash D.V., Zaika P.O., Kochevenko A.S. Methodological recommendations for conducting laboratory and practical classes on the course of general surgery for students of the second level of higher education (master's degree) of the 4th year on the basis of the PZSO and the 3rd year on the basis of a junior specialist of the faculty of veterinary medicine. Kh.: DBTU 2024- 112p.
2. Slyusarenko D.V., Synyagovska K.A., Sarbash D.V., Zaika P.O., Kochevenko A.S. Methodological recommendations for conducting laboratory and practical classes on the course of special surgery for students of the second level of higher education (master's degree) of the 4th year on the basis of the PZSO and the 3rd year on the basis of a junior specialist of the faculty of veterinary medicine. Kh.: DBTU 2024 – 52p.

EVALUATION SYSTEM			
System		points	ACTIVITY TO BE EVALUATED
Final assessment	100 ECTS points (standard)	up to 50	50% of the average grade for the chapters
		up to 50	final testing
Rating of section	100 points total	up to 50	answers to test questions
		up to 20	oral answers in laboratory-practical classes
		up to 30	the result of mastering the block of independent work

NORMS OF ACADEMIC ETHICS AND CHARITY
All participants in the educational process (including those seeking education) must adhere to the code of academic integrity and the requirements prescribed in the provision "On academic integrity of participants in the educational process of DBTU": show discipline, education, respect each other's dignity, show kindness, honesty, responsibility