SYLLABUS OF THE EDUCATIONAL COMPONENT

IMMUNOPATHOLOGY IN ANIMALS

speciality	**211 – Veterinary Medicine**	**Discipline status**	**selective**
Field of knowledge	**ветеринарна медицина**	**Faculty**	**Veterinary Medicine**
educational level	**Not limited**	**department**	**Department of epizootology and microbiology**

TEACHER

Harahulya Halina

Higher education - veterinary medicine specialty
Scientific degree - candidate of veterinary sciences, specialty 16.00.03-veterinary microbiology, virology and immunology
Academic title - associate professor
Work experience - 24 years
Indicators of professional activity on the subject of the course:
- author of 16 methodological developments;
- 24 years of experience in scientific work;
- participant of scientific and methodical conferences.

Tel.	**0987935959**	**e-mail**	**vetvir.galina@gmail.com**	**remote support**	**Moodle**

Candidates of veterinary sciences, Basko Sabina, are involved in the teaching of the discipline

GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT (DISCIPLINE)	
The purpose of the discipline	The purpose of the discipline "Immunopathology in animals" is to give students an idea of the pathology of the immune system or pathological processes that develop as a result of disorders of the immune mechanisms: immunodeficiencies of various genesis, autoimmune, allergic, immunoproliferative diseases, immunological compatibility of parents, as well as the role of the immune system in organ transplantation, transfusion blood and during pregnancy and the early neonatal period in animals.
Format	lectures, practical employment (occupations), self-contained work of students, consultations.
Detailing of learning results and forms of their control	• distinguish immunopathological conditions caused by a decrease in the functions of the immune system; • to conduct basic immunological studies; • to determine etiological and pathogenetic factors in the development of various immunodeficiency states, immune-dependent and allergic diseases. • understand and find out the specifics of conducting clinical research in order to form conclusions about the condition of the animal and establish the effectiveness of vaccination • ability to abstract thinking, analysis, synthesis, search, processing of information from various sources
Scope and forms of control	3 ECTS credits (90 hours): 12 hours of lectures, 18 hours of practical classes; 60 hours of self-study, current control (2 chapters); final control - differentiated assessment.
The teacher's requirements	timely completion of tasks, activity, teamwork
Enrollment conditions	"free enrollment"

COMPLEMENTS THE STANDARD OF EDUCATION AND THE EDUCATIONAL PROGRAM			
Competences	GC1. Ability to abstract thinking, analysis and synthesis. GC 2. Ability to apply knowledge in practical situations. GC 3. Knowledge and understanding of the subject field and profession. SC 2. The ability to use tools, special devices, devices, laboratory equipment and other technical means to carry out the necessary manipulations during professional activity. SC 3. Ability to observe the rules of labor protection, asepsis and antiseptics during professional activity. SC 6. The ability to select, pack, fix and send samples of biological material for laboratory research. SC 7. Ability to organize and conduct laboratory and special diagnostic studies and analyze their results. SC 11. Ability to apply knowledge of biosafety, bioethics and animal welfare in professional activities. SC 16. The ability to protect the environment from pollution by	**Program learning outcomes**	PLO 1. Know and correctly use the terminology of veterinary medicine. PLO 2. Use information from domestic and foreign sources to develop diagnostic, treatment and business strategies.

	livestock waste, as well as materials and means of veterinary use.				
STRUCTURE OF THE EDUCATIONAL COMPONENT (DISCIPLINES)					
Chapter 1 The concept of immunopathology. Immunodeficiencies and allergic diseases of animals.					
Lecture 1	The concept of the main pathological processes in the immune system	**Practical classes 1 (PC 1)**	Rules of work in the immunological laboratory. Anatomical and physiological connection of organs, tissues and cells of the immune system. Basic methods of studying the state of the immune system.	Independent work	Anatomical and physiological features of organs, tissues and cells of the immune system in different species of animals. Interrelationship and regulation of individual immune factors. Cellular basis of hypersensitivity reactions Molecular basis of hypersensitivity reactions
Lecture 2	Primary and secondary immunodeficiencies	**PC 2**	The role of laboratory research in detecting abnormalities in the work of the immune system. Characteristics of types of animal immunodeficiencies. The main pathogens that cause secondary immunodeficiencies.		
Lecture 3	Hypersensitivity as the basis of animal diseases: classification, diagnosis, prevention	**PC 3**	Type I hypersensitivity and related diseases. Type II hypersensitivity and related diseases.		
		PC 4	Type III hypersensitivity and related diseases. Type IV hypersensitivity and related diseases.		
Chapter 2 Other pathological processes in the immune system of animals					
Lecture 4	Immunopathology of blood, immunological compatibility of parents, mother and fetus	**PC 5**	Blood groups of animals. Problems of blood transfusion and its components.	Independent work	Methods of determining the blood group of animals Primary and secondary immunodeficiencies: pathogenesis and types Theoretical foundations of the immune response to transplants and tumors Theoretical foundations of autoimmune diseases of animals
		PC 6	Immunological incompatibility of parents. Immunopathology of pregnancy and the early neonatal period in mammals.		
Lecture 5	Autoimmune diseases of animals	**PC 7**	Immunopathology of organs of the respiratory system. Immunopathology of organs of the urinary system.		
		PC 8	Immunopathology of the skin.		

Lecture 6	**Transplantation and antitumor immunity**		**Immunological problems of organ and tissue transplantation.**		
		PC 9	**Antitumor immunity and its role in animal pathology.** **The main types of autoimmune diseases of animals.** **Final class. Test**		

BASIC LITERATURE AND METHODOLOGICAL MATERIALS

Veterinary Vaccines: Principles and Applications / Edited by Samia Metwally, Ahmed El Idrissi. // Ahmed El Idrissi, 2021. – 442p.

Fenner's Veterinary Virology. Book • Fifth Edition • 2016

Electronic information resources

https://www.youtube.com/watch?v=chP4K7ztyxw
http://webmvc.com/show/show.php?sec=22&art=6
http://www.fauna-vet.ru/autoimmunnye-zabolevaniya-sobak/
http://infovet.ru/lib/dermatology/autoimmunnye-zabolevaniya/
https://vetpharma.org/articles/66/8194/
https://vetpharma.org/articles/66/7435/
https://www.youtube.com/watch?v=FL0fMi_EEpk
https://www.youtube.com/watch?v=4H6_T_6sDto
https://fauna-servis.ua/diagnosis-immunological-laboratory
http://webmvc.com/show/show.php?sec=22&art=6

GRADING SYSTEM

SYSTEM		POINTS	ACTIVITY THAT IS ASSESSED
Summative assessment (differentiated test, exam)	**100 ECTS points (standard)**	**to 100**	**40 % - final testing** **60 % - student's current work during the semester**
Section evaluation	**100-point total**	**to 30**	**answers to test questions**
		to 30	**result of mastering the independent work block**
		to 40	**student activity in classes (oral answers)**

NORMS OF ACADEMIC ETHICS AND INTEGRITY

All participants in the educational process (including students) must adhere to the code of academic integrity and the requirements stipulated in the regulation "On Academic Integrity of Participants in the Educational Process of DBTU": to demonstrate discipline, good manners, respect each other's dignity, show kindness, honesty, and responsibility.