SYLLABUS OF THE EDUCATIONAL COMPONENT

VACCINOLOGY IN VETERINARY MEDICINE

speciality	**211 – Veterinary Medicine**	**Discipline status**	**selective**
Field of knowledge	**ветеринарна медицина**	**Faculty**	**Veterinary Medicine**
educational level	**Master's degree**	**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 12 methodological developments;
- 22 years of experience in scientific work;
- participant of scientific and methodical conferences.

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

GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

The purpose of the discipline	**"Vaccinology in veterinary medicine" is to provide students with the necessary theoretical knowledge about vaccines, their types and properties, as well as practical skills in the selection and use of vaccines for the specific prevention of viral, bacterial and fungal diseases of animals of various species.**
Format	**lectures, practical employment (occupations), self-contained work of students, consultations.**
Detailing of learning results and forms of their control	**• the ability to observe the rules of personal safety when researching animals, using knowledge about their fixation, follow the rules of personal hygiene, use the rules of asepsis and antiseptics when carrying out any intervention or research • the ability to conduct research at an appropriate level, apply knowledge in practical situations, use tools, special devices for carrying out special manipulations during the performance of professional tasks • ability to carry out vaccination by enteral and parenteral methods • 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 laboratory-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 think abstractly, analyze and synthesize. GC2. Ability to apply knowledge in practical situations. GC3. Knowledge and understanding of the subject area and profession. SC6. Ability to select, package, fix and ship samples of biological material for laboratory research. SK 7. Ability to organize and conduct laboratory and special diagnostic tests and analyze their results.**	**Program learning outcomes**	**PLO1. Know and correctly use the terminology of veterinary medicine. PLO2. Use information from domestic and foreign sources to develop diagnostic, treatment and business strategies.**

STRUCTURE OF THE EDUCATIONAL COMPONENT

Chapter 1. Theoretical foundations of veterinary vaccinology					
Lecture 1	**Introduction to vaccinology.**	**Practical classes 1 (PC 1)**	**Safety techniques when working in a microbiological laboratory. Methods of obtaining bacteria as vaccine antigens.**	**Independent work**	**Essay on the history of vaccinology (the topic chosen by the student). Methods of inactivation in the development of vaccines. Attenuation methods in the development of vaccines. Genetic and molecular methods of obtaining vaccine antigens. Fundamentals of the rules of transportation, storage and use of vaccines.**
Lecture 2	**Immunological basis of vaccinology in veterinary medicine: immune response and immunological memory.**				
Lecture 3	**Types of vaccines and their features**	**PC 2**	**Methods of obtaining bacterial exotoxins and endotoxins.**		
		PC 3	**Methods of obtaining viral antigens (cultivation, accumulation and storage).**		
Chapter 2. Evaluation of the effectiveness of vaccine prophylaxis in veterinary medicine					
Lecture 4	**Requirements for vaccines and methods of assessment of the main indicators of their quality.**	**PC 4**	**Types of vaccines for various farm and domestic animals.**	**Independent work**	**Comparative characteristics of bacterial veterinary vaccines. Comparative characteristics of viral veterinary vaccines. Examples of vaccine prophylaxis schemes of a certain species of animals (the topic of the student's choice). Types of other immunobiological drugs (except vaccines). Directions for the development of new immune drugs against non-infectious diseases (probiotics, allergy vaccines, against autoimmune diseases)**
Lecture 5	**Basic methodological approaches to the use of vaccines.**	**PC 5**	**Methods of using vaccines.**		
Lecture 6	**Causes of complications and ineffectiveness of vaccine prophylaxis.**	**PC 6**	**Laboratory methods of studying the properties of vaccines.**		
		PC 7	**Vaccination of various types of animals.**		
		PC 8	**Obtaining and using non-vaccine types of immunological drugs.**		
		PC 9	**Final class. Test**		

BASIC LITERATURE AND METHODOLOGICAL MATERIALS

Literature	Veterinary Vaccines: Principles and Applications / Edited by Samia Metwally, Ahmed El Idrissi. // Ahmed El Idrissi, 2021. – 442p. Vaccinology: An Essential Guide / Editor(s): Gregg N. Milligan PhD,, Alan D.T. Barrett PhD // First published:5 December 2014. Print ISBN:9780470656167 |Online ISBN:9781118638033 |DOI:10.1002/9781118638033. The Vaccine Book / Edited by Barry R. Bloom, Paul-Henri Lambert. - Second Edition. - Academic Press is an imprint of Elsevier. – 2016. – 610p.	Methodological materials	Electronic information resources 1. https://www.youtube.com/watch?v=o55r09egthg 2. https://biomolecula.ru/articles/mir-do-i-posle-izobreteniia-vaktsin 3. https://www.youtube.com/watch?v=EjmOYv9hr3w 4. https://www.youtube.com/watch?v=QypCN2ENmqE 5. https://www.youtube.com/watch?v=vlRRODY7CrM 6. https://www.youtube.com/watch?v=r4-Y81aJhso

EVALUATION SYSTEM

SYSTEM		POINTS	ACTIVITY THAT IS ASSESSED
Final assessment (different credit, exam)Final evaluation	100 ECTS points (standard)	up to 100	40 % - Final testing
			60 % - student's current work during the semester
Final assessment (non-differential credit)	100 points ECTS (standard)	up to 100	100 % - average grade for sections
Rating of section	100 points total	up to 30	30 % - answers to test questions
		up to 30	30 % - the result of mastering the block of independent work
		up to 40	40 % - student activity in class (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 SBTU": to demonstrate discipline, good manners, respect each other's dignity, show kindness, honesty, and responsibility.