

	<b>СИЛАБУС ДИСЦИПЛІНИ «VETERINARY MICROBIOLOGY»</b>
	<b>Ступінь вищої освіти - Магістр</b>
	<b>Спеціальність 211 Ветеринарна медицина</b>
	<b>Освітня програма</b>
	<b>Рік навчання 2, семестр 3</b>
	<b>Форма навчання денна</b>
	<b>Кількість кредитів ЄКТС 6</b>
	<b>Мова викладання англійська</b>
<b>Лектор курсу</b>	<b>Козловська Ганна Володимирівна</b>
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<b>Сторінка курсу в eLearn</b>	<b><a href="https://elearn.nubip.edu.ua/course/view.php?id=1151">https://elearn.nubip.edu.ua/course/view.php?id=1151</a></b>

### ОПИС ДИСЦИПЛІНИ

The purpose of "Veterinary Microbiology" teach students to explore the morphology, physiology, genetics of microorganisms, their role in the cycle of matter in nature, in animal pathology, human and plants.

This course includes: An Introduction to the study of bacteria, viruses, fungi, and protozoa. Topics include History of Microbiology, Prokaryotic and Eukaryotic cells, Classification, Microscopy, Staining techniques, and Microbial growth and nutrition. Materials will include PowerPoint presentations, links to videos, lecture notes at the eLearn. The course will take a 1 semester to complete. The course will be structured in such a way that there will be a progression from one concept to the next, although each lesson will be a stand-alone. It will include laboratory aspects associated with Microbiology.

### СТРУКТУРА КУРСУ

<b>Теми</b>	<b>Години</b> (лекції/ лабораторні/ самостійні)	<b>Результати навчання</b>	<b>Завдання</b>	<b>Оцінювання</b>
<b>3 семестр</b>				
<b>Module 1.</b>				
Theme 1. Introductory lecture. Subject and problems of microbiology.	2/4/8	Must know: the subject and objectives of microbiology; history of microbiology as a science. Must be able to: use a light microscope; prepare bacterial preparations for microscopy using simple staining methods.	Pass the laboratory work. Perform independent work (including on eLearn).	<b>70</b>
Theme 2. Morphology and	2/6/8	Must know: taxonomy, morphology of bacteria, chlamydia, mycoplasmas, rickettsia.	Pass the laboratory work.	

systematics of microorganisms.		Must be able to: use complex staining methods to study the morphology of microorganisms and their differentiation; to study bacteria in a living state.	Perform independent work (including on eLearn).	
Theme 3. Morphology of microscopic fungi and basics of their taxonomy.	2/4/12	Must know: the structure of the mycelial body of microscopic fungi; features of morphology of phyco- and mycomycetes. Methods of reproduction of fungi; pathogens of mycoses and mycotoxicosis. Must be able to own the technique of mycological research.	Pass the laboratory work. Perform independent work (including on eLearn).	
Module 1.	1		Testing (including on eLearn).	<b>30</b>
<b>Total 1.</b>	<b>49</b>			<b>100</b>
<b>Module 2.</b>				
Theme 4. Physiology of microorganisms	2/4/8	Must know: the chemical composition of microorganisms, the mechanism of their nutrition, reproduction and respiration; the role of microbial enzymes. Must be able to prepare / sterilize utensils, tools, nutrient media for bacteriological research.	Pass the laboratory work. Perform independent work (including on eLearn).	
Theme 5. Genetics of microorganisms	2/4/8	Must know: about the organization of genetic material in bacteria; forms of variability; genetic recombination. Must be able to have the technique of bacteriological research, to allocate a "pure culture" of bacteria.	Pass the laboratory work. Perform independent work (including on eLearn).	
Theme 6. Ecology of microorganisms.	2/4/8	Must know: the microflora of water, air, soil, animal body, man; types of relationships of bacteria with other organisms. Must be able to take samples of water, soil and air and carry out their bacteriological examination; determine the sensitivity of bacteria to antibiotics. Analyze the results of the sanitary-microbiological assessment of objects.	Pass the laboratory work. Perform independent work (including on eLearn).	
Theme 7. The doctrine of infection and immunity	2/4/8	Must know: types of infection, stages of the infectious process, factors of pathogenicity of microorganisms, mechanisms of infection transmission; types of immunity, forms of immunity.	Pass the laboratory work. Perform independent work	

		Must be able to identify bacteria by phenotypic characteristics and determine their pathogenicity.	(including on eLearn).	
Module 2.	2		Testing (including on eLearn).	
<b>Total 2.</b>	<b>56</b>			<b>100</b>
<b>Module 3.</b>				
Theme 8. The causative agent of anthrax. Pathogenic cocci.	2/4/4	Must know: biological characteristics of the anthrax pathogen, immunity, means of specific prevention and therapy of anthrax; modern methods of lab. diagnostics. Must be able to take samples of material for backscatter; detect and identify pathogens. Analyze the results of bacteriological studies.	Pass the laboratory work. Perform independent work (including on eLearn).	
Theme 9. Pathogens of anaerobic infections.	2/4/4	Must know: Biological properties of pathogens blackleg, anaerobic infections of sheep, malignant edema, tetanus, botulism, necrobacteriosis. Laboratory diagnosis of diseases, means of prevention. Must be able to take samples of material for backscatter; detect and identify pathogens. Analyze the results of bacteriological studies.	Pass the laboratory work. Perform independent work (including on eLearn).	
Theme 10. Pathogenic enterobacteria.	2/4/4	Must know: biological characteristics of salmonella, Escherichia, etc. species of enterobacteria, modern methods of laboratory diagnosis of these diseases. Must be able to take samples of material for backscatter; detect and identify pathogens. Analyze the results of bacteriological studies.	Pass the laboratory work. Perform independent work (including on eLearn).	
Theme 11. Brucella and the causative agent of tularemia	2/2/2	Must know: the characteristics of the causative agent of brucellosis, the peculiarities of immunity; bacteriological, serological and allergic diagnosis of brucellosis. Possibilities of specific prevention of infection.	Pass the laboratory work. Perform independent work (including on eLearn).	

		Must be able to take samples of material for backscatter; detect and identify the pathogen. Analyze the results of bacteriological studies.		
Module 3.	2		Testing (including on eLearn).	
<b>Total 3.</b>	<b>36</b>			<b>100</b>
<b>Module 4.</b>				
Theme 12. The causative agent of tuberculosis	2/4/4	Must know: the characteristics of Mycobacterium tuberculosis, their types, the possibility of differentiation; bacteriological, serological and allergic diagnosis of the disease, features of immunity, biological products. Must be able to take samples of material for backscatter; detect and identify the pathogen. Analyze the results of bacteriological studies.	Pass the laboratory work. Perform independent work (including on eLearn).	
Theme 13. The causative agent of erysipelas, listeriosis, pasterellosis.	2/4/4	Must know: biological characteristics of the causative agent of erysipelas, listeriosis, pasterellosis; modern methods of laboratory diagnosis of these diseases. Must be able to take samples of material for backscatter; detect and identify pathogens. Analyze the results of bacteriological studies.	Pass the laboratory work. Perform independent work (including on eLearn).	
Theme 14. Pathogenic Leptospira.	2/4/4	Must know: the characteristics of pathogenic Leptospira; bacteriological, serological diagnosis of the disease, features of immunity, biological products. Must be able to take samples of material for backscatter; detect and identify the pathogen. Analyze the results of bacteriological studies.	Pass the laboratory work. Perform independent work (including on eLearn).	
Theme 15. Pathogenic mycoplasmas. Chlamydia and rickettsia.	2/4/4	Must know: the difference between mycoplasmas and other bacteria; features of mycoplasma cultivation, their identification, laboratory diagnosis of mycoplasmosis, possibilities of their prevention, characteristics of chlamydia and rickettsia, features	Pass the laboratory work. Perform independent work (including on eLearn).	

		of cultivation, means of prevention and therapy. Must be able to take samples of material for backscatter; detect and identify the pathogen. Analyze the results of bacteriological studies.		
Module 4.	2		Testing (including on eLearn).	
<b>Total 4.</b>	<b>39</b>			<b>100</b>
<b>Всього за 3 семестр/навчальна робота</b>				<b>70</b>
<b>Екзамен</b>				<b>30</b>
<b>Всього за курс</b>				<b>100</b>

### ПОЛІТИКА ОЦІНЮВАННЯ

<b>Політика щодо дедлайнів та перескладання:</b>	Роботи, які здаються із порушенням термінів без поважних причин, оцінюються на нижчу оцінку. Перескладання модулів відбувається із дозволу лектора за наявності поважних причин (наприклад, лікарняний).
<b>Політика щодо академічної доброчесності:</b>	Списування під час модульних робіт та екзаменів заборонені (у т.ч. із використанням мобільних девайсів).
<b>Політика щодо відвідування:</b>	Відвідування занять є обов'язковим. За об'єктивних причин (наприклад, хвороба, міжнародне стажування) навчання може відбуватись індивідуально (в он-лайн формі за погодженням із деканом факультету).

### ШКАЛА ОЦІНЮВАННЯ СТУДЕНТІВ

$$R_{nr} = (M1+M2+M3+M4)/4 \times 0,7, \text{ де}$$

$R_{nr}$  – рейтинг з навчальної роботи,

$M1, M2, M3, M4$  – бали за модуль.

Для визначення рейтингу студента із засвоєння дисципліни  $R_{дис}$  (до 100 балів) одержаний рейтинг з атестації (до 30 балів) додається до рейтингу студента з навчальної роботи  $R_{nr}$  (до 70 балів):  $R_{дис} = R_{nr} + R_{ат}$

Рейтинг здобувача вищої освіти, бали	Оцінка національна за результати складання екзаменів заліків	
	екзаменів	заліків
90-100	відмінно	зараховано
74-89	добре	
60-73	задовільно	
0-59	незадовільно	не зараховано