

**Thematic plan for lecture-type classes
in discipline «Microbiology, virology»
for students of 2024 year of admission
under the educational programme
31.05.01 General Medicine,
specialisation (profile) General Medicine
(Specialist's),
form of study full-time
for the 2025-2026 academic year**

№	Topics of lecture-type classes	Hours (academic) ³
3rd semester		
1.	Introductory lecture. ¹ Medical microbiology and virology: subject, goals, objectives. Taxonomy and classification of microorganisms. Features of the structure of prokaryotes - mandatory and additional elements. Methods and techniques for detecting, staining structures. Microscopic research method - types and applications. ²	2
2.	Physiology of microorganisms. ¹ Nutrition, respiration: mechanism, types. Nutrient media: their composition and purpose, classification. Growth and reproduction of bacteria, phases of population development. Cultivation of microorganisms taking into account the type of nutrition and respiration. Methods for isolating pure cultures of aerobes and anaerobes. Bacteriological research - stages, goals and objectives. Methods and techniques for identifying microorganisms. ²	2
3.	The doctrine of infection. ¹ Forms of infection, conditions for the development of the infectious process. Pathogenicity, virulence. Characteristics of bacterial toxins. Biological research method. Differences between the infectious process and the somatic one. Conditions for the occurrence and course of the infectious process and disease. Virulence factors of microorganisms and methods and means of their detection. Biological research method - goals, objectives, application. ²	2
4th semester		
4.	Pathogenic cocci. ¹ Staphylococci, streptococci, meningococci and gonococci – comparative characteristics. Diseases caused by pathogenic cocci. Microbiological diagnostics, specific prophylaxis. Taxonomy, morphology, cultivation, biochemical properties, antigen structure, pathogenicity factors of pathogenic cocci, epidemiology and pathogenesis of diseases caused by pathogenic cocci, diagnostic methods, specific and non-specific therapy and prevention. ²	2
5.	Causative agents of spirochetosis – syphilis, leptospirosis, borreliosis. ¹ Microbiological characteristic. Laboratory diagnostics. ¹ Leptospira, borrelia, treponema – taxonomy, morphology, cultivation, biochemical properties, antigen structure, pathogenicity factors, epidemiology and pathogenesis of diseases, diagnostic methods, specific and non-specific therapy and prevention. ²	2
6.	Viruses, causative agents of hepatitis - general and comparative characteristics. Laboratory diagnostics. ¹ Causative agents of viral hepatitis A, B, C, D, E - taxonomy, morphology, cultivation, antigen structure,	2

	epidemiology and pathogenesis of diseases, diagnostic methods, specific and non-specific therapy and prevention. ²	
	Total	12

¹ – topic of lecture

² – essential content of the lecture

³ – one thematic block includes several classes, the duration of one class is 45 minutes, with a break between classes of at least 5 minutes

Considered at the department meeting Microbiology,
protocol of 11 June 2025 r. № 12.

Head of the Department



Irina S. Stepanenko