

«Approved»

Head of department
microbiology, virology, immunology with a
course of clinical microbiology
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Protocol № 1 от 26.08.2024.

**Calendar-thematic lesson plan of seminary type
in the discipline "Microbiology, Virology - Microbiology of the oral cavity"
for students in the educational program
specialist in the specialty 31.05.03 Dentistry,
focus (profile) Dentistry,
Full-time form of education
for 2024-2025 academic year**

End of semester – 20.12.2024

№	Thematic blocks	Hours (academic)
1 02.09-07.09	Microbiological laboratories, their equipment. Safety rules for working with gas, living microorganisms. Morphology of bacteria. Microscopic method of investigation. Simple methods of coloring. The main forms of bacteria that live in the mouth.	2
2 09.09-14.09	Taxonomy and taxonomy of microorganisms. Representatives in the oral cavity. Ultrastructure and chemical composition of the bacterial cell. Complex methods of coloring (basic and additional structural elements).	2
3 16.09-21.09	Morphology and structure of fungi, actinomycetes, spirochetes, rickettsia, mycoplasmas, chlamydia. Representatives residing in the oral cavity. Methods of studying them. Significance in dental pathology.	2
4 23.09-28.09	Physiology of microorganisms. Nutrition and respiration of bacteria. Nutrient media. Isolation of pure cultures of aerobes and anaerobes. Aerobic and anaerobic microorganisms of plaque. Bacteriological method of research, its stages. Enzymes of bacteria. Biochemical activity of bacteria, its importance in the identification of microorganisms.	2
5 30.09-05.10	Viruses: classification and taxonomy, a general characteristic. Features of structure and reproduction. The importance of viruses in nature and pathology of the oral cavity.	2
6 07.10-12.10	Colloquium on the topics covered..	2
7 14.10-19.10	Genetics of microorganisms. Organization of genetic material in bacteria. Transduction, transformation and conjugation. Mutations in bacteria. Plasmids, their types and meaning. Molecular genetic methods for diagnosing infectious diseases.	2
8 21.10-26.10	Sanitary microbiology. Microflora of water, air, soil. Sanitary-indicative microorganisms. Determination of the microbial number of air in the dental offices. Detection of sanitary-demonstration microorganisms in dental clinics. Normal microbiota of the human body, its importance. The microbiota of the oral cavity is normal and with pathology. Dysbiosis, conditions and stages of development, prevention. Examples of dysbiosis of the oral cavity and its correction.	2
9 28.10-02.11	Influence of environmental factors on microorganisms. The impact of physical and chemical factors. Sterilization and disinfection. Aseptic and antiseptic. Importance in dentistry. Methods of sterilization and disinfection used in dental clinics.	2
10 04.11-09.11	The effect of biological factors on microorganisms. Chemotherapeutic agents, mechanisms of their action. Antibiotics: classification, mechanism of action. The	2

	main groups of antibiotics used in dentistry. Determination of bacterial sensitivity to antibiotics.	
11 11.11-16.11	Colloquium on the topics covered.	2
12 18.11-23.11	The doctrine of infection. Forms of infection, the conditions for the development of the infectious process in the oral cavity. Pathogenicity and virulence of microorganisms. Characteristics of bacterial toxins. Biological research method: its tasks, stages, significance.	2
13 25.11-30.11	Immunity. Factors and mechanisms of nonspecific anti-infection protection of the body. The role of nonspecific factors of resistance in the oral cavity.	2
14 02.12-07.12	Serological method of research. Agglutination, precipitation reactions. Mechanism, ingredients, accounting of results, practical significance. IFT. CFT, immunolysis reactions: hemolysis, bacteriolysis, Radioimmune assay, immune blotting, ELISA. Mechanism, ingredients, accounting of results, practical significance. Serological reactions used in the diagnosis of dental pathology.	2
15 09.12-14.12	Immunotherapy and immunoprophylaxis. Vaccines. Serum. Classification. Application. Colloquium on the topics covered.	2