Federal State Budgetary Educational Institution of Higher Education
"North Ossetian State Medical Academy" of the Ministry of Health of the Russian Federation

Department of Microbiology

APPROVE
Department head
_____ I.E. Tretyakova
February 09, 2022

Thematic plan of practical classes

Discipline **microbiology, virology, immunology**

Course **2**

Faculty **of Medicine (partially implemented in English)**

for the spring semester of 2021-2022 academic year

Topic number	Topic name	Lesson duration
1	General microbiology. Research methods in microbiology. Microscopic research method.	2
2	Morphology of bacteria. A simple method for staining microorganisms.	2
3	The structure of a bacterial cell. Chemical composition and functions of the structural elements of the cell.	2
4	Sophisticated methods of staining microorganisms.	2
5	Morphology, structure and methods of microscopy of rickettsia, chlamydia, mycoplasmas, spirochetes, actinomycetes.	2
6	**Delivery of module No. 1 on the topic:** *"General microbiology. Structure and methods of microscopy of prokaryotic microorganisms. Simple and complex coloring methods.*	2
7	Physiology of microorganisms. Principles of cultivation of microorganisms. Sterilization. Disinfection.	2
8	Nutrient media, obtaining, classification.	2
9	Nutrition of bacteria.	2
10	Bacteriological method of laboratory diagnostics, its stages. Methods for isolating a pure culture of microorganisms (stage 1).	2
11	Bacterial respiration.	2
12	Cultural properties of microorganisms (stage 2).	2
13	Bacterial enzymes, classification.	2
14	Identification of microorganisms (stage 3).	2
15	Antibacterial chemotherapy. Determination of antibiotic susceptibility of bacteria. Antibiotic resistance of microorganisms, mechanisms of occurrence.	2
16	**Delivery of module No. 2 on the topic:** *"Physiology of microorganisms. Principles of cultivation and identification of microbes. Sterilization. Disinfection. Antibiotics".*	2

17	The doctrine of infection. Ways and mechanisms of pathogen transmission. forms of infection.	2
18	infectious immunology. The human immune system. properties of antigens.	2
19	Forms of the immune response. Structure and functions of antibodies.	2
20	Serological method of laboratory diagnostics. Serological reactions. Diagnosticums. Diagnostic sera. Mechanism of reactions of agglutination, precipitation.	2
21	The mechanism of immune lysis reactions, complement fixation reactions.	2
22	Immunofluorescence reaction, enzyme immunoassay, radioimmunoassay.	2
23	Immunoprophylaxis. Immunotherapy.	2
24	**Delivery of module No. 3 on the topic:** *"Infection. Immunity. Serological method of laboratory diagnostics.*	2
25	Symbiosis of microorganisms. Residents and pathogens. Normal human microflora. Dysbiosis.	2
26	Genetics of microorganisms. Types of variability of microorganisms. genetic recombination. polymerase chain reaction.	2
27	General virology. Morphology and ultrastructure of viruses. Prions. Viroids.	2
28	Bacteriophages, phage typing of bacteria.	2
29	Virus cultivation. Methods of indication and identification of viruses. Methods for laboratory diagnosis of viral infections.	2
30	**Delivery of module No. 4 on the topic:** *"Genetics of microorganisms. Symbiosis of microorganisms. General Virology.*	2

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associate professor, candidate of medical sciences /M.G. Chertkoeva/

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