

Study program: Integrated Academic Studies in Pharmacy
Course title: General and Special Bacteriology with Parasitology
Teacher: Gordana Smieško, Vera Gusman, Deana Medić, Anika Trudić
Course status: compulsory
ECTS Credits: 6
Condition: Immunology with Virology (for taking the exam)
<p>Course aim The aim of this course is to offer undergraduates knowledge in the fields of bacteriology and parasitology and to teach them how to use it in theory and practice.</p>
<p>Expected outcome of the course: Theoretical preparation for establishing diagnosis and differential diagnosis. Students are prepared for practical work and they are expected to choose appropriate methods and their interpretation.</p>
<p>Course description</p> <p><i>Theoretical education</i></p> <ol style="list-style-type: none"> 1. Introduction in microbiology. The role of microorganisms in the world of living beings. 2. Properties of bacterial cells. 3. Classification and nomenclature of bacteria. 4. Structure of bacterial cells. 5. Metabolism of bacterial cells. 6. Growth and multiplication of bacteria. 7. Bacterial genetics. 8. Bacterial pathogenicity and virulence 9. Binds between microorganisms and higher living beings. 10. Antibacterial agents (antibiotics and chemotherapeutics) 11. Bacterial resistance to antibacterial agents 12. Effects of physical and chemical agents on microorganisms 13. Nosocomial infections 14. Normal bacterial microflora in humansa 15. Genus staphylococcus. Genus streptococcus. Genus enterococcus. Genus legionela. Genus neiseria. Genus corynebacterium. Genus mycobacterium. Actinomycoes. Nocardia. Genus bacillus. Genus clostridium. Familia enterobacteriaceae. Genus Escherichia. Genus salmonella. Genus shigella. 16. Other enterobacteria. Pseudomonas. Hemophilus. Listeria. Bordetella. Brucella. 17. Anaerobic gram-negative bacteria. (Genus vibrio. Aeromonas. Plesiomonas. Genus yersinia. Genus campylobacter. Genus helicobacter. Genus treponema. Genus borrelia. Genus leptospira. Genus Chlamydia. Genus mycoplasma. Genus ureaplasma). 18. Rickettsia 19. Sanitary bacteriology 20. Bacterial vaccines 21. Introduction in parasitology 22. Classification. 23. Sarcomastigophora classes: Plasmodium; Cryptosporidium. Toxoplasmosis 24. General properties of helminths 25. Cestodes. Trematodes. Nematodes. 26. Medical microbiology <p><i>Practical education</i></p> <ol style="list-style-type: none"> 1. Rules of behavior in the microbiology laboratory 2. Microscope and working with a microscope. Microscopic examination of ferrous bacteria. Microscopic examination of stained bacteria 3. Taking and sending of the microbiological examination 4. Culture testing of bacteria. Variations of bacterial colonies.

5. Physiological and biochemical examination of bacteria
6. Serological and biological testing of bacteria
7. Susceptibility testing of bacteria to antibacterial drugs
8. Control of microorganisms by physical means
9. The use of disinfectants, antiseptics and preservatives to control microorganisms
10. Genus Staphylococcus
11. Genus Streptococcus
12. Genus Haemophilus
13. Genus Neisseria
14. Genus Mycobacterium
15. Genus Corynebacterium
16. Enterobacteriaceae family
17. E. coli
18. G. Proteus , G. Klebsiella
19. G. Pseudomonas
20. G. Campylobacter . G. Helicobacter
21. G. Salmonella . G. Shigella
22. G. Bacillus . G. Clostridium
23. Serological diagnosis of bacterial infections
24. Protozoa
25. Helminths.
26. Medical ecology
27. Bacteriological testing of drinking water
28. Microorganism count
29. Determining the presence of bacteriophages
30. Microbiological control of drugs and medications

Literature

Compulsory

1. Murray PR, Rosenth KS, Pfaller MA. Medical Microbiology, 7th Edition, Elsevier, 2017
2. Carol KC, Morse SA, Mietzner T, Miller S. Jawetz, Melnick & Adelbergs Medical Microbiology, 27th Edition, Mc Graw Hill Education, 2015

Number of active classes

Theoretical classes: 60

Practical classes: 30

Teaching methods

Lectures, practice

Student activity assessment (maximally 100 points)

Pre-exam activities	points	Final exam	points
Lectures	5	Written	30
Practices	5	Oral	30
Colloquium	25	
Essay	5		