

Study program: Integrated academic studies in pharmacy			
Type and level of the study program: integrated academic studies			
Course title: General and special bacteriology with parasitology (PhIII-GSBP)			
Teacher: Gordana M. Smieško, Vera P. Gusman			
Course status: compulsory			
ECTS Credits: 5			
Condition: Immunology with virology (for taking the exam)			
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.			
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.			
Course description <i>Theoretical education</i> 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 humans. 15. Genus staphylococcus. Genus streptococcus. Genus enterococcus. Genus legionella. Genus neisseria. Genus corynebacterium. Genus mycobacterium. Actinomyces. 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. Sarcocystis classes: Plasmodium; Cryptosporidium. Toxoplasmosis. 24. General properties of helminths. 25. Cestodes. Trematodes. Nematodes. 26. Medical microbiology <i>Practical education: exercises, other forms of education, research related activities</i> 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. 3. 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 cology. 27. Bacteriological testing of drinking water. 28. Microorganism count. 29. Determining the presence of bacteriophages. 30. Microbiological control of drugs and medications			
Literature <i>Compulsory</i> 1. Jawetz, Melnick & Adelberg's E. Medical Microbiology, 26th edition, 2013 2. Murray PR, Rosenthal KS. Medical Microbiology, 7th edition. Elsevier, 2013 <i>Additional</i> -			
Number of active classes			Other:
Lectures: 60	Practice: 30	Other types of teaching: Research related activities:	
Teaching methods Lectures, practice.			
Student activity assessment (maximally 100 points)			
Pre-exam activities	points	Final exam	points
Lectures	10	Written	50
Practices	10	Oral	
Colloquium	25	
Essay	5		