

Program of Study : General Medicine
Course : Microbiology 2
Abbreviation : MIK/VAA12
Schedule : 30 hours of lectures
 30 hours of exercises
Course Distribution : 3rd year, 5th semester
Number of Credits : 6
Course Form : Lectures, exercises

Lectures :

Teachers : prof. MUDr. Milan Kolář, Ph.D.
 doc. MUDr. Petr Hamal, Ph.D.
 doc. MUDr. Vladislav Raclavský, Ph.D.

Study : Continuous

	Date	Subject	No. of Less.	Teacher
1	19.9.2022	Genus <i>Streptococcus</i> . Streptococcal infections.	2	prof. Kolář
2	26.9.2022	Genus <i>Salmonella</i> . Genus <i>Shigella</i> . Other enterobacteria. Genus <i>Vibrio</i> . Cholera. Gastrointestinal tract infections.	2	doc. Hamal
3	3.10.2022	Genus <i>Staphylococcus</i> . Staphylococcal infections.	2	prof. Kolář
4	10.10.2022	Genus <i>Neisseria</i> . Clinical diseases caused by gonococci and meningococci.	2	prof. Kolář
5	17.10.2022	Anaerobic bacteria. Genus <i>Clostridium</i> . Tetanus, botulism, gas gangrene.	2	prof. Kolář
6	24.10.2022	Genus <i>Mycobacterium</i> . Tuberculosis, leprosy.	2	prof. Kolář
7	31.10.2022	Genus <i>Treponema</i> . Syphilis. Genus <i>Borrelia</i> . Lyme borreliosis.	2	prof. Kolář
8	7.11.2022	Pathogenic protozoa.	2	doc. Raclavský
9	14.11.2022	Pathogenic worms.	2	doc. Raclavský
10	21.11.2022	Characterization of viruses. Most frequent viral infections. Antiviral therapy.	2	prof. Kolář
11	28.11.2022	Genus <i>Chlamydia</i> and <i>Chlamydophila</i> . Genus <i>Mycoplasma</i> . Atypical pneumonia.	2	prof. Kolář
12	5.12.2022	Mycology. Genus <i>Candida</i> . Genus <i>Aspergillus</i> . Systemic mycoses.	2	doc. Hamal
13	12.12.2022	Skin mycoses. The dermatophytes. Genus <i>Malassezia</i> .	2	doc. Hamal

14	19.12.2022	Microbiome.	2	prof. Kolář
15	2.1.2023	Human herpesviruses. Herpes simplex, Herpes zoster, EBV infection, Cytomegalovirus infection.	2	doc. Hamal

Exercises :

Leading teacher : prof. MUDr. Milan Kolář, Ph.D.

Study : Continuous

	Date	Subject	No. of Less.
1	22.-23.9.2022	Revision of microscopic techniques, cultivation and serological tests.	2
2	29.-30.9.2022	Identification of bacteria: biochemical tests, MALDI-TOF, genetic methods.	2
3	6.-7.10.2022	Identification of gram-positive microorganisms. Laboratory diagnosis of streptococci, enterococci and staphylococci. General characteristics of bacterial colonies. Collection, transport and processing of specimens from upper and lower respiratory tract.	2
4	13.-14.10.2022	Identification of gram-negative microorganisms. Laboratory diagnosis of enterobacteria, <i>Acinetobacter</i> , <i>Pseudomonas</i> and <i>Stenotrophomonas</i> species. General characteristics of bacterial colonies. Collection, transport and processing of specimens from urinary tract and stool.	2
5	20.-21.10.2022	Laboratory diagnosis of <i>Neisseria</i> , <i>Bordetella</i> and <i>Haemophilus</i> species. General characteristic of bacterial colonies. Collection transport and processing of specimens from blood and cerebrospinal fluid. Laboratory diagnosis of mycobacterial infections.	2
6	27.-28.10.2022	State Holiday.	
7	3.- 4.11.2022	Anaerobic cultivation. Identification of anaerobic bacteria: <i>Actinomyces</i> , <i>Peptococcus</i> , <i>Peptostreptococcus</i> , <i>Bacteroides</i> and <i>Clostridium</i> species. General characteristics of bacterial colonies. Collection, transport and processing of pus.	2
8	10.-11.11.2022	Laboratory diagnosis of mycobacterial infections.	2
9	17.-18.11.2022	Differential microbiological diagnosis of genital tract infections and sexually transmitted diseases. Microbial vaginal pictures. Collection, transport and processing of specimens from genital tract.	2
10	24.-25.11.2022	Parasitology: How to make diagnosis of parasitic infections. Faust-concentration method. Schüffner and Graham methods. Microscopy identification of parasitic eggs. Collection, transport and processing of specimens from parasitic infections.	2

11	1.-2.12.2022	Laboratory diagnosis of viral infections. Principles of the complement fixation test and immunoenzymatic reactions. Serodiagnosis of influenza. Serodiagnosis of glandular fever.	2
12	8.-9.12.2022	Mycology. Collection and transport of the specimens to the mycologic study. Microscopic examination and cultivation of fungi. Identification of moulds; macro- and microculture. Laboratory diagnosis of <i>Aspergillus</i> , <i>Penicillium</i> , <i>Mucor</i> and <i>Trichophyton</i> species. Identification of yeasts. Selective-differential agars for rapid diagnostic of medically important <i>Candida</i> species. Ascospores, chlamydospores, assimilation and fermentation tests.	2
13	15.-16.12.2022	Microbiological diagnosis of upper and lower respiratory tract infections.	2
14	22.-23.12.2022	Microbiological diagnosis of hospital-acquired infections.	2
15	5.-6.1.2023	Microbiological diagnosis of community-acquired infections.	2

Completed by : Exam (three parts: practical exam, written multi-choice test, teoretical exam).

Requirements : Presence in practical trainings, one absence tolerated at the most, it's possible substitute up to one third of practical trainings. Individual preparation for each practical training is obligatory.

Basic literature :

1. Medical Microbiology: with student consult access (Medical Microbiology) (Paperback 2005) by Patrick R. Murray et al. (available at www.amazon.com)
2. Koukalová D. et al.: Microbiology I, UP v Olomouci, 2002
3. Kolář et al.: Microbiology II, UP v Olomouci, 2002

Alternative literature :

4. Medical Microbiology (Paperback 2004) by Cedric A. Mims (Editor), (available at www.amazon.com)
5. Human Virology: A Text for Students of Medicine, Dentistry and Microbiology (Paperback 2000) by Leslie Collier et al. (available at www.amazon.com)