



Medical Microbiology Colloquium I

Dear students,

The **Medical Microbiology Colloquium I** will be held on **December 23, 2024**, from 4:30 to 5:30 p.m. at the amphitheatre of the Institute of Pathology (Dr Subotica 1)

Attendance is mandatory for all students.

The focus of the colloquium will be on general bacteriology, laboratory diagnosis of bacterial infections, and the causative agents of infectious diseases you have studied up until December 23rd. The topics for the colloquium will include lectures, seminars, and practical classes. Please, find below the detailed programme of the topics that will be addressed.

The colloquium will be in the form of a test containing 35 multiple-choice questions. To pass the colloquium, at least 18 correct answers are necessary.

Besides the textbook, using Course material uploaded on the Online Study Platform is highly recommended for preparing topics for the Colloquium.

Kind regards,

Course Director
Prof. Ina Gajić

Belgrade, 12 November 2024

Medical Microbiology Colloquium I - Topics

1. Lecture: Introduction to Medical Microbiology. Bacterial taxonomy and general bacterial properties. Bacterial structures (capsule, cell wall).
2. Seminar: Pathogenicity and virulence. Normal microbiota and symbiotic associations.
3. Lecture: Bacterial structures, biosynthesis and organization of bacterial cell (spores, flagellum, pilli, etc.). Sterilization, control of sterilization, disinfection
4. Lab: Specimen collection (examination of specimen from different organ systems). Specimen transport (package and labeling).
5. Lecture: Bacterial genetic material. Genetic exchange in bacteria: transformation, conjugation and transduction.
6. Lab: Detection of bacteria in clinical specimens (microscopic examination, antigen detection and gene detection).
7. Lecture: Virulence factors of bacteria (adhesive factors, invasive factors, toxins).
8. Lab: Methods for isolation and identification of bacteria.
9. Lecture: Mechanism of action of antibacterial agents (antibiotics). Bacterial resistance to antibacterial agents.
10. Lab: Antimicrobial susceptibility testing.
11. Lecture: Physiology of bacterial cells. Bacterial metabolism; nutritional requirements for growth and replication of bacteria.
12. Seminar: Properties and medical importance of *Staphylococcus* spp. Biofilm formation.
13. Lecture: Properties of and medical importance of *Streptococcus* spp. and *Enterococcus* spp.
14. Seminar: Properties and medical importance of *Corynebacterium* spp. Bacterial zoonoses. Properties and medical importance of *Bacillus* spp.
15. Lecture: Properties and medical importance of *Clostridium* spp.
16. Lab: Laboratory diagnosis of infections caused by *Streptococcus* spp. and *Enterococcus* spp.
17. Lecture: Properties and medical importance of *Mycobacterium* spp.
18. Lab: Laboratory diagnosis of infections caused by *Staphylococcus* spp. Laboratory diagnosis of infections caused by *Mycobacterium* spp.
19. Lecture: Properties and medical importance of order *Enterobacterales*. Characteristics and medical importance of *Escherichia coli*. Characteristics and medical importance of opportunistic enterobacteria
20. Seminar: Properties and medical importance of *Salmonella* spp., *Shigella* spp. and *Yersinia* spp.