

**MEDICAL MICROBIOLOGY 2 - SYLLABUS OF LECTURES  
FOR 2<sup>ND</sup> YEAR STUDENTS OF DENTISTRY,  
ACADEMIC YEAR 2023/2024**

**Lecture No. 1**                      **doc. MUDr. Adriána Liptáková, PhD., MPH**                      **21.2.2024**

Introduction to the study of microbiology. Basic characteristics of microorganisms. Interaction of microorganisms and humans. The human microbiota and its importance for human health. The human microbiota and its pathogenetic significance. Establishment and course of microbial diseases. Exogenous and endogenous infections. Nosocomial and community-acquired infections. Professional infections. Brief overview of anti-infective immunity. Anti-infective drugs - basic concepts and classification. Side effects of antimicrobial drugs.

**Lecture No. 2**                      **RNDr. Hana Dibalová, PhD.**                      **28.2.2024**

Bacteriology - Taxonomy, morphology, structure, growth, reproduction, genetics, pathogenicity and virulence of bacteria. Biofilm. Bacteriophages and phage therapy. Antibacterial drugs. Mechanisms of bacterial resistance to anti-infective drugs.

**Lecture No. 3**                      **MUDr. Ján Koreň, PhD.**                      **6.3.2024**

A brief overview of G+ bacteria – the genera *Streptococcus*, *Staphylococcus*  
A brief overview of G- bacteria – the genera *Neisseria*, *Haemophilus*, HACEK - group, *Legionella*.

Helical microaerophilic bacteria - the genus *Campylobacter*

*Individual study:*

The genus *Enterococcus* and *Corynebacterium* and other G+ bacteria.

The genus *Moraxella*, *Bordetella* and other fastidious G- bacteria.

Helical microaerophilic bacteria - the genus *Helicobacter*.

**Lecture No. 4**                      **RNDr. Martina Dubinová, PhD.**                      **13.3.2024**

*Enterobacteriales* – *Escherichia coli*.

Gramnegative nonfermenting bacteria - the genus *Pseudomonas*.

Anaerobic nonsporulating bacteria – the genus *Actinomyces*.

A brief overview of bacteria not stainable according to Gram - mycobacteria, spirochaetes (the genus *Treponema*), mycoplasmas.

*Individual study:*

Other important bacterial genera from *Enterobacteriales*. Medically important bacteria from genus *Vibrio*.

The genus *Acinetobacter* and other Gramnegative nonfermenting bacteria.

Sporulating anaerobic bacteria – the genus *Clostridium*.

Spirochaetes – genera *Borrelia* and *Leptospira*.

Chlamydiae and other strictly intracellular bacteria.

**Lecture No. 5**                      **Mgr. Marek Straka, PhD.**

**20.3.2024**

Structure and classification of viruses, replication of viruses. Antiviral agents. Genetics of viruses. The viral infection at the cell level and organism level. Pathogenesis of viral infections and the basic information about interaction of viruses with the immune system of humans.

DNA-viruses - herpetic viruses, adenoviruses, papillomaviruses.

