So in principle we have 7 occasions (14 hrs) left of the microbiology course. Now it is clear that it cannot be done the classic way in the next two weeks that we have. Therefore, let’s do the following if you agree.

The microbiology course that we have does not have to be a medically in-depth course, but one that conveys information that may be fundamental and important in nursing practice.

This material is factually covered by the thematics that you can find below and in a separate file.

So what I did, I tried to cover that basic information with available youtube videos, instead of recording my own videos. This is done by rather basic search and review of the results.

So here for every topic of the thematics you will find a link to the related youtube list based on an easy search. In all cases when there is more than one video in the list I made sure that the first few videos are covering the topics sufficiently.

So here you have a choice which one of the first two-five videos you want to watch, or all of them, or two of them and so on.

If you go through the whole tematics and watch at least one video from the list you should be able to answer the test questions at the very end of the exam period.

If you prefer to read a book the book that forms the basis of the tematics (see at the bottom of the file) is one that I can warmly recommend, but it is by no means obligatory or necessary.

There are also other fine books like „Microbiology for dummies”, „Clinical microbiology made ridiculously simple”, „Microbiology made easy”.

I believe watching the videos is a win-win: the individual videos mostly are rather short and comprehensive, you can watch them at your convenience (whenever suits you) and they must contain all the knowledge you may need now.

I will then announce an exam date that you will have to sign up to, and then you will have an MCQ link with a test that you will have plenty and flexible time to solve (so there will be a longer time interval to start the MCQ whilst you will have an hour to solve it.

Let me know if you’re all right with this plan, also never hesitate to ask questions.

Greetings from St Louis, see you later

Tamás

Bonus video: <https://www.youtube.com/watch?v=6wGAVxe7cik>

Importance of Microbiology in Health and disease

 https://www.youtube.com/results?search\_query=importance+of+microbiology+in+health+and+disease

Microbial Diversity and Classification

<https://www.youtube.com/playlist?list=PLq1ozc4_2M7Kn7e0Q8qMbPvqRZ4GYZcaM>

https://www.youtube.com/results?search\_query=microbial+diversity+and+classification

Roles of Microbes in the Environment

 https://www.youtube.com/results?search\_query=roles+of+microbes+in+the+environment

Branches of Microbiology

 https://www.youtube.com/results?search\_query=branches+of+microbiology

Basics of Microbial Genetics

 https://www.youtube.com/results?search\_query=basics+of+microbial+genetics

(Microscopy)

 (https://www.youtube.com/results?search\_query=microscopy)

Aseptic techniques

 sterilization

 disinfection

 https://www.youtube.com/watch?v=w-k-HkJVha4

Microbial cell structure and Function

 cell wall

 plasma membrane and transport

 prokaryotic vs eukaryotic cells

 cytoplasmic structures

 structures on the cell surface

 https://www.youtube.com/results?search\_query=microbial+cell+structure+and+function

Microbial taxonomy and classification

 classification systems

 three domains

 environmental factors influencing microbial growth

 (same as the link way above for the classification)

Microbial genetics

 DNA replication

 Transcription and translation

 Gene regulation mechanisms

 gene editing techniques

 (same as the link above for the microbial genetics, basics)

Genetic transfer and microbial evolution

 horizontal gene transfer

 plasmids (and their role in Adaptation

 antibiotic resistance

 https://www.youtube.com/results?search\_query=genetic+transfer+and+microbial+evolution

Prions

 structure, function and associated diseases

 https://www.youtube.com/results?search\_query=prions

Viruses

 https://www.youtube.com/results?search\_query=viruses

 structure and classification

 https://www.youtube.com/results?search\_query=viral+structure+and+classification

 replication cycle

 https://www.youtube.com/watch?v=RTF-lP3WSNA

 types of viral infection and pathogenesis

 https://www.youtube.com/results?search\_query=types+of+viral+infection+and+pathogenesis

Microbial Ecology and Symbiosis

 microbes in natural environment: soil, water and air

 interactions: Mutualism, commensualism, parasitism

 biofilms, microbial communities

 <https://www.youtube.com/results?search_query=microbial+ecology+and+symbiosis>

 https://www.youtube.com/watch?v=-IEOxfIPWsk

Immunity, host defense

 antigens, antibodies and Immune cells

 vaccination and Immunological memory

 <https://www.youtube.com/watch?v=k9QAyP3bYmc>

Pathogenic Microorganisms and disease mechanisms

 pathogenesis: how microbes cause disease

 types of infections: Bacterial, viral, fungal, parasitic

 virulence factors and toxins

 epidemiology of infectious diseases

 <https://www.youtube.com/results?search_query=microorganism+disease+mechanism>

Antimicrobial Agents and Resistance

 types of antimicrobial agents

 mechanisms of action and spectrum of activity

 development and spread of antibiotic resistance

 <https://www.youtube.com/watch?v=PV_bhprrbA4>

Medical microbiology and diagnostic techniques

 methods for identifying pathogens

 microbial culturing techniques and clinical labs

 molecular techniques

 <https://www.youtube.com/results?search_query=medical+microbiology+diagnostic+techniques>

Emerging trends and Applications in Microbiology

 CRISPR and gene editing

 https://www.youtube.com/results?search\_query=crispr

 microbiome and human health

 https://www.youtube.com/watch?v=XCaTQzjX2rQ

(synthetic biology)

(https://www.youtube.com/watch?v=5\_z1gG-m96A)

Based on: Robert Murray: Microbiology Step by Step. A structured Guide to Microbiology Fundamentals, 2024, by Robert Murray

+ basic youtube search