

OUTCOME REQUIREMENTS OF MEDICAL MICROBIOLOGY II.

2022-2023. II. semester

Outcome requirements of the course:

Knowledge

Basic knowledge of the microscopic morphology, structure and methods of identification of the microorganisms discussed in the course.

Knowledge of the mechanism of microbial pathogenesis related to microorganisms discussed in the course, the symptoms and diagnostic possibilities of diseases caused by them.

Acquiring knowledge of the therapy and prevention of diseases caused by pathogenic microorganisms discussed during the course (antimicrobials, vaccinations).

Attitude

Developing abilities for deepening their basic knowledge in microbiology and further applying them in their clinical subjects.

Evaluation of the acquisition of expected learning outcomes:

1. Criteria of the completion of the course

Attendance at lectures is **optional**. If students attend at least **80% of the lectures**, they can **change one of the topics** for the theoretical final exam (general microbiology, virology, bacteriology, fungi and parasites).

In case of physical attendance students have to sign the attendance sheet.

During the semester, there will be **two MTOs** (test questioning, 50 questions/50 minutes: single and multiple choice, relational analysis), which are **not compulsory**.

For the **first MTO** (virology), a successful MTO score **above 70%** will be taken into account for the final exam as follows:

- The student may change the **virology topic once** if he/she writes the MTO with a score **between 70-89%**.
- The student is **exempted from withdrawing the virology topic** if he/she writes the MTO with a score **of 90% or above**
- A demonstration written with a result **below 70% has no negative consequences**.

In the case of the **second MTO**, which is based on the course material of the **practical classes Microbiology I and Microbiology II**, a successful demonstration with a **score above 70%** will be considered for the final examination as follows:

- The student will be exempted from the practical examination and his/her practical grade will be taken into account with a grade of **intermediate (3)** if he/she writes the demonstration with a score **between 70-79%**. The grade does not have to be accepted, and the student may take a practical examination on the day of the final examination.
- The student is exempted from the practical examination and his/her practical grade will be taken into account with a **good (4)** if he/she writes the demonstration with a result between **80 and 89%**. The grade does not have to be accepted, and the student may take a practical examination on the day of the final examination.
- The student is exempted from the practical examination and his/her practical grade will be taken into account with a mark of **excellent (5)** if he/she writes the demonstration with a result **between 90-100%**.
- A demonstration written with a result **below 70% will not be penalized**. The student **must take a practical examination** on the day of the final examination.

Dates of the demonstration:

1st demonstration: **13 April 2023, 7 a.m.**

2nd demonstration: **12 May 2023, 7 a.m.**

(Location in the designated classrooms of the University)

2. Aspects and requirements of the evaluation of learning outcomes, criteria on evaluation, grading system

During the assessment, the student must demonstrate that he/she has mastered the knowledge related medical microbiology and has the necessary knowledge to complete the medical microbiology-based courses in the future.

The final exam is an oral exam, in which the student picks 2 practical (1 topic from each semester) and 4 theoretical topics (general microbiology, virology, bacteriology, fungi and parasites). The final grade is composed of the average of 5 marks: 1 practical mark, 4 theoretical marks.

In case of an unsuccessful practical exam, the student is not allowed to take the theoretical part of the final exam.

In case of a practical exam's mark of at least 3 (accepted) and if the student fails the theoretical part of the final exam, next time the practical exam does not need to be repeated.

Type and method of assessment of final exam: 5-grade, criterion-referenced summative assessment.

A. Practical exam

The practical exam is an oral exam where 2 practical topics have to be answered (there is no practical task in the exam).

Assessment criteria and requirements of the practical exam:

excellent (5): the student answers the topics independently, uses correctly the scientific terms, and can mention examples regarding the given topics.

good (4): the student answers the topics more or less independently, may need some specific questions from the examiner, can use the terminology correctly and can mention examples regarding the given topics.

accepted (3): the student is able to talk about the two topics more or less independently, but the examiner has to ask several supportive questions, the student uses the terminology many times incorrectly and many times the student is not able to mention examples regarding the given topics.

passed (2): the student is uncertain about the answers, but with the help of the examiner he/she is able to recall 50-60% of the information; the student uses the terminology several

times incorrectly and many times the student is not able to mention examples regarding the given topics.

failed (1):

- the student cannot answer any of the 2 topics
- the student is uncertain about the answers, he/she is not able to recall the information with the help of the examiner, he/she does not use the scientific terms properly, he/she cannot mention any examples regarding the given topics;

In case of the failed (1) mark, the student is not allowed to take the theoretical exam.

The mark of the practice exam will count as 20% of the final grade (one of the 5 marks).

A. Theoretical exam

Assessment criteria and requirements of the theoretical exam:

There will be 4 topics in the theoretical exam, the final mark is the average of these 4 marks and the mark obtained in the practical exam, so the final mark is the average of 5 marks.

excellent (5): the student answers the topics individually, can speak fluently about all 4 topics, is familiar with the morphology, structure, pathogenesis, identification methods of microbes, furthermore with the symptoms, diagnostic possibilities, therapy and prevention of the diseases. The student uses the scientific terms correctly, can mention examples regarding the given topics.

good (4): the student answers the topics more or less independently, can speak about all 4 topics, is familiar with the morphology, structure, pathogenesis, identification methods of microbes, furthermore with the symptoms, diagnostic possibilities, therapy and prevention of the diseases. The student may need some specific questions asked by the examiner, uses the terminology properly, and gives some examples of what he/she is saying.

accepted (3): the student answers the topics more or less independently, can speak about all 4 topics, is familiar with the morphology, structure, pathogenesis, identification methods of microbes, furthermore with the symptoms, diagnostic possibilities, therapy and prevention of the diseases, however the examiner has to ask several supportive questions, the student uses the terminology many times incorrectly and many times the student is not able to mention

examples regarding the given topics. The student knows the *basic terms** in medical microbiology.

passed (2): the student is uncertain about the answers, but with the help of the examiner he/she is able to recall 50-60% of the information; the student uses the terminology several times incorrectly and many times the student is not able to mention examples regarding the given topics. With the aid of the examiner, the student can recall partially the morphology, structure, pathogenesis, identification methods of microbes, furthermore with the symptoms, diagnostic possibilities, therapy and prevention of the diseases. The student makes several mistakes in *basic terms**.

failed (1):

- the student cannot answer any of the 4 topics

- the student is uncertain about the answers, he/she is not able to recall the information with the help of the examiner, he/she does not know the *basic terms**.

*The basic terms are the minimum requirements, the underlined/highlighted terms in PowerPoint presentations of the lectures

Recommended literature:

1. Murray et al., Medical Microbiology, Elsevier, Mosby; 9th Edition, 2020
2. Medical Microbiology 19th Edition , Elsevier Michael Barer Will Irving 2020