

Subject: Immunology (FOG-UA230; FOG-MA240)

Academic year / semester: 2024/2025. I.

Type of course: lecture

Weekly nr. of hours: 1

Credits: 1

Performance assessment: colloquium

Responsible Institute: SZTE SZAOK-TTIK, Department of Immunology

Subject responsible: Krisztina Buzás, PhD

Course prerequisites: Biology for Dentistry Students I-II

Objective of the course:

To familiarize students with the basic immunological concepts, mechanisms and the theoretical background of the oral immunological pathologies.

| Date | Lecture | Professor |
|-------------------|--|-----------------------|
| 1. 2024.09.10. | The structure and working principle of the immune system. Lymphoid tissues, central and peripheral lymphoid organs. | Dr Krisztina Buzás |
| 2. 2024.09.17. | Main characteristics, cellular and humoral elements of innate immunity. | Dr Roberta Fajka-Boja |
| 3. 2024.09.24. | Diversity of antigen receptor molecules. The structure and polymorphism of MHC molecules. | Dr Ágnes Czibula |
| 4. 2024.10.01. | Antigen presentation. Development of T and B cells. | Dr Ágnes Czibula |
| 5. 2024.10.08. | Naive and effector T cells. T cell types and their functions. | Dr Ágnes Czibula |
| 6. 2024.10.15. | B cells and antibodies. | Dr Ágnes Czibula |

| | | |
|--------------------------------|---|---|
| 7. 2024.10.22. | Antigen dependent B cell differentiation. Immunological memory. | Dr Roberta Fajka-Boja |
| 2024. 10. 22. 17:45 - 18:15 | 1. MTO (mandatory) Place: Orvosi Fizikai és Orvosi Informatikai Intézet, Korányi fasor 9. Rooms: 12., 22., 24. | More information on the Coospace Forum! |
| 8. 2024.10.29 | Immunological aspects of oral defence mechanisms. Immune system of oral mucosa, and characteristics of its immune response. | Dr Ágnes Czibula |
| 9. 2024.11.05. | Inflammation and acute phase response. Inflammation in oral cavity. | Dr Roberta Fajka-Boja |
| 10. 2024.11.12. | Antimicrobial immune responses. | Dr Roberta Fajka-Boja |
| 11. 2024.11.19. | Types and characteristics of hypersensitivity reactions. Allergic reactions. Immunological aspects of saliva, dental pulp, implants, and oral infectious diseases (periodontitis and dental caries). | Dr Judit Danis |
| 12. 2024.11.26. | Mechanism of autoimmunity. Autoimmune diseases of the oral cavity. | Dr Ágnes Czibula |
| 13. 2024.12.03. | Immunological mechanisms of the oral mucosal disorders. Oral manifestations of the primary and secondary immunodeficiencies. | Dr Roberta Fajka-Boja |
| 2024. 12 03. 17:45 - 18:15 | 2. MTO Place: Orvosi Fizikai és Orvosi Informatikai Intézet, Korányi fasor 9. Rooms: 12., 22., 24. | More information on the Coospace Forum! |
| 14. 2024.12.10. | Immune tolerance. Tumor immunology. Oral cancers. Transplantation immunology. | Dr Krisztina Buzás |

Examination of the learning outcomes:

Attendance at lectures is mandatory.

Requirement of the admission to the exam: no more than 3 (certified) absences allowed in the classroom teaching. In case of more than 3 absences, the student is not allowed to take the exam!

MTOs:

Two MTOs will be written during the semester.

1. MTO: 2024. 10. 22. 17:45 - 18:15

The 1. MTO is mandatory! The absence from the 1. MTO counts as an absence from the lecture!

Place: Orvosi Fizikai és Orvosi Informatikai Intézet, Korányi fasor 9.

Rooms: 12., 22., 24

2. MTO: 2024. 12 03. 17:45 - 18:15

Place: Orvosi Fizikai és Orvosi Informatikai Intézet, Korányi fasor 9.

Rooms: 12., 22., 24

In case that the average result of the two MTOs reaches 80% the grade of the colloquium is offered at the end of the semester. If 80% is reached, it means the offered grade 4 (good), if the averaged result of the two MTOs reaches 90%, the offered grade is 5 (excellent).

Exam:

The first and second exam will be written. You need to reach 60% to pass the exam.

The grades are determined as follows:

0-59% failed (1)

60-69% pass (2)

70-79% satisfactory (3)

80-89% good (4)

90-100% excellent (5)

The second repeated - your third - exam and any further exams are oral. The potential improvement of the examination will be oral (in case somebody wants a better grade than the offered, for example 5 instead of 4).

The unsatisfactory semester mark can be corrected during the examination period in accordance with the examination regulations.

The basics of the exam:

The material of the lectures.

Recommended specialist literature:

Kenneth Murphy and Casey Weaver: Janeway's Immunobiology 9th Edition (Garland Science/Taylor & Francis Group, 2017)

Abul Abbas Andrew Lichtman Shiv Pillai: Basic Immunology Functions and Disorders of the Immune System (Elsevier, 2019)

Abul Abbas Andrew Lichtman Shiv Pillai: Cellular and molecular immunology (Elsevier, 2017)