

SYLLABUS 2024/2025

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| Name of a course/module | Immunology | |
| Faculty of | Medicine with Division of Dentistry and Division of Medical Education in English | |
| Name of a field of study | Medicine | |
| Level of education | Uniform Master's Degree in Medicine | |
| Form of study | Full time | |
| Language of instruction | English | |
| Type of course | obligatory | facultative |
| Year of study/Semester | I II III IV V VI | 1 2 3 4 5 6 7 8 9 10 11 12 |
| Number of teaching hours specified according to contact type | Total: 45; including: 20 lectures, 10 seminars and 15 classes | |
| Principles and aims of the subject | <p>Student should acquire the knowledge in:</p> <ul style="list-style-type: none"> • structure and function of the immune system • innate and adaptive immunity • structure and function of Major Histocompatibility Complex • immunologic tolerance and autoimmunity diseases • hypersensitivity reactions • tumor immunology • neonate and children immunity • immunity to infections, vaccination • primary and acquired immunodeficiency diseases | |

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| | <ul style="list-style-type: none"> • immunosenescence <p>Student should be able to:</p> <ul style="list-style-type: none"> • plan and interpret immunological tests used in diagnostics of autoimmunity diseases, allergic diseases, leukemias and lymphomas, primary and acquired immunodeficiencies, make an arrangement of immunomodulating treatment scheme |
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| Symbol of education outcomes in accordance with the standards | Description of directional effects of education | Methods of verification of achieved learning outcomes |
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| | Knowledge (according to the detailed education outcomes) | |
| C.W6 | genetic background of human blood groups and serologic incompatibility of Rh blood group system | Student should have a theoretical basic knowledge of the current subject (based on the lectures and obligatory textbook) prior to the class. Evaluation of the activity in the classroom, discussion in the class, case description. |
| C.W20 | the basic mechanisms of development and function of the immune system including specific and nonspecific mechanisms of the cellular and humoral immunity | |
| C.W21 | the Major Histocompatibility Complex | |
| C.W22 | the types of hypersensitivity reactions, types of immunodeficiencies and essentials of immunomodulation | |
| C.W23 | the basics of tumor immunity | |
| C.W24 | the genetic essentials for donor-recipient matching and basic principles of transplantation immunology | |

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| C.W26. | the basic mechanisms of cell and tissue damage | |
| C.W27. | the immune pathomechanism of specific and nonspecific inflammation and describe the regeneration processes of organs and tissues | |
| | Skills (according to the detailed education outcomes) | |
| C.U8. | Uses the antigen-antibody reaction in contemporary modifications and diagnostic techniques for infectious diseases, allergic diseases, autoimmune diseases, blood diseases and neoplasm. | During every class Student's skills are evaluated through discussion and case studies |
| | Interprets the results of immunological tests and identifies causes of differences. | |
| | Social competence (according to the general education outcomes) | |
| K1 | He/She recognizes his/her own diagnostic and therapeutic limitations, educational needs, planning of educational activity. | Continuous assessment by the teacher |
| K2 | He/She is able to work in a team of professionals, in a multicultural and multinational environment. | |
| K3 | He/She implements the principles of professional camaraderie and cooperation with representatives of other professionals in the range of health care. | |
| K4 | He/She observes doctor-patient privilege; and patient rights. | |

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| ECTS points | 3.5 |
| Student Workload | |
| Form of Activity | Number of hours to complete the activity |
| Activities that require the participation of (academic) teacher | |
| 1. Realization of the course: lecture | 20 |
| 1. Realization on of the course: seminar | |
| 1. Realization of the course: classes | 40 |
| 1. Exam | |
| 1. Electives | |
| | total of hours 60 |
| Self-study: | |
| 1. Preparation for classes | 10 |
| 1. Preparation for credits/ tests | 10 |
| 1. Preparation for the exam/ final test | 20 |
| | total of hours 40 |
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| Course contents | |
| Topics | Form (lectures, classes etc....) |
| Lectures (x 2h) | |

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| What is immunology? History of immunology | Lecture |
| The structure of the immune system. The central and the peripheral immune organs | Lecture |
| Development of the immune system | Lecture |
| Adoptive and innate immunity – organs and cells | Lecture |
| The differentiation between „self” and „non-self”. | Lecture |
| Immunoglobulins | Lecture |
| Immunologic tolerance | Lecture |
| Autoimmunity – loss of the tolerance. | Lecture |
| Immunity to tumors | Lecture |
| Primary immunodeficiencies part I | Lecture |
| Primary immunodeficiencies part II | Lecture |
| Secondary immunodeficiencies | Lecture |
| Neuropsychimmunology | Lecture |
| Immunosenescence | Lecture |
| Immunotherapy | Lecture |
| Classes and seminars | |
| Congenital immunodeficiencies: phagocytes defects | Class |
| Congenital immunodeficiencies: complement defects | Class |
| Congenital immunodeficiencies: defects in development and activation of B cells | Class |
| The role of MHC antigens in the immune response | Class |
| Autoimmunity diagnosis | Class |
| Allergy diagnosis | Class |

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| Lymphomas and leukemias | Class |
| Serologic incompatibility | Class |
| Transplantation immunology | Class |
| PID diagnosis | Class |
| Morphology of the immune system cells | Class |
| Diagnostics – immunoglobulins | Class |
| Diagnostics – flow cytometry | Class |
| Diagnostics – serologic incompatibility | Class |
| Diagnostics - phagocytosis | Class |
| Diagnostics – complement | Class |
| Inflammation | Class |
| Allergological tests | Class |
| Case report | Class |
| Case report | Class |

A list of recommended and optional books

The obligatory book for obtaining a basic knowledge of a subject:

- Basic Immunology: Functions and Disorders of the Immune System

Abul K. Abbas , Andrew H. Lichtman , Shiv Pillai, 5 th or 6th Revised edition

- Cellular and Molecular Immunology 7th or 8th Edition. Saunders; A. K. Abbas, A.H. Lichtman, S. Pillai

The optional books

- 'Immunology' Male D., Brostoff J, Roitt J; 8th Edition, Elsevier Saunders

Conditions for receiving credit

GENERAL

1. The Immunology course consists of lectures (20 hours) and practice sessions (10 hours of seminars and 15 hours of classes).
- 2. The year students' representative shall be in charge of any communication with the Department of Clinical Immunology.**
- 3. Presence at all the classes (lectures, practice) in Immunology.**
4. Students must be prepared for class and be active during the Immunology course (Terms & Conditions of Studies at the Medical University of Bialystok)
- 5. Absence from class/test/retake/exam should be excused immediately in writing, within 3 working days from the last day of the period of absence. A sick note from a physician, certifying the student's inability to attend, or a note from the Dean is required as an excuse. Required documents cannot be delivered as photocopy, by fax, in digital format, or printed on a prescription form**
- 6. Students are required to get a credit for subjects covered in class during their absence from the course teacher. The procedure (in writing) takes place during the teacher's duty hours.**
- 7. All student issues shall be dealt with during the teachers' duty hours (details will be communicated at the beginning of the Immunology course).**
10. Students shall attend classes with their respective groups (a list of groups will be published before the commencement of the course).
11. **Students may occasionally be allowed to attend again with another group, provided that they obtain official consent at least 1 day before the scheduled class.**
12. 2 mid-term test, retakes and the final will be scheduled and communicated at the beginning of the course.
- 13. Cell phones, smartphones, tablets, smartwatches, laptops, or any other electronic devices shall be switched off during Immunology classes/lectures/tests/exams. Using such devices, eating, video recording or taking photos is not allowed**
14. Students who need to redo the Immunology course shall contact the course coordinator (or the Department of Clinical Immunology) in order to schedule their attendance (not later than during the first week of class)

MID-TERM TESTS

1. To qualify for mid-term test(s), students have to attend all classes. Any missed class must be redone before the scheduled mid-term date
2. A sick note from a physician, certifying the student's inability to attend, or a note from the Dean is required as an excuse of an absence from class or test, to be submitted at least 1 day before the test date.
- 3. A student with unexcused absences will not receive a course pass and will not be admitted to take a mid-term (to get credit)**
- 4. If a student's absence at a first mid-term date is excused, the student's score at the second date will not be affected. However, there is only one retake option available at the end of the semester.**
5. Unexcused absence will be treated as a fail at a mid-term/retake (0 pts)
6. A mid-term test will consist of 30 multiple choice or free text questions, covering the knowledge taught at specific lectures, classes, and from the recommended course books.
7. Min. 60% (18 test points) is a pass.

8. Not more than 2 mid-term retakes are possible. The first retake of any test (required from students who score below 18 pts) will be held within 2 weeks after the first term. The ultimate second retakes of all mid-term will be held at the end of semester at the same time.
10. The final test (the same for all students who did not pass either or any of the mid-terms) covers the scope of the two mid-terms
11. No extension of time for obtaining mid-term credits is available. Test retakes will be held only at the dates and times announced at the beginning of the semester.
12. Unexcused absence from mid-terms/retakes gives a 0 (zero) score and should be excused within 3 working days. A sick note from a physician, certifying the student's inability to attend, or a note from the Dean will be a valid excuse.
13. A student who fails at least one mid-term, retake or final retake will not get credit for the Immunology course.
14. All mid-terms or retakes must be passed (min. score 60%/18 points) as a prerequisite of taking the final exam.
15. Cheaters score 0 and the Dean's Office will be informed.
16. Mid-term/retake/final results will be e-mailed to the students' representative within 1 week

EXAM

1. The exam will consist of 50 multiple choice or free text questions, covering the knowledge obtained through specific Immunology course activities and recommended books.
2. Minimum 62% (min. 31 points) is a pass
3. Cheaters or those using any unacceptable aids at an exam will score 0 points and the Dean's Office will be informed.
5. Absence from an exam should be excused not later than 3 working days after the test. A sick note from a physician, certifying the student's inability to attend, or a note from the Dean is required as an excuse.
6. In certain justified cases, such excuse can be presented within 14 days after the last day of the absence period.
7. Unexcused absence will be treated as a fail at the exam (0 pts).
8. Exam retakes will be scheduled up to 30th April 2022.

EXAM EXEMPTION

1. Exam grades:

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| 1. Very good | 5.0 (47-50 points) |
| 2. Good plus | 4.5 (43-46 points) |
| 3. Good | 4.0 (39-42 points) |
| 4. Fairly good | 3.5 (35-38 points) |
| 5. Satisfactory | 3.0 (31-34 points) |
| 6. Fail | 2.0 (30 points or less) |

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| Date of issue: | Course coordinator and the head of the department where the course is held | <i>Prof. dr hab. n. med. Anna Stasiak-Barmuta</i> |
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