University of Gdańsk

Subject card

Subject name and code	Clinical Immunology with Immunotherapy, PG_00153636		
Field of study	Biotechnology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master's studies	Subject group	Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Monika Ryba-Stanisławowska	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0						

Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
	Number of study hours	30	5.0	15.0	50

Subject objectives

- Providing in-depth knowledge of the mechanisms of the immune response in the context of human diseases, including immune system disorders.
- Introducing students to the immunopathogenesis of selected diseases, such as autoimmune, allergic, neoplastic, and immunodeficiency diseases.
- Presenting contemporary immunological diagnostic methods used in medicine and biotechnology.
- Discussing the mechanisms of action and clinical applications of modern immunotherapy methods, including monoclonal antibody therapy, cell therapies, and therapeutic vaccines.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOTECHMU2_K02] The graduate possesses competences to collaborate in the implementation of research work and work in a team.	The student is ready to work in a team in planning and implementing tasks related to the analysis of problems in the field of clinical immunology and immunotherapy.	
[BIOTECHMU2_U02] The graduate is able to collect and interpret empirical data; use statistical methods and IT tools in data analysis; formulate conclusions based on empirical data.	The student collects and organizes experimental data obtained in research in the field of clinical immunology and immunotherapy, analyzing them using appropriate statistical methods.	
[BIOTECHMU2_W03] The graduate has in-depth, specialized knowledge of therapy and diagnostic methods of human diseases, including the mechanisms of action of selected drugs, immunotherapy, cellular and gene therapy, understanding the ethical, legal and social dilemmas involved and being able to evaluate them from the perspective of the patient's well-being and the public interest.	The student explains the immunological mechanisms underlying the development of human diseases, including autoimmune, allergic, neoplastic and immunodeficiency diseases, and describes the mechanisms of action of modern therapeutic strategies, including immunotherapy, monoclonal antibody therapy, cell therapies and selected gene therapy methods.	
[BIOTECHMU2_U01] The graduate possesses the skills necessary to design and conduct laboratory research, critically assessing risks, method limitations, and ethical implications of undertaken activities.	The student designs basic laboratory test protocols to assess the immune response and the effectiveness of selected immunotherapy strategies and selects appropriate immunological and molecular methods for the analysis of immunological processes and the diagnosis of human diseases.	

Subject contents

Lectures

1. The Immune System in Health and Disease an overview of immune response mechanisms in the clinical context.
2. Immunopathogenesis of Human Disease immunological mechanisms in autoimmune, allergic, and neoplastic diseases, as well as immunodeficiencies.
3. Immunological Diagnostics in Medicine basic and advanced diagnostic methods (serological tests, flow cytometry, molecular methods).
4. Cancer Immunology mechanisms of immune surveillance and cancer cell escape from the immune system.
5. Basics of Immunotherapy strategies for modulating the immune response in disease treatment.
6. Monoclonal Antibodies in Therapy mechanisms of action, clinical applications, and limitations.
7. Cancer Immunotherapy immune checkpoint inhibitors, cell therapies (e.g., genetically modified lymphocytes).
8. Immunotherapy in Autoimmune and Allergic Diseases.
9. Cell and Gene Therapies in Immune Modulation.
10. Safety and Adverse Events of Immunotherapy.
11. Ethical, legal, and social aspects of modern immune therapies.

Laboratories:

1. Analysis of clinical cases related to immune system disorders.
2. Interpretation of diagnostic test results used in clinical immunology.
3. Designing a study design to assess the efficacy of immunotherapy or the immune response.

Prerequisites and co-requisites

Basic immunology course.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
laboratory raport	51.0%	20.0%
written test	51.0%	80.0%

Recommended reading

Basic literature	Materials provided by the lecturer.
Supplementary literature	
eResources addresses	

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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