

Subject card

Subject name and code	Basics of cellular and molecular immunology, PG_00147115						
Field of study	Genetics and Experimental Biology						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2027/2028		
Education level	Bachelor's studies	Subject group			Obligatory subject group in the field of study 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	2	Language of instruction			Polish		
Semester of study	4	ECTS credits			2.0		
Learning profile	academic	Assessment form			credit		
Conducting unit	Laboratory of Protein and Nucleic Acid Biochemistry -> Department of General and Medical Biochemistry -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Dorota Żurawa-Janicka				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	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		4.0		16.0	50
Subject objectives	Understanding the mechanisms of the immune response at the molecular level						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GBEL3_W06] A graduate has an advanced knowledge and understanding of: the development and current state of knowledge and the latest trends in molecular genetics and related fields; indicates their relationship to other disciplines in the life sciences or medical sciences and their potential for use in practice	- focuses on the current state of knowledge in the field and the latest trends in molecular genetics and immunology and indicates their relationship with other disciplines of natural or medical sciences and the possibility of their use in practice GM1_W06	[SW4] test/exam - oral or written
	[GBEL3_W03] A graduate has an advanced knowledge and understanding of: molecular mechanisms of genetic information transfer and gene expression and the molecular and genetic basis of human physiology and disease, including infectious diseases.	- knows the mechanisms that regulate the expression of genes associated with the immune response and understands the mechanisms of the immune response at the molecular and cellular level, the underlying romum of diseases resulting from immunity disorders GM1_W03	[SW4] test/exam - oral or written
	[GBEL3_U09] The graduate is able to: plan their education and learn in an independent and focused manner.	- learns independently and in a targeted way MG1_U09	[SU4] test/exam - oral or written
	[GBEL3_U04] The graduate is able to: read scientific texts in English and Polish with comprehension, synthesise the knowledge they contain, prepare well-documented papers on biological problems and on the commercialisation of research.	- reads scientific texts in English and Polish with understanding, synthesizes the knowledge contained in them, prepares well-documented studies of biological problems GM1_U04	[SU1] oral statement/conversation/discussion
[GBEL3_K07] The graduate is prepared to: lifelong learning and updating of knowledge in molecular genetics and other fields.	- understands the need for lifelong learning and updating knowledge in molecular genetics and other areas of GM1_K07	[SK1] oral statement/conversation/discussion	
Subject contents	Introduction to immunology, including cells and tissues of the immune system, structure of antigens, structure of antibodies, passive and active immunization. Mechanisms of innate immunity. Presentation of antigens to lymphocytes. Antigen recognition. Rearrangement of immunoglobulin and TCR receptor genes. Activation of B and T lymphocytes. Effector phase of the immune response. Immune disorders, including AIDS, autoimmune diseases, allergy, as well as cancer immunology and transplantology.		
Prerequisites and co-requisites	Completion of courses: Introduction to biochemistry, Basics of genetics. Knowledge of the structure and properties of basic types of biological macromolecules, molecular mechanisms of the flow of genetic information and the regulation of its expression.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	final test	51.0%	100.0%

Recommended reading	Basic literature	Used during classes Abbas et al. Cellular and Molecular Immunology. 10th Ed. Elsevier Inc. 2022. Male et al. Immunology. 9th Ed. Elsevier Inc. 2020. Original and review articles from scientific journals Literature for self-learning Abbas et al. Immunologia funkcje i zaburzenia układu immunologicznego. Red. wyd. pol. J. Żeromski. Edra Urban & Partner, 2015. Lydyard et al. Immunologia. Krótkie wykłady. Wydawnictwo Naukowe PWN. 2017. Gołąb et al. Immunologia. Wydawnictwo Naukowe PWN. 2017.
	Supplementary literature	Review articles on basic immunology from scientific journals
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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