

**SYLLABUS of the MODULE (SUBJECT)
General Information**

Name of the module	Immunology
Module type	Obligatory
Faculty	Faculty of Medicine (WLA)
Field of Study	medicine (KL)
Major	Not applicable
Level of the studies	II level/ <u>long-cycle (2J)</u>
Mode of the studies	intramural
Year of the studies	I, semester I
ECTS points	3
Forms of the classes	Lectures 10 h/practical classes 45h, in total 55h
Credit	<p>-Graded credit</p> <ul style="list-style-type: none"> <input type="checkbox"/> essay <input type="checkbox"/> test <input type="checkbox"/> practical <input type="checkbox"/> oral <p>-Non-graded credit</p> <p>-Final exam</p> <ul style="list-style-type: none"> <input type="checkbox"/> essay <input type="checkbox"/> test <input type="checkbox"/> practical <input type="checkbox"/> oral

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Teaching team (emphasizing the coordinating tutor)	Title/degree/ e-mail address: <u>Coordinator: Bartosz Wojciuk MD, PhD</u> bartosz.wojciuk@pum.edu.pl Iwona Koszko-Wojciechowska MSc PhD/IwonaKoszko@interia.pl Paulina Roszkowska paulina.roszkowska@pum.edu.pl Paweł Kwiatkowski MSc, PhD Barbara Krasnodębska-Szponder MSc, PhD/kapibarka1@wp.pl
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Dept. contact data	Zakład Diagnostyki Immunologicznej PUM, ul. Powstańców Wielkopolskich 72, 70-111 Szczecin, tel. 91-466-16-52
Dept. website	https://www.pum.edu.pl/wydzialy/wydziallekarski/zaklad-diagnostyki-immunologicznej
Language	English

Detailed information

Module objectives	Explanation of basic and clinical immunology issues, in particular: mechanisms of proper immune reactions as well as immune system disorders, prevention and treatment of immune-mediated diseases, principles of immunological laboratory diagnostics.
Prerequisite	Knowledge Competences in biology relevant for secondary

/essential requirements	Skills	school graduation. Other competences in microbiology, molecular biology, patophysiology and biochemistry relevant for higher education.
	Social skills	Orderliness, self- education habits, team activity

Description of the learning outcomes for the subject /module			
Number of learning outcome	Student, who has passed the (subject) Knows /is able to /can:	SYMBOL (referring the standards) EKK	Method of verification of learning outcomes
W01	Applies the current modifications of an antigen-antibody reaction in the diagnostics of contagious, allergic, autoimmune diseases, haematological diseases and solid tumors.	C.W16	ET, RZĆ, W
W02	Knows the principles of immune system development and function including innate and adaptive, cellular and humoral immunity.	C.W18	ET, RZĆ, W
W03	Describes major histocompatibility complex.	C.W19	ET, RZĆ, W
W04	Knows the types of hypersensitivity, sorts of immune deficiencies and the principles of immunomodulation.	C.W20	ET, RZĆ, W
W05	Knows the issues of tumor immunity and immunotherapy.	C.W21	ET, RZĆ, W
W06	Recognizes the genetic background of graft donor-recipient matching and the principles of transplant immunology.	C.W22	ET, RZĆ, W
W07	Recognizes the clinical course of specific as well as nonspecific inflammation, describes the mechanisms of the tissues and organs regeneration.	C.W23	ET, RZĆ, W
W08	Recognizes the molecular background of	C.W42	ET, RZĆ, W

	tumors and their relationship with the tumor immunology		
U01	Recognizes the relationship between the tissue lesions and relevant clinical symptoms as well as laboratory abnormalities in the course of clinical diagnostics	C.U7	ET, RZĆ, W
K01	Expresses self- education habits, understands the necessity for life-long education, inspires and organizes other persons' education	K5	O
K02	Promotes health prophylaxis.	K6	O
K03	Recognizes established and objective sources of information	K7	O

Matrix presenting the learning outcomes of the subject/module in relation to the form of classes

Number	Symbol	Types of courses						
		Lecture	Seminar	Practical classes	Clinical classes			Other
W.01	C.W16		X	X				
W.02	C.W18		X	X				
W.03	C.W19		X	X				
W.04	C.W20		X	X				
W.05	C.W21		X	X				

W.06	C.W22		X	X					
U.01	C.W43		X	X					
U.02	C.U7			X					
K.01	K.5			X					
K.02	K.6			X					
K.03	K.7			X					

Module (subject) contents			
Symbol of teaching programme	Content of the teaching programme	No. of hours	Reference to learning outcomes
	Seminars:		
TK01	Introduction to immunity. Humoral components of innate immunity	1	C.W18
TK02	Cellular components of innate immunity	1	C.W18
TK03	Cellular adaptive immunity	1	C.W18
TK04	Humoral adaptive immunity	1	C.W18
TK05	Immunity against infections. Ontogeny of the immune system	1	C.W16, C.U7
TK06	Immunoprophylaxis and immunotherapy	1	C.W16, C.W21
TK07	Hypersensitivities	1	C.W16, C.W20, C.U7
TK08	Immunological diagnostics	1	C.W16, C.U7
TK09	Transplantation immunology	1	C.W19, C.W22, C.W23, C.U7
TK10	Immunology of reproduction. Tumor immunology.	1	C.W16, C.W21, C.W42, C.U7
	Practical classes		

TK01	Diagnostics of innate humoral immunity	3	C.W18, K5, K7
TK02	Diagnostics of innate cellular immunity	3	C.W18, K5, K7
TK03	Diagnostics of cellular adaptive immunity	3	C.W18, K5, K7
TK04	Immunologic diagnostics	3	C.W18, K5, K7
TK05	Immunological diagnostics of infectious diseases. Immunoprophylaxis.	3	C.W16, C.U7, K5-7
TK06	Diagnostics of the allergies.	3	C.W16, C.W10, C.U7, K5-7
TK07	Immunologic procedures of donor-recipient matching before tissues and organs transplantation.	3	C.W19, C.W22, C.W23, C.U7, K5-7
TK08	Immunologic assays in tumor diagnostics. Immunologic diagnostics of infertility.	4	C.W16, C.W21, C.W42, C.U7, K5-7

References and educational resources

1.	2. David Male, Jonathan Rostoff, David Roth, Ivan Roitt, Immunology, ed. 8, Elsevier, 2008
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Form of student's activity (in-class participation; activeness, produce a report, etc.)	Workload [h]		
	Tutor	Student	Average
Activities that require direct participation of tutors	25		
Preparation to the classes	40		
Self-studying based on the indicated/specified literature	5		
Report, assay preparation/project implementation	5		
Preparation to the weekly tests	15		
Preparation to the final exam	20		
Student's workload in total	110		

ECTS points for the subject		3
	Final remarks	

Methods of assessment, for example:

- E – exam- problem resolving
- S – verifying of practical skills
- R – report
- D – discussion
- P – presentation
- T-test