



# Pomeranian Medical University in Szczecin

## SYLLABUS of the MODULE (SUBJECT) General Information

Name of the module	Immunology
Module type	<i>Obligatory</i>
Faculty	<i>Faculty of Medicine (WLA)</i>
Field of Study	<i>medicine (KL)</i>
Major	<i>Not applicable</i>
Level of the studies	<i>II level/ long-cycle (2J)</i>
Mode of the studies	<i>intramural</i>
Year of the studies	<i>II, semester III</i>
ECTS points	<i>4</i>
Forms of the classes	<i>Lectures 10 h/practical classes 45h, in total 55h</i>
Credit form	<i>-Graded credit</i> <ul style="list-style-type: none"><li><input type="checkbox"/> <i>essay</i></li><li><input type="checkbox"/> <i>test</i></li><li><input type="checkbox"/> <i>practical</i></li><li><input type="checkbox"/> <i>oral</i></li></ul> <i>-Non-graded credit</i> <i>-Final exam</i> <ul style="list-style-type: none"><li><input type="checkbox"/> <i>essay</i></li><li><input type="checkbox"/> <i>test</i></li><li><input type="checkbox"/> <i>practical</i></li><li><input type="checkbox"/> <i>oral</i></li></ul>
Head of the unit	<i>Iwona Wojciechowska-Koszko MSc, PhD</i>
Teaching team (emphasizing the coordinating tutor)	<i>Title/degree/ e-mail address:</i> <i>Coordinator: Bartosz Wojciuk MD, PhD</i> <i><a href="mailto:bartosz.wojciuk@pum.edu.pl">bartosz.wojciuk@pum.edu.pl</a></i> <i>Iwona Koszko-Wojciechowska</i> <i>PhD/IwonaKoszko@interia.pl</i> <i>Barbara Krasnodębska-Szponder MSc,</i> <i><a href="mailto:PhD/kapibarka1@wp.pl">PhD/kapibarka1@wp.pl</a></i> <i>Ludmiła Szymaniak MD, PhD <a href="mailto:szylus@pum.edu.pl">szylus@pum.edu.pl</a></i>
Website	<i><a href="https://www.pum.edu.pl/wydziały/wydział-lekarski/zakład-diagnostyki-immunologicznej">https://www.pum.edu.pl/wydziały/wydział-lekarski/zakład-diagnostyki-immunologicznej</a></i>
Language	English

## Detailed information

<b>Module objectives</b>		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.
<b>Prerequisite /essential requirements</b>	Knowledge	Competences in biology relevant for secondary school graduation. Other competences in microbiology, molecular biology, patophysiology and biochemistry relevant for higher education.
	Skills	
	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	Knows the principles of immune system development and function including innate and adaptive, cellular and humoral immunity.	K_C.W20	W, R
W02	Describes major histocompatibility complex.	K_C.W21	W, R
W03	Knows the types of hypersensitivity, sorts of immune deficiencies and the principles of immunomodulation.	K_C.W22	W, R, PM
W04	Knows the issues of tumor immunity.	K_C.W23	W, R
W05	Recognizes the genetic background of graft donor-recipient matching and the principles of transplant immunology.	K_C.W24	W, R
W06	Recognizes the clinical course of specific as well as nonspecific inflammation, describes the mechanisms of the tissues and organs regeneration.	K_C.W27	W, R
U01	Applies the current modifications of an antigen-antibody reaction in the diagnostics of contagious, allergic, autoimmune diseases, haematological diseases and solid tumors.	K_C.U8	W, R
U02	Analyzes reactive, defensive and adaptive phenomena as well as regulation disturbances released by etiological agent.	K_C.U12	W, R
K01	Expresses self- education habits, understands the necessity for life-long education, inspires and organizes other persons' education	K_K03	W, R, PM

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
1.	K_C.W20		X	X				
2.	K_C.W21		X	X				
3.	K_C.W22		X	X				
4.	K_C.W23		X	X				
5.	K_C.W24		X	X				
6.	K_C.W27		X	X				
7.	K_C.U8			X				
8.	K_C.U12			X				
9.	K_K03			X				

Module (subject) contents			
Symbol of teaching programme	Content of the teaching programme	No. of hours	Reference to learning outcomes
	<b>Lectures:</b>		
K01	Introduction to immunity. Humoral components of innate immunity	1	K_C.W20
K02	Cellular components of innate immunity	1	K_C.W20, K_C.W27
K03	Cellular adaptive immunity	1	K_C.W20, K_C.W21
K04	Humoral adaptive immunity	1	K_C.W20, K_C.W21, K_C.W27

K05	Immunological diagnostics	1	K_C.U8
K06	Immunity against infections. Ontogeny of the immune system	1	K_C.U12, K_C.W27
K07	Hypersensitivities	1	K_C.W22, K_C.U8
K10	Transplantation immunology	1	K_C.W21, K_C.W24
K11	Immunoprophylaxis and immunotherapy	1	K_C.W22, K_C.U12
K12	Immunology of reproduction. Tumor immunology.	1	K_C.W21, K_C.W23
	<b>Practical classes</b>		
K01	Introduction to immunity. Humoral components of innate immunity	3	K_C.W20, K_K03
K02	Cellular components of innate immunity	3	K_C.W20, K_C.W27, K_K03
K03	Cellular adaptive immunity	3	K_C.W20, K_C.W21, K_K03
K04	Humoral adaptive immunity	3	K_C.W20, K_C.W21, K_C.W27, K_K03
K05	Immunological diagnostics	3	K_C.U8, K_K03
K06	Immunity against infections. Ontogeny of the immune system	3	K_C.U12, K_C.W27, K_K03
K07	Hypersensitivities	3	K_C.W22, K_C.U8, K_K03
K08	Autoimmunity	4	K_C.W27, K_C.U8, K_K03
K09	Immunodeficiencies	4	K_C.W20, K_C.W22, K_K03
K10	Transplantation immunology	3	K_C.W21, K_C.W24, K_K03
K11	Immunoprophylaxis and immunomodulation	3	K_C.W22, K_C.U12, K_K03
K12	Immunology of reproduction. Tumor immunology	3	K_C.W21, K_C.W23, K_K03
K13	Clinical reports. Review.	4	K_C.W20, K_C.W22, K_C.W27, K_C.U8, K_K03

	<b>References and educational resources</b>
1.	2. David Male, Jonathan Rostoff, David Roth, Ivan Roitt, Immunology, ed. 8, Elsevier, 2008

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		30		
Preparation to the classes		50		
Reading of the indicated/specified literature		5		
Report writing/project making		5		
Time spent to prepare for the exam		30		
Other				
<b>Student's workload in total</b>		120		
<b>ECTS points for the subject</b>		<b>4</b>		

	<b>Remarks at the end</b>

**Methods of assessment, for example:**

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