

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 and Dentistry (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>
Speciality	<i>Not applicable</i>
Mode of the studies	<i>intramural</i>
Year of the studies	<i>II, semester I</i>
ECTS points	<i>4</i>
Forms of the classes	<i>Seminars 25h, practical classes 30h</i>
Credit form	<p><i>-Graded credit</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>essay</i> <input type="checkbox"/> <i>test</i> <input type="checkbox"/> <i>practical</i> <input type="checkbox"/> <i>oral</i> <p><i>-Non-graded credit</i></p> <p><i>-Final exam</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>essay</i> <input type="checkbox"/> <i>test</i> <input type="checkbox"/> <i>practical</i> <input type="checkbox"/> <i>oral</i>
Head of the unit	<ol style="list-style-type: none"> <i>1. prof. Marek Brzosko MD, PhD</i> <i>2. Iwona Wojciechowska-Koszko MSc, PhD</i>
Teaching coordinator	<ol style="list-style-type: none"> <i>1. Marcin Milchert MD, PhD</i> <i>2. Bartosz Wojciuk MD, PhD</i>
Unit data	<ol style="list-style-type: none"> <i>1. Clinic of Rheumatology, Immunology, Geriatrics and Internal Medicine, ul Unii Lubelskiej 1, tel. no. 91 425 33 37, e-mail: reumatol@pum.edu.pl</i> <i>2. Department of Diagnostic Immunology, ul. Powstańców Wlkp. 72, 70-111 Szczecin, tel. 91 4661652 e-mail: mikrobio@pum.pum.edu.pl</i>
Website	<p>https://www.pum.edu.pl/studia_iii_stopnia/informacje_z_jednostek/wmis/katedra_reumatologii_i_chorob_wewnatrznych/klinika_reumatologii_chorob_wewnatrznych_geriatrii_i_immunologii_klinicznej/</p> <p>https://www.pum.edu.pl/studia_iii_stopnia/informacje_</p>

	z_jednostek/wmis/katedra_mikrobiologii_immunologii_i_medycyny_laboratoryjnej/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 /essential requirements	Knowledge	Competences in biology relevant for secondary school graduation. Other competences in microbiology, molecular biology, patophysiology and biochemistry relevant for higher education. Constant and systematis self-education activity.
	Skills	to be able to plan relevant diagnostic process and properly interpret the outcomes of diagnostic assays, to be able to organize own educational activity and implement constant self-improvement and self-education
	Social skills	Orderliness, self- education habits, team activity, health promotion, self-limitation recognizing, self-evaluation ability

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.	C.W21	R, T
W02	Describes major histocompatibility complex.	C.W22	R, T
W03	Knows the types of hypersensitivities, sorts of immune deficiencies and the principles of immunomodulation.	C.W23	R, T
W04	Knows the issues of tumor immunity.	C.W24	R, T
W05	Recognizes the genetic background of graft donor-recipient matching and the principles of transplant immunology.	C.W25	R, T
W06	Characterizes the clinical course of both specific and non-specific inflammation as well as tissue regeneration processes.	C.W28	R, T
W07	Credit- W01-W06	C.W21, C.W22, C.W23, C.W24, C.W25, C.W28	T

U01	Implements antigen-antibody reaction and its modifications in the context of infections, allergies, autoimmunity, tumors and blood disorders diagnostics.	C.U8	R,T
U02	Analyses reactive, defence and adaptive processes as well as regulatory disorders triggered by ethiological factor.	C.U12	R,T
K01	Indicates and recognizes self-limitations and is capable to assess self- deficits and educational needs.	K.5	D
K02	Promotes healthy lifestyle.	K.6	D
K03	Benefits from sound, verified and objective sources.	K.7	D

LEARNING OUTCOMES								
Number	Symbol	Lecture	Seminar	Practical classes	Clinical classes	Simulations	E-learning	Other
W02	C.W22		X	X				
W03	C.W23		X	X				
W04	C.W24		X	X				
W05	C.W25		X	X				
W06	C.W28		X	X				
U01	C.U8			X				
K01	K.5			X				
K02	K.6			X				
K03	K.7			X				

MODULE CONTENTS

Symbol	Content of the teaching programme	No. of hours	Reference to learning outcomes
	Seminars:	15	Incl. 1 h e-learning
Department of Diagnostic Immunology (7)			
TK 01,	Principles of immunity. Humoral components of innate immunity.	1	C.W21
TK02	Cellular components of innate immunity.	1	C.W21
TK03	Cellular adaptive immunity.	1	C.W21
TK04	Humoral adaptive immunity.	1	C.W21
TK05	Transplantation immunology.	1	C.W21, C.W22, C.W25
TK07	Principles of inborn errors of immunity.	1	C.W21, C.W23, C.W24, C.W28
TK08	Hypersensitivities and allergies.	1	C.W23, C.W28
Clinic of Rheumatology, Immunology, Geriatrics and Internal Medicine (17h)			
TK06	Immunity against infections, immunoprophylaxis and immunomodulation, immunosuppression.		C.W21
TK07	Inborn errors of immunity.		C.W23
TK08	Hypersensitivities and autoimmunity.		C.W23, C.W28
TK09	Diagnostics of autoimmunity.		C.W23, C.W28
TK10	Immunoematology. Immunology of reproduction. Tumor immunology		C.W24
	Practical classes	30 h	
Department of Diagnostic Immunology (20h)			
TK01	Introduction to immunity. Diagnostics of humoral components of innate immunity.	3	C.U8, C.U12, K.05. K.06, K.07
TK02	Diagnostics of cellular components of innate immunity.	3	C.U8, C.U12, K.05. K.06, K.07
TK03	Diagnostics of cellular adaptive immunity.	3	C.U8, C.U12, K.05. K.06, K.07
TK04	Diagnostics of humoral adaptive immunology.	3	C.U8, C.U12, K.05. K.06, K.07
TK05	Donor-recipient matching in organ transplantation. Alloimmunization diagnostics.	3	C.W21, C.W23, C.W24, C.W28
TK07	Immune system functions diagnostics- summary.	3	C.U8, C.U12, K.05. K.06, K.07
TK08	Diagnostics of allergies.	2	C.U8, C.U12, K.05. K.06, K.07
Clinic of Rheumatology, Immunology, Geriatrics and Internal Medicine (10h)			
TK07	Inborn errors of immunity.	2	C.U8, C.U12, K.05. K.06, K.07
TK08	Hypersensitivities and autoimmunity.	2	C.U8, C.U12, K.05. K.06, K.07
TK09	Immunologic diagnostics.	2	C.U8, C.U12, K.05. K.06, K.07
TK10	Immunoematology. Immunology of reproduction. Immunology of tumors.	2	C.U8, C.U12, K.05. K.06, K.07
TK11	Autoimmune diseases- to be chosen by students.	2	C.U8, C.U12, K.05. K.06, K.07
References and educational resources			
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	
Activities that require direct participation of tutors		5	

Methods of assessment, for example:

E – exam- problem resolving

S – verifying of practical skills

R – report

D – discussion

P – presentation

T-test