

DESCRIPTION OF THE COURSE OF STUDY

Course code	0912-7LEK-C3.4-I	
Name of the course in	Polish	Immunologia
	English	Immunology

1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

1.1. Field of study	Medicine
1.2. Mode of study	Full-time
1.3. Level of study	Uniform Master's studies
1.4. Profile of study*	General academic
1.5. Person preparing the course description	
1.6. Contact	

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English
2.2. Prerequisites*	Anatomy, Histology, Physiology, Pathophysiology, Microbiology

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes	LECTURE - 15 , CLASSES – 10; PRACTICAL CLASSES- 20	
3.2. Place of classes	Lecture/Classes - Courses in the teaching rooms of the Department of Hematology, Holycross Cancer Centre	
3.3. Form of assessment	LECTURES– E, CLASSES Zo (Credit with grade)	
3.4. Teaching methods	Practical Classes, Informative lecture, Discussion	
3.5. Bibliography	Required reading	<ol style="list-style-type: none"> 1. Basic immunology Function and disorders of the immune system 5e (5th Edition) by Abul K. Abbas, Shiv Pillai 2. Immunology: A Short Course (Coico, Immunology) 7th Edition by Richard
	Further reading	<ol style="list-style-type: none"> 1. Microbiology and Immunology (Board Review Series) Sixth Edition by Louise Hawley MD, Benjamin Clarke Ph.D, Richard J. Ziegler PhD 2. Autoantibodies, 3rd Edition (editors: Shoenfeld, Meroni, Gershwin)

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

<p>4.1. Course objectives (<i>including form of classes</i>)</p> <p>The student should acquire knowledge in the scope of:</p> <ol style="list-style-type: none"> 1) The structure and functions of the immune system (lecture). 2) Types of immune response (classes). 3) The structure and role of the major histocompatibility complex HLA (lecture). 4) The development of immunological tolerance and autoimmunity (classes). 5) Types of hypersensitivity reactions (classes). 6) The basis of tumor immunology (lecture). 7) Immunology of neonatal and childhood period (classes). 8) Immune responses against infectious diseases (classes). Passive and active immunoprophylaxis (classes). 9) Primary versus secondary immunodeficiencies (classes). 10) Effects of aging on the immune system (lecture). <p>The student should be able to: plan immunological tests as a part of diagnosis of autoimmune diseases, allergic diseases, haematological malignancies, primary and secondary immunodeficiency disorders, interprets the results of above studies and plans the schedule of immunomodulatory treatment.</p>
<p>4.2. Detailed syllabus (<i>including form of classes</i>)</p> <p>Course contents</p> <p>Subject Form (lecture, classes, etc...)</p> <p>Lectures</p> <ol style="list-style-type: none"> 1. LECTURE 1. General information related to Immunology course. Milestones in the development of the doctrine of immunity. Structure and function of the immune system (duration of the meeting 3x45 minutes) 2. LECTURE 2. The types of immune response – innate and acquired immunity (duration of the meeting 2x45 minutes) 3. LECTURE 3. Major histocompatibility complex. Transplantations (duration of the meeting 2x45 minutes)

4. LECTURE 4. Overview of tumor immunology (duration of the meeting 2x45 minutes)
5. LECTURE 5. Effects of aging on the immune system. Immunomodulation (duration of the meeting 2x45 minutes)
6. LECTURE 6. Vaccines and vaccinations (duration of the meeting 2x45 minutes)
7. LECTURE 7. Hypersensitivity reactions (duration of the meeting 2x45 minutes)

Classes

1. CLASSES 1. Cells of the immune system. Evaluation of the immune system in clinical practice (duration of the meeting 3x45 minutes)
2. CLASSES 2. Immunological methods: flow cytometry, enzyme-linked immunosorbant assay, western blot, immunoprecipitation (duration of the meeting 3x45 minutes)
3. CLASSES 3. Infectious agents and immunity (duration of the meeting 3x45 minutes)
4. CLASSES 4. Primary immunodeficiency disorders. Case studies (duration of the meeting 3x45 minutes)
5. CLASSES 5. Secondary immunodeficiency disorders. Case studies (duration of the meeting 3x45 minutes)
6. CLASSES 6. Autoimmune disorders. Case studies (duration of the meeting 3x45 minutes)
7. CLASSES 7. Allergy – clinical manifestations, diagnosis and treatment. Case studies (duration of the meeting 3x45 minutes)
8. CLASSES 8. Reproductive immunology. Case studies (duration of the meeting 3x45 minutes)
9. CLASSES 9. Immunoprophylaxis and immunomodulatory treatment. Case studies (duration of the meeting 3x45 minutes)
10. CLASSES 10. Interpretation of the results of immunological tests (duration of the meeting 3x45 minutes)

4.3 Intended learning outcomes

Code	A student, who passed the course	Relation to learning outcomes
within the scope of KNOWLEDGE the graduate knows and understands:		
W01	the basis for the development and the mechanisms of the immune system, including specific and non-specific mechanisms of humoral and cellular immunity;	C.W21.
W02	major histocompatibility complex;	C.W22.
W03	the types of hypersensitivity reactions, types of immunodeficiency and immunomodulation base;	C.W23.
W04	the issues concerning the immunology of cancer;	C.W24.
W05	the genetic basis for selection of the donor and recipient and the basics of the immunology of transplantation;	C.W25.
within the scope of ABILITIES the graduate knows how to:		
U01	use the antigen - antibody reaction in current modifications and techniques for the diagnosis of infectious diseases, allergies, autoimmune diseases, blood diseases and cancer;	C.U8.
U02	analyse defensive and adaptation reactions as well as regulation disorders caused by the etiological factor;	C.U12.

4.4. Methods of assessment of the intended learning outcomes

Teaching outcomes (code)	Method of assessment (+/-)																				
	Exam oral/written*			Test*			Project*			Effort in class*			Self-study*			Group work*			Others*		
	Form of classes			Form of classes			Form of classes			Form of classes			Form of classes			Form of classes					
	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...
W01	+	+		-	+		-	+		-	+		+	+		-	+		-	-	
W02	+	+		-	+		-	+		-	+		+	+		-	+		-	-	
W03	+	+		-	+		-	+		-	+		+	+		-	+		-	-	
W04	+	+		-	+		-	+		-	+		+	+		-	+		-	-	
W05	+	+		-	+		-	+		-	+		+	+		-	+		-	-	
U01	-	+		-	+		-	+		-	+		+	+		-	+		-	-	
U02	-	+		-	+		-	+		-	+		+	+		-	+		-	-	

*delete as appropriate

4.5. Criteria of assessment of the intended learning outcomes		
Form of classes	Grade	Criterion of assessment
lecture (L)	3	Learning programme content on the basic level, replies chaotic, leading questions necessary. 61%-68%
	3,5	Learning programme content on the basic level, answers systematized, requires assistance from the teacher 69%-76%
	4	Learning programme content on the basic level, answers systematized, independent. Solving of problems in typical situations.77%-84%
	4,5	The scope of presented knowledge exceeds the basic level based on the supplementary literature provided. Solving of problems in new complex situations 85%-92%
	5	The scope of presented knowledge exceeds the basic level based on independently acquired scientific sources of information. 93%-100%
classes (C)*	3	From 61%-68% Learning programme content on the basic level, replies chaotic, leading questions necessary.
	3,5	From 69%-76% Learning programme content on the basic level, answers systematized, requires assistance from the teacher.
	4	Learning programme content on the basic level, answers systematized, independent. Solving of problems in typical situations 77%-84%
	4,5	From 82,5% The scope of presented knowledge exceeds the basic level based on the supplementary literature provided. Solving of problems in new complex situations 85%-92%
	5	From 90% The scope of presented knowledge goes beyond the primary level based on independently gained scientific sources of information 93%-100%

Conditions for obtaining credit

1. Condition for admission to the examination is the completion of all classes (including written tests) as well as presence in all lectures.
2. Practical and theoretical knowledge required, not only the current subject, but also aspects previously discussed and related to the course subject.
3. All students will be assessed during each class.
4. The grade, including insufficient can be improved only once within 14 days, during subsequent classes. Test correction will be performed within two weeks.
5. Study Regulations do not allow an unexcused absence. An unexcused absence can be fulfilled during next class.
6. The assistant conducting classes with the group of students is responsible for the above mentioned organizational matters
7. A final written exam.

Criteria for evaluation of oral answer

1. Provision of a comprehensive answer to the problem (task)
2. Skill of integration of knowledge from allied domains (disciplines)
3. Independence and/or creativity in the presentation of the scope of problems, proposals of solutions
4. Presentation of the current knowledge related with the discipline (domain)
5. Recognition of problems resulting from the task

Criteria for evaluation of written answer

1. Compliance with the essence of the subject matter of work (task) /
2. Provision of a comprehensive answer to the problem (task) /
3. Skill of integration of knowledge from allied domains (disciplines) /
4. Independence and/or creativity in the presentation of the scope of problems
5. Presentation of the current knowledge related with the discipline (domain), pertinent selection of literature

5. BALANCE OF ECTS CREDITS – STUDENT’S WORK INPUT

Category	Student's workload
	Full-time studies
<i>NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/</i>	45
<i>Participation in lectures*</i>	15
<i>Participation in classes, seminars, laboratories*</i>	30
<i>Preparation in the exam/ final test*</i>	
<i>Others*</i>	
<i>INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/</i>	30
<i>Preparation for the lecture*</i>	15
<i>Preparation for the classes, seminars, laboratories*</i>	15
<i>Preparation for the exam/test*</i>	
<i>Gathering materials for the project/Internet query*</i>	
<i>Preparation of multimedia presentation</i>	
<i>Others (please specify e.g. e-learning)*</i>	
TOTAL NUMBER OF HOURS	75
ECTS credits for the course of study	3

**delete as appropriate*

Accepted for execution (date and legible signatures of the teachers running the course in the given academic year)

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