DESCRIPTION OF THE COURSE OF STUDY

Course code	**0511-2BIO-BC17-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	**Biology**
1.2. Mode of study	**full-time study**
1.3. Level of study	**first-cycle studies**
1.4. Profile of study*	**general**
1.5. Person/s preparing the course description	**Anna Lankoff**
1.6. Contact	**anna.lankoff@ujk.edu.pl**

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	**english**
2.2. Prerequisites*	**basic knowledge of genetics, molecular biology and cell biology**

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes		lectures, laboratories
3.2. Place of classes		**Teaching room at the UJK (room 29)**
3.3. Form of assessment		**Lecture-exam, classes - credit with grade**
3.4. Teaching methods		**Lecture-methods based on the word, laboratories -practical and viewing methods**
3.5. Bibliography	**Required reading**	**Gołąb J., Jakóbisiak M., Lasek W., Stokłosa T. (2017) wyd. 7 Immunologia. Wydawnictwo Naukowe PWN, Warszawa**
	Further reading	**Roitt I., Brostoff J., Male D. (2008) wyd. 2 Immunologia. Wydawnictwo Lekarskie PZWL,Warszawa**

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

4.1. Course objectives ***(including form of classes)***

Lecture

C1. Getting acquainted with the basic immunological concepts as well as the processes and molecular mechanisms that take place in the human body during immune reactions.

C2. The use of immunological mechanism's knowledge in everyday life and at work

Laboratories

C1. Getting acquainted with the basic immunological concepts as well as the processes and molecular mechanisms that take place in the human body during immune reactions.

C2. Familiarization with the methods used in immunological research

4.2. Detailed syllabus ***(including form of classes)***

1. Lectures:

Central and peripheral immune system. Immunocompetent cells and their functions. Non-specific and specific (humoral, cellular) immunity. Phagocytosis. Complement system. Maturation of T and B lymphocytes. Structure and function of antibodies. Markers of differentiation and surface receptors. Main Histocompatibility System. The path of antigen in the immune system. Immune memory. Anti-infective immunity and vaccines. Hypersensitivity and allergy. Cancer immunology. The skin's immune system. The immune system is associated with the mucous membranes. Immunohematology.

2. Classes:

Central and peripheral immune system. Immunocompetent cells and their functions. Immunophagocytosis. Markers of differentiation and surface receptors. Maturation of T and B lymphocytes (blastic transformation, apoptosis), ABO blood group system.

4.3 Intended learning outcomes

Code	A student, who passed the course	Relation to learning outcomes
within the scope of **KNOWLEDGE:**		
W01	student has knowledge of the structure, functions and activities of the human immune system, explains the functioning of the immune system in the body as a whole, regarding the immune mechanisms	BIO1A_W05
W02	student knows and understands the methodology of immunological research and basic theories in the field of immunology	BIO1A_W01
within the scope of **ABILITIES:**		
U01	student is able to apply basic techniques and research tools in the field of immunology, including advanced immunocytochemical and cytometric techniques	BIO1A_U01
U02	student is able to carry out simple experiments and measurements interpret the obtained results and draw conclusions	BIO1A_U02
U03	student is able to communicate with the use of specialized immunological terminology, can formulate and evaluate various opinions and positions in the field related to immunology	BIO1A_U05
U04	student is able to use the equipment used in the scope appropriate for immunology	BIO1A_U06
within the scope of **SOCIAL COMPETENCE:**		
K01	student is ready to recognize the importance of knowledge in problem solving	BIO1A_K01
K02	student is ready to perform professional roles responsibly, to observe the principles of professional ethics and to improve professional and personal competences throughout his life	BIO1A_K02

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* e.g. standardized test used in e-learning		
	Form of classes			*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	***X***				***X***																
W02	***X***				***X***																
U01											***X***										
U02											***X***										
U03																	***X***				
U04											***X***										
K01					***X***																
K02					***X***																

****delete as appropriate***

4.5. Criteria of assessment of the intended learning outcomes

Form of classes	Grade	Criterion of assessment
lecture (L) (including e-learning)	**3**	obtaining 51% - 65% of points in the exam
	3,5	obtaining 66% - 75% of points in the exam
	4	obtaining 76% - 85% of points in the exam
	4,5	obtaining 86% - 95% of points in the exam
	5	obtaining 96% - 100% of points in the exam
classes (C)* (including e-learning)	**3**	obtaining 51% - 65% of points on the test
	3,5	obtaining 66% - 75% of points on the test
	4	obtaining 76% - 85% of points on the test
	4,5	obtaining 86% - 95% of points on the test
	5	obtaining 96% - 100% of points on the test
incl	**3**	

	3,5	
	4	
	4,5	
	5	

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

Category	**Student's workload**	
	Full-time studies	**Extramural studies**
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/	**60**	**60**
*Participation in lectures**	**24**	**24**
*Participation in classes, seminars, laboratories**	**28**	**28**
*Preparation in the exam/ final test**	**2**	**2**
*Others (please specify e.g. e-learning)**	**6**	**6**
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/	**65**	**65**
*Preparation for the lecture**	**5**	**5**
*Preparation for the classes, seminars, laboratories**	**20**	**20**
*Preparation for the exam/test**	**40**	**40**
*Gathering materials for the project/Internet query**	**-**	**-**
Preparation of multimedia presentation	**-**	**-**
*Others **	**-**	**-**
TOTAL NUMBER OF HOURS	**125**	**125**
ECTS credits for the course of study	**5**	**5**

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

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