



IMMUNOLOGY

1. IMPRINT	
Academic Year	2023/2024
Department	Faculty of Medicine
Field of study	Medicine
Main scientific discipline <i>(in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	Medical sciences
Study Profile <i>(general academic / practical)</i>	General academic
Level of studies <i>(1st level /2nd level/ uniform MSc)</i>	Uniform MSc
Form of studies	Full time studies
Type of module / course <i>(obligatory / non-compulsory)</i>	Obligatory
Form of verification of learning outcomes <i>(exam / completion)</i>	Exam
Educational Unit / Educational Units <i>(and address / addresses of unit / units)</i>	<p>Department of Clinical Immunology Nowogrodzka 59 St, 02-006 Warsaw Tel.: (+48 22) 502 14 72, 502 12 60 Faks: (+48 22) 502 21 59 E-mail: Secretary: Ewa Rusinowicz <ewa.rusinowicz(at)uckwum.pl>, Head: Prof. Leszek Pączek <leszek.paczek(at)wum.edu.pl></p>

	Didactic coordinator: Dr hab. Beata Kaleta <beata.kaleta(at)wum.edu.pl> https://zik.wum.edu.pl/
Head of Educational Unit / Heads of Educational Units	Prof. Leszek Pączek
Course coordinator (title, First Name, Last Name, contact)	Dr hab. n. med. i n. o zdr. Beata Kaleta
Person responsible for syllabus (First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported)	Dr hab. n. med. i n. o zdr. Beata Kaleta
Teachers	Dr hab. n. med. Radosław Zagożdżon Dr hab. n. med. i n. o zdr. Beata Kaleta Dr hab. n. med. i n. o zdr. Anna Burdzińska Dr hab. n. med. Jan Borysowski Dr n. med. Monika Kniotek Lek. Emilia Kniotek

2. BASIC INFORMATION

Year and semester of studies	II year, 4 semester	Number of ECTS credits	3.00
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)		0	
Seminar (S)		40	3
Discussions (D)		0	
e-learning (e-L)		0	
Practical classes (PC)		0	
Work placement (WP)		0	
Unassisted student's work			
Preparation for classes and completions		0	0

3. COURSE OBJECTIVES

O1	Familiarization with basic immunology in reference to elements of clinical immunology
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4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING (concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study)

<p>Code and number of effect of learning in accordance with standards of learning (in accordance with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</p>	<p>Effects in time</p>
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Knowledge – Graduate* knows and understands:

G.K1	The graduate knows and understands basics of development and mechanisms of immune system activity, including specific and non-specific mechanisms of humoral and cellular immunity (C.W21)
G.K2	The graduate knows and understands major histocompatibility complex (C.W.22)
G.K3	The graduate knows and understands types of hypersensitivity reactions, types of immunodeficiency and basics of immunomodulation (C.W23)
G.K4	The graduate knows and understands issues in the field of tumor immunology (C.W24)
G.K5	The graduate knows and understands causes, symptoms, principles of diagnosis and therapeutic management in relation to the most common internal diseases occurring in adults and their complications: 8) allergic diseases, including anaphylaxis, anaphylactic shock and angioedema (E.W7)

Skills– Graduate* is able to:

G.S1	The graduate is able to use the antigen-antibody reaction in current modifications and techniques for the diagnosis of infectious, allergic, autoimmune and neoplastic diseases and blood diseases (C.U8)
G.S2	The graduate is able to associate the f tissue and organ damage with clinical signs, history and results of laboratory tests (C.U11)

* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

5. ADDITIONAL EFFECTS OF LEARNING (non-compulsory)

<p>Number of effect of learning</p>	<p>Effects of learning i time</p>
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Knowledge – Graduate knows and understands:

K1	-
K2	-

Skills– Graduate is able to:

S1	-
S2	-

Social Competencies – Graduate is ready for:	
SC1	-
SC2	-

6. CLASSES		
Form of class	Class contents	Effects of Learning
Seminars	S1- Introduction to the immune system S2 - Cells and tissues of the immune system S3 - Circulation and migration of leukocytes S4 – Innate immunity and natural killer cells S5 – Recognition of antigens by antibodies S6 – Presentation of antigens to T lymphocytes by major histocompatibility complex molecules S7 – Cytokines and signaling via immune receptors S8 – Development of lymphocytes and antigen receptor gene rearrangement S9 - Activation of T lymphocytes S10 – Differentiation and functions of effector T Cells S11 – Activation of B lymphocytes and antibody production S12 – Effector mechanisms of humoral immunity S13 – Specialized immunity at epithelial barriers and immune privileged tissues S14 - Immunity to Microbes S15 – Hypersensitivity disorders and allergy S16 – Immunologic tolerance and autoimmunity S17 – Immunity to tumors S18 – Transplantation immunology S19 – Acquired immunodeficiencies S20 – Congenital immunodeficiencies	C.W21 C.W22 C.W23 C.W24 C.U8 C.U11 E.W7 8)

7. LITERATURE
Obligatory
„Cellular and Molecular Immunology” (10 th edition) (Cellular and Molecular Immunology, Abul K. Abbas & Andrew H. Lichtman & Shiv Pillai)
Supplementary
Riott,s Essential Immunology” (13th edition) by Peter J. Delves, Seamus J. Martin, Dennis R. Burton, Ivan M Riott

8. VERIFYING THE EFFECT OF LEARNING		
Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
e.g. G.K1, G.S1, K1	This field defines the methods used for grading students e.g. pop quiz, test, written report etc.	e.g. threshold number of points
G.K1-G.K5 G.S1-G.S2	Exam – single choice test (50 questions) Correction exam - single choice test (50 questions)	CRITERIA: <ul style="list-style-type: none"> 2.0 (failed): 0-25 (out of 50) positive answers on

	Commission exam – oral exam (3-5 descriptive questions)	<p>MCQ and maximum two inexcusable absences on seminars</p> <ul style="list-style-type: none"> • 3.0 (satisfactory): 26 – 33 (out of 50) positive answers on MCQ and maximum two inexcusable absences on seminars • 3.5 (rather good): 34– 36 (out of 50) positive answers on MCQ and maximum two inexcusable absences on seminars • 4.0 (good): 37 – 39 (out of 50) positive answers on MCQ and maximum two inexcusable absences on seminars • 4.5 (more than good): 40 – 42 (out of 50) positive answers on MCQ and maximum two inexcusable absences on seminars • 5.0 (very good): 43 – 50 (out of 50) positive answers on MCQ and maximum two inexcusable absences on seminars
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9. ADDITIONAL INFORMATION *(information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club)*

Student must be present **on all (20) seminars.**

Student is allowed to have only 2 excused absences (excused by a sick leave) that must be made up with the teacher responsible for the topic.

In case of any absences which were not made up student will **not be admitted to the exam.**

Seminars take place in the Lindleya campus.

All actual information about classes can be found on the website of the Department: <https://zik.wum.edu.pl/en>