



IMMUNOLOGY

1. IMPRINT	
Academic Year	2024/2025
Department	Faculty of Medicine
Field of study	Medicine
Main scientific discipline	Medical sciences
Study Profile	General academic
Level of studies	Uniform MSc
Form of studies	Full time studies
Type of module / course	Obligatory
Form of verification of learning outcomes	Exam
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Head of Educational Unit / Heads of Educational Units	Prof. Leszek Pączek <leszek.paczek(at)wum.edu.pl>
Course coordinator	Dr hab. Beata Kaleta <beata.kaleta(at)wum.edu.pl>
Person responsible for syllabus	Dr hab. Beata Kaleta <beata.kaleta(at)wum.edu.pl>
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 Kniota
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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)			
Seminar (S)		40	3
Classes (C)			
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
Unassisted student's work			
Preparation for classes and completions			

3. COURSE OBJECTIVES	
O1	Familiarization with basic immunology in reference to elements of clinical immunology

4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING	
Code and number of the effect of learning in accordance with standards of learning	Effects in the field of: <i>(in accordance with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>
Knowledge – Graduate* knows and understands:	

Załącznik nr 4C do Procedury opracowywania i okresowego przeglądu programów studiów
(stanowiącej załącznik do Zarządzenia nr .../2024 Rektora WUM z dnia2024 r.)

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)

Number of effect of learning	Effects in the fields of:
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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	C.W21

	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.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
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 • 3.0 (satisfactory): 26 – 29 (out of 50) positive answers on MCQ • 3.5 (rather good): 30– 33 (out of 50) positive answers on MCQ • 4.0 (good): 34 – 37 (out of 50) positive answers on MCQ • 4.5 (more than good): 38 – 42 (out of 50)

	Commission exam – oral exam (3-5 descriptive questions)	positive answers on MCQ <ul style="list-style-type: none">• 5.0 (very good): 43 – 50 (out of 50) positive answers on MCQ
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9. ADDITIONAL INFORMATION

Attendance at all seminars is mandatory and will be verified by checking the attendance list. In exceptional situations, a student who was absent from a seminar on a given topic and **is on sick leave** for that time must pass the seminar orally or in writing to his/her assistant.

In case of any absences which were not passed 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>

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ATTENTION

The final 10 minutes of the last class of the block/semester/year should be allotted for students to fill out the Survey of Evaluation of Classes and Academic Teachers