SUBJECT CARD

Faculty of Medicine and Health Sciences
Field of studies: Medicine
Form of studies: Full-time
Degree: long-cycle Master's program
Specializations: No specialization
Academic year: 2022/2023

CLINICAL IMMUNOLOGY AND ALLERGOLOGY	
SUBJECT	**Clinical immunology and allergology**
NUMBER OF ECTS POINTS	3
LANGUAGE OF INSTRUCTION	English
TEACHER(S)	Assoc. Professor Bogdan Batko, MD, PhD Assoc. Professor Zbigniew Żuber, MD, PhD Przemysław Borowy, MD, PhD Anna Pełkowska, MD, PhD Anna Stabrawa-Leśniak, MD
PERSON RESPONSIBLE	Assoc. Professor Bogdan Batko, MD, PhD
NUMBER OF HOURS	
LECTURES	12 h
CLASSES	30 h
SEMINARS	8 h
GENERAL OBJECTIVES	
OBJECTIVE 1	A understanding of the components, functions, and mechanisms of the immune system, with positive and negative function of immune system.
OBJECTIVE 2	Presentation of pathophysiology, symptoms, diagnostic methods prevention and therapeutic options in allergic diseases.
LEARNING OUTCOMES	
MK1	**Knowledge:** On completion of the course, students should understand the fundamental ways the immune system protects us, and appreciate how deficiencies, excesses, or mistargeting of immune responses contribute to disease.
MK2	**Knowledge:** Student knows and understands: structure and function of innate and adaptive immunity, Major Histocompatibility Complex, immunologic tolerance and autoimmunity diseases, cancer immunology.

CLINICAL IMMUNOLOGY AND ALLERGOLOGY	
MK3	**Knowledge:** Student knows and understands: symptoms, principles of diagnosis and therapeutic management of allergic diseases of children: asthma, allergic rhinitis, urticaria, anaphylactic shock, angioedema.
MK4	**Knowledge:** Student knows and understands: symptoms, principles of diagnosis and therapeutic management of autoimmunity diseases.
MK5	**Knowledge:** Student knows and understands: the effects of skin and mucosa associated lymphoid tissues (SALT and MALT). Describes allergic and immunological skin diseases.
MK6	**Knowledge:** Student knows types of hypersensitivity reactions. by Gell and Coombs. Explains the basics of immunotherapy and immunosuppression. Knows the mechanisms of food allergy and intolerance, hypersensitivity and drug intolerance and their clinical symptoms.
MK7	**Knowledge:** Student knows types of autoantibodies in systemic lupus erythematosus (SLE) and other systemic autoimmune disorders. Knows laboratory methods to identification the autoantibodies.
MK8	**Knowledge:** Student knows definition and criteria of primary immunodeficiency syndromes.
MK9	**Knowledge:** Student knows the basis of cancer immunology and transplant immunology, selection of a donor and recipient, mechanisms of the transplant rejection reaction and the immune response (GVH).
MS1	**Skills:** Students use the antigen-antibody reaction, flow cytometry results and other techniques for the diagnosis of infectious, allergic, autoimmune diseases and cancer.
MS2	**Skills:** Student can prepare and present case study with final diagnosis and proposal of therapy.
MS3	**Skills:** Student can plan and carry out the differential diagnosis in the suspicion of immunodeficiency or autoimmune diseases.
MS4	**Skills:** Student carries out a targeted physical examination of child an adult patient.
MS5	**Skills:** Student is capable to interpret the result of ANA, immunoglobulins, mucosal cytology, level of specific antibodies after vaccination and recovery.
MS6	**Skills:** Student assists in: skin tests and interprets their results; intradermal and scarification tests and interpret their results.

CLINICAL IMMUNOLOGY AND ALLERGOLOGY	
MC1	**Social Competency:** Student is capable to discuss and present various support options for patients with incurable and chronic diseases.
INTRODUCTORY REQUIREMENTS	
The student knows the basics of human anatomy and physiology, including the central and peripheral lymphatic organs.	
COURSE PROGRAM	**DETAILED DESCRIPTION OF THE TOPIC BLOCKS**
LECTURE 1	Introduction to the clinical immunology. Innate and adaptive immune response. HLA system. The anti-infectious response.
LECTURE 2	Congenital and acquired immunodeficiency.
LECTURE 3	Immunological tolerance and autoimmunity. Mechanisms of autoimmune diseases. Diagnostic tools in immunology. Transplantation – rules, problems and complications. Tumors immunology.
LECTURE 4	Autoimmune and autoinflammatory diseases in childhood.
LECTURE 5	Diagnosis and treatment of allergic respiratory diseases. Allergic skin diseases: atopic and contact dermatitis, urticaria.
CLASS 1	SLE. Obtaining case histories and physical examination. Interpretation of laboratory results.
CLASS 2	Systemic sclerosis. Classification. Obtaining case histories and physical examination. Interpretation of lab and imagine tests.
CLASS 3	Systemic vasculitis. Obtaining case histories and physical examination. Interpretation of lab his-pat and imagine tests.
CLASS 4	Glucocorticoid’s adverse events of and their prevention.
CLASS 5	Congenital and acquired immunodeficiency. Obtaining case histories and physical examination Interpretation of laboratory results. Flow cytometry.
CLASS 6	Sjogren syndrome, diseases of connective tissue, Hashimoto disease, celiac disease and autoimmune endocrinopathies. Capillaroscopy - description and interpretation.
CLASS 7	Allergic diseases of the upper respiratory tract (allergic rhinitis) and lower respiratory tract (bronchial asthma). Conducting medical history and physical examination.
CLASS 8	Assisting in carrying out allergological diagnostics in vivo, evaluation of the results of skin tests, intradermal and scarification tests. Distinguishing the symptoms of allergic skin diseases (atopic dermatitis, contact dermatitis, Quincke's angioedema, urticaria).

CLINICAL IMMUNOLOGY AND ALLERGOLOGY	
SEMINAR 1	Types of immunity, diagnosis of immunodeficiencies, immunological techniques and their use. Vaccinations.
SEMINAR 2	HLA system. Autoimmune diseases: genetics, immunology, clinical testing, and clinical Implications.
SEMINAR 3	Fundamentals of transplantology. Transplant rejection. Anticancer immunity. Immunotherapy.
SEMINAR 4	Epidemiology of allergic diseases. Environmental allergens. Diagnosis and treatment of allergic diseases.
DIDACTIC METHODS (APPLIED)	
	Discussion, Lectures, Bedside teaching, Case study.
STUDENTS WORKLOAD	
NUMBER OF HOURS UNDER SUPERVISION	50 hours
NUMBER OF PREPARATION HOURS	Preparation for classes: 10 hours Preparation of report, presentation, medical history: 10 hours Preparation for the exam: 20 hours
TOTAL NUMBER OF HOURS FOR THE COURSE	90 hours
CONDITIONS FOR COURSE COMPLETION	
Attendance at all lectures, classes and seminars is obligatory. The average of seminar tests ≥60% Full participation in exercises and seminars. The condition for admission to the exam is passing the classes and/or seminars.	
METHODS OF ASSESMENT	
IN TERMS OF KNOWLEDGE	Multiple choice test before all seminar
IN TERMS OF SKILLS	Case study presentation Interpretations of lab results Brainstorm
IN TERMS OF SOCIAL COMPETENCY	Not applicable.
FORMATIVE	Written test consisting of 10 questions (multiple choice test) before seminar.
SUMMATIVE (I & II TERMS)	**I term (EXAM):** multiple choice test (80 questions) **II term (RETAKE EXAM):** oral exam (5 open questions)

CLINICAL IMMUNOLOGY AND ALLERGOLOGY	
GRADING SCALE	
3,0 (SATISFACTORY)	**55-63%** of correct answers in the exam test
3,5 (SATISFACTORY PLUS)	**64-72%** of correct answers in the exam test
4,0 (GOOD)	**73-81%** of correct answers in the exam test
4,5 (GOOD PLUS)	**82-90%** correct answers in the exam test
5,0 (VERY GOOD)	**91-100%** correct answers in the exam test
BASIC LITERATURE	
[1] Immunologia. K. Bryniarski. 2017; **[2]** Essentials of Clinical Immunology. Helen Chapel. 6th Edition. 1.2014; **[3]** Immunology for medical students. 3-th edition. Matthew Helbert. 2016.	
SUPPLEMENTARY LITERATURE	
[1] Podstawy immunologii W. Ptak, M. Ptak M. Szczepanik. PZWL. 2010.	