

**Thematic plan of seminars  
in the discipline / internship "Immunology"  
for students of the educational program  
Specialist in the specialty/direction of training 31.05.01 General medicine,  
direction (profile) General medicine,  
form of study is full-time  
for the 2023-2024 academic year**

№	Thematic blocks	Hours (academic)
1.	Introduction to immunology. The concept of immunity. The subject and tasks of immunology. History of immunology. Types of immunity. The structure of the immune system. The relationship of factors of innate and acquired immunity. Organization of work and safety regulations in the immunological laboratory and the office of the allergist-immunologist.	2
2.	Antigens, nature, structure, classification, properties. Presentation of exo- and endogenous antigens. Functional organization of the immune system. Methods of studying the phagocytic activity of leukocytes.	2
3.	Humoral immune response. The cellular basis. Antibodies, nature, structure, types, functions, dynamics of production in primary and secondary immune responses.	2
4.	The complement system and its functions. Methods of studying the complement system. Complement binding reaction. Serological research methods.	2
5.	Cellular immunity. Differentiation of T-lymphocytes. Regulatory functions of T-lymphocytes. The main subpopulations of T-lymphocytes. Antigen recognition. Specific and non-specific cellular cytotoxicity, mechanism, biological significance. Methods of studying cellular immunity and cytotoxicity.	2
6.	Cytokines as factors regulating the immune response. Immunological tolerance. Genetic control of the immune response.	2
7.	<b>Concluding class on I. Section "General Immunology"</b>	2
8.	Infection and immunity <sup>1</sup> . Immune response in bacterial, viral, fungal infections, helminth infestations. Methods of "escaping" infectious pathogens from immune surveillance <sup>2</sup> .	2
9.	Immunological monitoring of infectious and non-communicable diseases. Immunoprophylaxis of infectious and non-communicable diseases.	2

10.	Immunological aspects of the tumor process. Immunology of reproduction. Autoimmune reactions.	2
11.	Immunobiotechnology. Assessment of the immune status, principles and methods. Age-related features of the immune system.	2
12.	Immunological aspects of organ and tissue transplantation.	2
13.	<b>Concluding class on II. Section "Clinical immunology"</b>	2
14.	The subject and objectives of clinical immunology. The main types of immunopathology. Principles and methods of human immune status assessment. Allergic reactions of types II, III, IV. Etiology. Immunopathogenesis. The main diseases mediated by these types of allergic reactions, clinic, principles of diagnosis and treatment.	2
15.	Immunodeficiency conditions <sup>1</sup> . Concept, classification, marker syndromes. Primary immunodeficiency conditions, classification, warning signs, principles of diagnosis and treatment <sup>2</sup> .	2
16.	Secondary immunodeficiency conditions (infectious, radiation, due to the effects of immunosuppressive agents, etc.).	2
17.	Immunotropic therapy <sup>1</sup> . Immunostimulating, monoclonal antibodies, cytokines, anti-cytokine therapy, allergen-specific immunotherapy) <sup>2</sup> . <b>Credit class.</b>	2
	<b>Total</b>	<b>34</b>

<sup>1</sup> -Subject

<sup>2</sup> - essential content (if necessary)

Considered at the meeting of the department of Immunology and allergology "31"  
May 2023, protocol No 16

Head of the Department



Belan E.B.