INTERNATIONAL HIGHER SCHOOL OF MEDICINE

Department of Special clinical disciplines

SYLLABUS
CLINICAL ALLERGOLOGY AND IMMUNOLOGY

2026-2027 academic year
for students of medical faculty
5th course IX semester 17,22,23,25,26,28,35,37 groups of the Central Campus
5th course IX semester 6,8,11 groups of the Issyk-Kul Campus
1 credit (30 h, including auditorial 18 h, independent work – 12 h)

Lecturer: **Turdubaeva Zhypar Altybaevna**
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Practical classes: **Turdubaeva Zhypar Altybaevna**
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The Syllabus is considered
at the meeting of the department of Special clinical disciplines
Protocol № 1 dated 28.08. 2026

Head of the department _____ D.A. Maktybaeva

Course Objective: The purpose of studying the elective course "Clinical Allergology and Immunology" for students of the 10th semester is to acquire knowledge in the area of immunology and allergology, as well as the principles of their diagnosis, skills and abilities to treat and prevent allergic diseases and immunodeficiency states.

Knowledge: - Criteria for the diagnosis of diseases with similar clinical and biochemical manifestations, the main pathognomonic symptoms of the most common diseases.
- Standard treatment algorithms for the most common diseases

Skill: - Identify the main characteristic clinical and biochemical signs; I dentify the leading syndrome typical for a particular pathology
-Apply standard treatment algorithms for the most common diseases in typical clinical situations

Attitude:
-Skills differential diagnosis based on the results of biochemical and clinical studies in non-standard clinical situations.
- Skills to correct the treatment of the most common diseases within the framework of standard algorithms in accordance with the principles of evidence-based med icine.

Pre-requisites. To successful study this course, student shall know:
• Anatomy
Sections: anatomical features of systems and organs, structure of organs of the immune system;
• Normal physiology.
Sections: physiology of organ systems, metabolism and energy, thermoregulation.
• Biology
Sections: theories of phagocytosis and pinocytosis; homeostasis, biological bases of immunity.
• Histology, embryology, cytology
Sections: embryogenesis of organs and tissues; histological features of the skin, bones, subcutaneous tissue, myocardium, blood vessels, lymph, macrophages, plasma cells, hematopoiesis, lymphopoiesis
• Pathological anatomy, clinical pathological anatomy
Sections: congenital malformations, diseases of the respiratory system, heart, liver, kidneys, endocrine glands; pathomorphology of immunogenesis, morphological characteristics of autoimmune diseases
• Pathophysiology, clinical pathological physiology
Sections: pathophysiological features of metabolism, neuroendocrine regulation; inflammation; pathophysiology of organ systems and hemostasis; shock, allergies, hypersensitivity.
• Microbiology and Virology
Sections: the doctrine of infections, immunity; pathogens, morphology and antigens of bacteria, viruses, anti-infectious immunity, acquired immunity, forms of the immune response.
Post-requisites. Polyclinical medicine, family medicine,pulmonology

THEMATIC PLAN OF LECTURES

№	Theme of lecture	Hours	Date
1	Immunity & Lines of immunity defense . Innate and adaptive immunity. Humoral & Cell-mediated immunity.	2	10.09.2026 08.10.2026

2	Autoimmune diseases and Immunodeficiency. Diagnostic approach to the patient with suspected Immunodeficiency	2	11.09.2026 09.10.2026
3	The definition of allergy. Classification of allergens. Pathogenesis and stages of allergic reactions. Classification of hypersensitivity reactions.	2	12.09.2026 10.10.2026
	Total	**6**	

THEMATIC PLAN OF PRACTICAL CLASSES

№	Theme of practical class	Hours	Date
1	Allergic respiratory diseases: allergic rhinitis and bronchial asthma (classification, clinical picture, diagnostic methods and basic therapy . Asthmatic status. Emergency treatment of asthmatic status.	2	October 2026
2	Allergic skin diseases: Acute urticaria and Angioedema. Classification of chronic urticaria. Principles of diagnosis and treatment.	2	October 2026
3	Atopic dermatitis. Contact dermatitis. Classification, principles of diagnosis and treatment. Differential diagnosis of allergic skin diseases.	2	October 2026
4	Allergic diseases and immunopathologic conditions affecting various organs and systems. Food allergies. Drug allergies. Serum sickness .	2	October 2026
5	Anaphylactic shock. Emergency treatment of anaphylactic shock.	2	October 2026
6	Module 1	2	October 2026
	Total	**12**	

THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS

Unit №	Theme of independent work	Hours	Date
1	Functional tests of the respiratory system: spirometry; peakfloumetry; Bronchodilation, bronchoprovocation tests.	2	Accordingly to the time table
2	Allergen-specific immunotherapy (ASIT): methods, therapy regimens in patients with allergic rhinitis and bronchial asthma	2	Accordingly to the time table
3	Nebulizer therapy	2	Accordingly to the time table
4	Allergy, the problem of allergies in the world	2	Accordingly to the time table

5	Serological methods in the diagnosis of immunological diseases. Serological methods for differentiating between IgM and IgG and determining the stage of the infectious process	2	Accordingly to the time table
6	Types of vaccines and their adverse reactions	2	Accordingly to the time table
	Total:	12	

Recommended reading for the discipline:

Basic:

- Textbook of Allergy for the Clinician
  Pudupakkam K. Vedanthan, Harold S. Nelson, Shripad N. Agashe, PA Mahesh, Rohit Katial Copyright 2021
- Abul K. Abbas, A.H. Lichtman, Shiv Pillai. Basic Immunology. Functions and Disorders of the Immune System – 6 th Edition. 2019
- Allergy in Practice. Prof.PhD Johannes Ring. Printed in Germany, Munchen 2005.

Additional:

- Allergy and Clinical Immunology (Mount Sinai Expert Guides), 1st Edition. – Hugh A. Sampson (Editor), Scott L. Friedman (Series Editor). – 2015.
- Bousquet J. et al.; J Allergy Clin Immunol 2001; 108 (5): S150-S334
- Bròzek J.L., et al.; J Allergy Clin Immunol 2010; 126: 466-76

Grading policy and procedures for all types of work

For the period of studying the discipline, the student gains points for the relevant parameters (per unit):
current score - 40 points
independent work - 20 points
control score (final assessment of knowledge per unit) - 40 points
Maximum score - 100 (40+20+40)

Grading system for student's achievements

Grading criteria per discipline				
Maximum score	Intervals			
	«unsatisfactory»	«satisfactory»	«good»	«excellent»
Current control - 40	0-23	24-30	31-35	36-40
Interval description	Does not know a significant part of the program material, makes significant	Knowledge of only basic material, significant difficulties in performing practical tasks.	High level of knowledge, skills, abilities, without significant inaccuracies	High, advanced level of knowledge, skills, abilities, skills, without inaccuracies.

	errors, does not cope with practical tasks.			
Independent work - 20	0-11	12-15	16-17	18-20
Interval description	IWS is not completed in accordance with the topic, the student makes critical errors in presentation.	IWS is partially fulfilled, the student makes some mistakes during the presentation.	IWS performed according to topics and instructions, no significant inaccuracies in presentation.	IWS are performed according to the topics and instructions at a high level, during the presentation the student confirms knowledge of the material.
Control work (module) - 40	0-23	24-30	31-35	36-40
Interval description	Student answered only 0-23 test items out of 40 correctly . In solving the situational task, more than 30% of mistakes	The student answered 24-30 test items out of 40 correctly. Up to 30% of mistakes in solving a situational task	The student answered 31-35 test items out of 40 correctly. One or two deficiencies and/or up to 10% mistakes are made in solving the situational task	The student answered 36-40 test items out of 40 correctly. Solving a situational task without deficiencies

Conduct Policy: (lateness, absence, behavior in the auditorium, late submission of work).

- Punctuality and completion of tasks.
- Mandatory attendance of classes.
- Attending class in a clean medical uniform.
- Eliminating conversations on a cell phone in the classroom.
- Active participation in the learning process.
- Doing homework on time.
- Academic detention at the time specified by the teacher.

For violations of the Conduct Policy, the total points for discipline might be reduced to 1-10 points.

Academic Ethics Policy.

- Be tolerant, respect the opinions of others.
- Formulate objections in the correct form.
- Constructively support feedback in all classes.
- Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the following: the absence of references when using printed and electronic materials, quotes, thoughts and works of other authors or students.

- Prompting and cheating during tests, exams, classes is unacceptable as well as passing an exam for another student, unauthorized copying of materials.
For violations of the Academic Ethics Policy, the total points for the discipline may be reduced to 1-10 points.

Methodological instructions for the discipline

1. Key questions of the practical class 1: « Allergic respiratory diseases: allergic rhinitis and bronchial asthma (classification, clinical picture, diagnostic methods and basic therapy) Asthmatic status. Emergency treatment of asthmatic status. 2.0 hours

1) Definition of Bronchial asthma (BA), allergic rhinitis (AR), epidemiology.
2) Factors influencing the development and manifestations of bronchial asthma.
3) Classification of BA and AR (GINA, ARIA) : Classification of bronchial asthma severity; Classification of bronchial asthma according to the level of control
4) Clinical characteristics of bronchial asthma and AR.
5) Diagnosis of bronchial asthma and AR.
6) Peakflowmetry and spirometry techniques.
7) Bronchodilation test.
8) AST (Asthma control test) test in adults and children.
9) Treatment of BA and AR depending on the form and severity.
10) Classification of inhaled glucocorticosteroids (IGCS).
11) Classification of bronchodilators
12) Medications for the treatment of AR:
- Oral H1-antihistamines
- Topical H1-antihistamines
- Glucocorticosteroids for intranasal use
- Leukotriene antagonists
- Cromones for topical use (nasal drops, eye drops)
- Oral decongestants
- Glucocorticosteroids for oral or intramuscular use
- Anticholinesterase drugs for intranasal use administration

13) Asthmatic status. Emergency care in asthmatic status

Recommended reading for the class:

1) Textbook of Allergy for the Clinician. Pudupakkam K. Vedanthan, Harold S. Nelson, Shripad N. Agashe, PA Mahesh, Rohit Katial Copyright 2021, P 80-84, 135-151, 186-203.
2) Allergy in Practice. Prof.PhD Johannes Ring. Printed in Germany, Munchen 2005. P 76-88
3) Allergy and Clinical Immunology (Mount Sinai Expert Guides), 1st Edition. – Hugh A. Sampson (Editor), Scott L. Friedman (Series Editor). – 2015, P 36-44, 91-98,123-132.

2. Key questions of the practical class 2: Allergic skin diseases: Acute urticaria and Angioedema. Classification of chronic urticaria principles of diagnosis and treatment. 2.0 hours

1) Definition and classification of urticaria.
2) Epidemiology of urticaria.
3) Classification of urticaria
4) Peculiarities of etiopathogenesis of different types of urticaria.
5) The main diagnostic criteria of urticaria.
6) Differential diagnosis of urticaria.
7) Principles of treatment of various types of urticaria.
8) Definition and classification of Angioedema

9) Clinical characteristics of angioedema
10) Treatment of angioedema

Recommended reading for the class:

1) Textbook of Allergy for the Clinician. Pudupakkam K. Vedanthan, Harold S. Nelson, Shripad N. Agashe, PA Mahesh, Rohit Katial Copyright 2021, P 268-289.
2) Allergy in Practice. Prof.PhD Johannes Ring. Printed in Germany, Munchen 2005. P 89-97
3) Allergy and Clinical Immunology (Mount Sinai Expert Guides), 1st Edition. – Hugh A. Sampson (Editor), Scott L. Friedman (Series Editor). – 2015, P 222-245.

3. Key questions of the practical class № 3. Atopic dermatitis. Contact dermatitis. Classification, principles of diagnosis and treatment. Differential diagnosis of allergic skin diseases. 2.0.hours

1) Atopic dermatitis: etiology and pathogenesis
2) Clinical manifestations of atopic dermatitis
3) Classification, principles of diagnosis and treatment of atopic dermatitis
4) External therapy for atopic dermatitis
5) Allergic contact dermatitis
6) Differential diagnosis of allergic skin diseases

Recommended reading for the class:

1) Textbook of Allergy for the Clinician. Pudupakkam K. Vedanthan, Harold S. Nelson, Shripad N. Agashe, PA Mahesh, Rohit Katial Copyright 2021, P 289-296
2) Allergy in Practice. Prof.PhD Johannes Ring. Printed in Germany, Munchen 2005. P 143-151
3) Allergy and Clinical Immunology (Mount Sinai Expert Guides), 1st Edition. – Hugh A. Sampson (Editor), Scott L. Friedman (Series Editor). – 2015, P 3-25.

4. Key questions of the practical class № 4: Allergic diseases and immunopathologic conditions affecting various organs and systems: Food allergies. Drug allergies. Serum sickness . 2.0.hours

1) Etiology and pathogenesis of food allergies
2) Clinical manifestations of food allergies
3) Specific diagnosis of food allergy
4) Differential diagnosis of food allergy
5) Treatment of food allergies
6) Drugs as allergens
7) Drug intolerance and drug allergy
8) Clinical manifestations of drug allergy
9) Skin, mucous membranes and visceral lesions in drug allergy
10) Specific diagnosis of drug allergy
11) Prevention of drug allergies

12) Serum sickness
13) Allergic complications of vaccination and their prevention

Recommended reading for the class:

1) Textbook of Allergy for the Clinician. Pudupakkam K. Vedanthan, Harold S. Nelson, Shripad N. Agashe, PA Mahesh, Rohit Katial Copyright 2021, P 310-326, 332-344
2) Allergy in Practice. Prof.PhD Johannes Ring. Printed in Germany, Munchen 2005. P 104-114, 130-140
3) Allergy and Clinical Immunology (Mount Sinai Expert Guides), 1st Edition. – Hugh A. Sampson (Editor), Scott L. Friedman (Series Editor). – 2015, P 132-140, 148-165, 191-200, 294-308.

5. Key questions of the practical class № 5 Anaphylactic shock. Emergency treatment of anaphylactic shock. 2.0.hours

1) Anaphylactic shock :
2) Etiology and pathogenesis of anaphylactic shock
3) Clinical manifestations of anaphylactic shock
4) Classification , stages of anaphylactic shock
5) Emergency therapy in anaphylactic shock
6) Prevention of anaphylactic shock

Recommended reading for the class:

1) Textbook of Allergy for the Clinician. Pudupakkam K. Vedanthan, Harold S. Nelson, Shripad N. Agashe, PA Mahesh, Rohit Katial Copyright 2021, P 240-256
2) Allergy in Practice. Prof.PhD Johannes Ring. Printed in Germany, Munchen 2005. P 97-104
3) Allergy and Clinical Immunology (Mount Sinai Expert Guides), 1st Edition. – Hugh A. Sampson (Editor), Scott L. Friedman (Series Editor). – 2015, P 256-267

6. Practical class № 6: 2.0 hours
Module № 1: Clinical Allergology and Immunology
Survey (testing) of students.
Solving situational tasks.
Calculation of the individual rating of students in unit number 1.

Methodological instructions for the implementation of independent work on the discipline
Important role in the study of the discipline played by rational means: the methods of independent work organization, working conditions, daily routine, equipment labor, etc.
During the study of the discipline identify the following types of independent student learning:
- hearing lectures, participation in seminars, performance of practical and laboratory works;
- development of the topics of the lectures and seminars, performance of practical and laboratory works students of the correspondence form of training (FTRA);
- preparation of abstracts and course works, writing of the thesis; the preparation of modular control and examination;
- work with literature etc. Each of these types requires students resistant independent work.
In the process of preparation for the seminar, students independently practice literature (educational,

methodological, scientific), learn to critically evaluate various sources of knowledge. The researcher organizes a discussion on pre-determined topics for which students prepare abstracts or individually completed abstracts. Such seminars are also called discussion seminars.

For independent work to be effective, the student must be deeply aware of its necessity, purpose and further usefulness for themselves. Mandatory conditions for successful implementation are:

- accurate and specific definition of the task,
- its motivation,
- the presence and knowledge of the student's methods of implementation, timing, forms and types of control, the

provision of advisory assistance by the teacher.

Materials for independent work, its volumes are selected by the scientific and pedagogical worker, he also defines

schedules, terms of performance, forms of control. Develops a system of tasks, topics of abstracts, course, qualification, diploma works, methodical recommendations and instructions, lists of obligatory and additional literature.