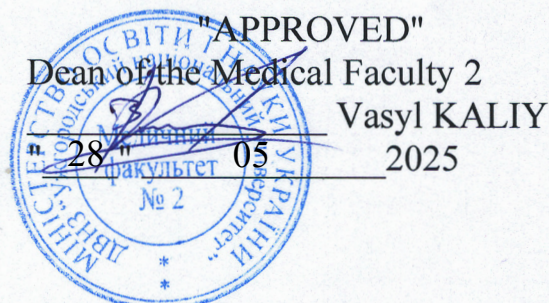


**STATE UNIVERSITY
"UZHHOROD NATIONAL UNIVERSITY"
MEDICAL FACULTY 2
Department of Internal Medicine**



SYLLABUS

EC 10. Elective course “ Current issues of Clinical Immunology and Allergology ”

Educational level	Second (Master)
Subject area	22 "Health" / I "Health and Social Welfare"
Specialty	222 "Medicine" / I2 "Medicine"
Educational program	"General Medicine"
Discipline status	Elective
The language of instruction	English

Elective course “ Current issues of Clinical Immunology and Allergology ” syllabus for higher education seekers of the subject area 22 "Health" / I "Health and Social Welfare", specialty 222 "Medicine"/ I2 "Medicine", educational program "General medicine".

(name of the educational discipline)

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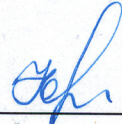
The syllabus was discussed and approved at the meeting of the Department
of Internal Diseases

Minutes № 11 of "28" May 2025

Head of the Department  /Marianna TOVT-KORSHYNSKA/

Approved by the Scientific-Methodical Commission of the Medical Faculty 2

Minutes № 9 of "28" May 2025

Head of the Scientific-Methodical Commission  /Nataliia MALETS/

1. DESCRIPTION OF THE EDUCATIONAL SUBJECT

Name of indicators	Distribution of academic hours according to the curriculum	
	Full-time study	Extramural form of study
ECTS credits – 10	Year of training:	
Total number of hours – 90	6	-
Number of modules – 1	Semester:	
Weekly academic hours for full-time study: class-room academic hours - 6 student's self-study hours - 3	XI	-
	Lectures:	
	-	-
	Practical classes (seminars):	
	-	-
Type of final control: credit	Laboratory classes (clinical):	
	70	-
Form of final control: complex	Self-study:	
	20	-

2. PURPOSE OF THE EDUCATIONAL SUBJECT

The purpose of studying the discipline: **Elective course “ Current issues of Clinical Immunology and Allergology ”** is to create in students a holistic understanding of immune system diseases and allergies, particularly immunodeficiencies, asthma, allergic rhinitis and other hypersensitivity variants, including emergency situations.

According to the educational program, the study of the discipline contributes to the formation of the following competencies in higher education seekers:

General Competencies:

- GC 1. Ability to analysis and synthesis, abstract thinking.
- GC 2. Ability to learn and master modern knowledge.
- GC 3. Ability to apply knowledge in practical situations.
- GC 4. Knowledge and understanding of the subject and professional activity.
- GC 5. Ability to adapt the information and manage a new situations.
- GC 6. Ability to make informed decisions.
- GC 7. Ability to work in a team.
- GC 8. Ability to interpersonal interaction.
- GC 11. Ability to search, process and analyze information from various sources.

Professional (Special) Competencies:

- PC 1. The ability to collect medical information about the patient and analyze clinical data.
- PC 2. The ability to determine necessary panel of laboratory and instrumental research and to evaluate their results.
- PC 3. The ability to establish a preliminary and a clinical diagnosis of the disease.
- PC 4. The ability to determine the required mode of work and rest in the treatment of diseases.
- PC 5. The ability to determine therapeutic nutrition in the treatment of diseases.
- PC 6. The ability to determine the principles and nature of disease treatment and prevention.
- PC 7. The ability to diagnose emergencies.
- PC 8. The ability to determine the tactics of providing emergency care.
- PC 10. The ability to perform medical manipulations.
- PC 11. The ability to solve medical problems in new or unfamiliar environments having incomplete or limited information, taking into account aspects of social and ethical responsibility.
- PC 15. The ability to conduct a functional capacity evaluation.
- PC 16. The ability to maintain medical records, including those in electronic format.
- PC 21. The ability to clearly and unambiguously convey one's own knowledge, conclusions and arguments on health care issues as well as related issues to specialists and non-specialists, in particular to people who are studying.

PC 22. The ability to manage healthcare workflows that are complex, unpredictable and require new strategic approaches.

PC 23. The ability to develop and implement scientific and applied projects in the health care field.

PC 24. To comply with ethical principles when working with patients and laboratory animals.

PC 25. To observe professional and academic integrity, bear responsibility for the reliability of the obtained scientific results.

The educational process requires the student's participation in the management of patients. If you can not get access to patients of any category, students fill the educational Case History of the disease diagnoses / problems within a category. The need for writing such a history is determined as an assistant / associate professor (department head teacher) based on weekly data review of relevant patients in the wards.

The course is conducted in hospitals that provide emergency service. Each student has a weekly basis in a hospital to work in the new 3 / undifferentiated patients. Throughout the course, students examine weekly 6-10 patients under the supervision. The number of patients, responsibility for which lies with the student, determined by the complexity of cases and shown student readiness to participate in the treatment of additional patients. It is expected that students will take a full part in the conduct at least 2/3 of hospitalized patients.

Additional classes are held during the morning round, lectures and workshops. Assessment of student filling history teacher and statements executed in the process of the patient.

The purpose of current issues of clinical immunology and allergology learning is based on the knowledge acquired in previous years according to the educational qualification characteristics of the doctor (EQC) student after the module 1 should know to:

- demonstrate ability to diagnose and represent treatment plan for the most common states in immunology and allergology.
- demonstrate the ability to use diagnostic methods that help in the decision making (treatment plan) for the management of various diseases of immune system.
- evaluate immune status.
- apply the principles of evidence-based medicine in making diagnostic and therapeutic decisions in allergic and immune diseases.
- know the primary and secondary risk factors for major immune and allergic diseases.
- know the principles of immunocorrection and immunorehabilitation.
- know the main classes of drugs used in immunology (allergology), show ability to apply appropriate clinical and pharmacological principles for the management of patients with the most common diseases of immune system.
- demonstrate the ability to make medical history and perform a physical examination.
- demonstrate the ability to assess the health status in adults and the use of appropriate recommendations for prevention.
- demonstrate the ease of use of health information technology and critical expert assessments of medical literature in the diagnosis and treatment in immunology and allergology.
- diagnose and provide urgent medical help for allergic emergencies.

Students must hold a curation of patients (new or those already being treated) with the following diseases:

- Asthma.
- Immunodeficiency.
- Food/drug allergy or pollinosis
- Autoimmune disease.

- emergencies in allergology.

The educational process must ensure student participation in the conduct of at least 2/3 of hospitalized patients. If you can not get access to patients of any category, students fill the educational history of the disease diagnoses / problems within a category. The need for writing such a history lecturer is determined on the basis of weekly review of relevant data of patients in the ward.

Student should be able to:

- conduct a survey and physical examination of patients with asthma, allergic rhinitis, urticaria, angioedema, immunodeficiency, autoimmune diseases.
- justify the use of major invasive and non-invasive diagnostic methods used in immunology and allergology, determine the indications and contraindications for their conduct, complications.
- determine the etiologic and pathogenetic factors of major immune diseases.
- identify typical clinical picture of major immune diseases.
- identify different major complications of asthma.
- make a plan of survey of patients with major immune disease.
- conduct differential diagnosis, justify and formulate diagnosis of major immune diseases based on data analysis of laboratory and instrumental examination.
- appoint treatment, conduct primary and secondary prevention of major immune diseases.
- diagnose and assist in acute asthma complications.
- measure and interpret functional respiratory testing.
- diagnose and care in the asthma attack.
- diagnose and care in asthmatic status.
- diagnose and care in anaphylactic shock.
- diagnose and care in acute urticaria/angioedema.
- identify common variants of immunodeficiency/allergy.
- develop a plan of examination of patients with immunodeficiency/allergy.
- conduct differential diagnosis, justify and formulate diagnosis of immunodeficiency/allergy.
- demonstrate the moral and ethical principles of medical specialist and principles of professional subordination.

3. PREREQUISITES FOR STUDYING THE EDUCATIONAL SUBJECT

Prerequisites for studying the discipline "Clinical Immunology and Allergology" are mastering the following educational subjects (ES) of the educational program (EP):

ES 6.	Medical biology
ES 9.	Bioorganic chemistry
ES 10.	Human anatomy
ES 11.	Histology, Cytology and Embriology
ES 12.	Physiology
ES 14.	Biochemistry
ES 21.	Patophysiology
ES 22.	Pharmacology
ES 23.	Propaedeutics of Internal Medicine
ES 29	Internal medicine, including endocrinology, medical genetics
ES 42	Clerkship
ES 43	Internal medicine II, including clinical pharmacology, clinical immunology and allergology, occupational diseases

E53	Clerkship II
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4. EXPECTED RESULTS OF EDUCATION

According to the educational program of an Elective Course "**Current Issues Of Clinical immunology and allergology**", study of the educational program must ensure the achievement of higher education applicants such prognostic results of education (PLO):

Program Learning Outcomes	Code PLO
To have thorough knowledge of the structure of professional activity. To be able to carry out professional activities that require knowledge updating and integration. To be responsible for professional development as well as to be able to carry out further professional training with a high level of autonomy.	PLO 1
To understand and possess a decent knowledge of fundamental and clinical biomedical sciences, at a level sufficient for solving professional tasks in the field of health care.	PLO 2
To have specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine as well as related interdisciplinary problems.	PLO 3
To distinguish and identify leading clinical symptoms and syndromes (according to the list 1); according to standard methods, using preliminary data of the patient's history, data of the patient's examination, knowledge about the human, human's organs and systems, establish a preliminary clinical diagnosis of the disease (according to the list 2)	PLO 4
To collect complaints, history of life and diseases, evaluate psychomotor and physical development of the patient, state of organs and systems of the body, based on the results of laboratory and instrumental studies, evaluate information regarding the diagnosis (according to the list 4), taking into account the age of the patient.	PLO 5
To establish a final clinical diagnosis by making a reasoned decision and analyzing the received subjective and objective data of a clinical and follow-up examination, to carry out differential diagnosis, upholding relevant ethical and legal standards, under the control of the managing physician within the health care facility (according to the list 2).	PLO 6

<p>To assign and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) (according to the list 4) of patients with diseases of organs and body systems for carrying out differential diagnosis of diseases (according to the list 2).</p>	<p>PLO 7</p>
<p>To determine the main clinical syndrome or preconditions for the severity of the condition of the victim/the injured (according to the list 3) by making a reasoned decision and assessing the person's condition under any circumstances (within or outside a health care facility), both in conditions of emergency and hostilities as well as in field conditions, in conditions of lack of information and limited time.</p>	<p>PLO 8</p>
<p>To determine the nature and principles of treatment (conservative, operative) of patients with diseases (according to the list 2), taking into account the patient's age, within or outside a health care facility and at the stages of medical evacuation, including in field conditions, on the basis of a preliminary clinical diagnosis, upholding relevant ethical and legal standards, by making a reasoned decision according to existing algorithms and standard schemes; in case of the need to expand the standard scheme, be able to justify personalized recommendations under the control of the managing physician within a medical facility.</p>	<p>PLO 9</p>
<p>To determine the necessary mode of work, rest and nutrition on the basis of the final clinical diagnosis, upholding relevant ethical and legal standards by making a reasoned decision according to existing algorithms and standard schemes.</p>	<p>PLO 10</p>
<p>To determine tactics and provide emergency medical care in emergency situations (according to the list 3) in limited time conditions according to existing clinical protocols and standards of treatment.</p>	<p>PLO 14</p>
<p>To perform medical manipulations (according to the list 5) within a medical facility, at home or at work based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, upholding relevant ethical and legal standards.</p>	<p>PLO 17</p>
<p>To determine the state of functioning and limitations of a person's vital activities and the duration of work incapacity with the preparation of relevant documents, within a health care facility, based on data about the disease and its history, peculiarities of the person's professional activity, etc. To maintain medical documentation regarding the patient and the contingent of the population on the basis of the regulatory documents.</p>	<p>PLO 18</p>

List 1 (syndromes and symptoms)

1. Amenorrhea
2. Acromegaly
3. Anemic syndrome
4. Anuria and oliguria
7. Chest pain
8. Abdominal pain
9. Pain in the limbs and back
11. Sore throat
12. Vomiting
13. Bronchoobstructive syndrome
15. Pleural effusion
17. Fever
21. Exanthema, enanthema
22. Hepatomegaly and hepatolienal syndrome
23. Headache
24. Dysuria
30. shortness of breath
31. asphyxia
34. growth retardation in a child
35. cardiomegaly
43. lymphadenopathy
46. edematous syndrome
49. premature sexual development
60. itchy skin
61. urinary syndrome
64. indigestion syndrome
65. thirst
66. stridor
67. joint syndrome
69. weight loss
70. cyanosis

List 2 (diseases)

Eye diseases

27. blepharitis

29. conjunctivitis

32. retinopathy

Diseases of the throat, ear, nose

34. laryngitis

38. tonsillitis

39. injuries of the throat, ear, nose

V) Respiratory and mediastinal diseases:

60. asphyxia

61. bronchial asthma

66. acute respiratory distress syndrome

67. respiratory failure

69. pulmonary insufficiency

71. cystic fibrosis

73. pleurisy

75. pneumonia

pyloric stenosis

VIII) Diseases of the skin and subcutaneous tissue:

121. allergic dermatoses (dermatitis, toxidermia, eczema)

1128. psoriasis

129. bullous dermatoses

IX) Diseases of the musculoskeletal system and connective tissue:

140. reactive arthritis

143. systemic lupus erythematosus

144. systemic vasculitis (polyarteritis nodosa, hemorrhagic vasculitis, hypersensitivity vasculitis)

List 3 (emergency conditions)

1. asphyxia (including neonatal)

4. acute respiratory failure

5. acute urinary retention

9. acute heart failure

25. acute anaphylactic reactions

35. snake, insect, animal bites

List 4 (laboratory and instrumental studies)

1. pleural fluid analysis

2. ascitic fluid analysis

3. synovial fluid analysis

7. blood proteins and their fractions, C-reactive protein

11. blood hormones

14. blood electrolytes

32. general blood test

38. general immunological blood profile

39. serological reactions in infectious diseases

40. rapid tests for viral diseases

41. amplification methods in infectious diseases (PCR, LLR)

42. serological reactions in autoimmune diseases

List 5 (medical manipulations)

1. perform indirect heart massage

2. perform artificial respiration

3. perform defibrillation using a manual automatic defibrillator-cardioverter

4. record a standard ECG in 12 leads

7. apply a

List 3 (emergency conditions)

1. asphyxia (including neonatal)

2. hypertensive crisis

3. hypoglycemia (coma)
4. acute respiratory failure
5. acute urinary retention
6. acute adrenal insufficiency
7. acute kidney injury
8. acute liver failure
9. acute heart failure
10. acute poisoning, incl. combat toxic agents
11. acute psychosis
12. acute coronary syndrome
13. acute radiation and chemical injuries, including in field conditions and in emergency situations
14. acute cerebral insufficiency
15. diabetic coma, including ketoacidotic, hyperosmolar, lacticidemic
16. electrical trauma
17. epileptic status
18. acute bleeding
19. acute blood loss syndrome, including in field conditions and in emergency situations
20. sudden cardiac arrest
21. collapse
22. impaired consciousness and comatose states
23. renal colic
24. biliary colic
25. acute anaphylactic reactions
26. acute cardiac arrhythmias,
27. cold trauma, including in the field
28. thermal trauma, incl. in the field
29. venous and arterial thromboembolism
30. convulsive syndrome
31. drowning
32. strangulation asphyxia
33. normal childbirth
34. shock
35. snake, insect, animal bites
36. penetrating wounds, incl. during combat operations
37. burns, incl. in the field
38. Foreign bodies of the respiratory tract, gastrointestinal tract, ENT organs and eye

List 4 (laboratory and instrumental studies)

1. pleural fluid analysis
2. ascitic fluid analysis
3. synovial fluid analysis
4. urine analysis according to Zimnytsky
5. urine analysis according to Nechyporenko
6. alpha-amylase activity in blood and urine, fecal elastase 1
7. blood proteins and their fractions, C-reactive protein
8. blood glucose, glycosylated hemoglobin,
9. oral glucose tolerance test
10. blood lipids and lipoproteins and their fractions
11. blood hormones

12. ferritin, iron and copper in blood serum
13. creatinine, blood urea and urine, glomerular filtration rate
14. blood electrolytes
15. blood aminotransferases
16. total blood bilirubin and its fractions
17. coagulogram
18. blood uric acid
19. blood alkaline phosphatase
20. histomorphological examination of lymph node biopsy
21. histomorphological examination of parenchymal organs biopsy
22. histomorphological examination of mucous membrane biopsy
23. histomorphological examination of muscle and skin biopsy
24. histomorphological examination of placenta
25. examination of the internal environment of the premises (indicators of microclimate, natural and artificial lighting, bacteriological and chemical air pollution).
26. study of external respiratory function
27. standard ECG (12 leads)
28. endoscopic examination of the bronchi
29. endoscopic examination of the digestive tract
30. echocardiography and dopplerography
31. general stool analysis
32. general blood test
33. general urine analysis
34. sugar and acetone in urine
35. general cerebrospinal fluid analysis
36. general sternal puncture analysis
37. general sputum analysis
38. general immunological blood profile
39. serological reactions in infectious diseases
40. rapid tests for viral diseases
41. amplification methods in infectious diseases (PCR, LLR)
42. serological reactions in autoimmune diseases
43. chemical and bacteriological studies of the human environment (atmospheric air, water bodies, soil).
44. microbiological examination of biological fluids and secretions
45. measurement of radiation (sound, vibration, ionizing), individual radiometry.
46. methods of instrumental visualization of the thyroid gland
47. radiocontrast angiography
48. methods of instrumental visualization of the abdominal cavity organs
49. methods of instrumental visualization of the thoracic cavity organs
50. methods of instrumental visualization of the genitourinary system
51. methods of instrumental visualization of the fetus
52. methods of instrumental visualization of the skull, spine, spinal cord, bones and joints
53. methods of instrumental visualization of the breast
54. tuberculin diagnostics
55. multi-moment fractional study of bile and pH-metry of the stomach and esophagus
56. chemical, organoleptic, bacteriological examination of food and drinking water
57. cytological examination of the cervix

58. measurement of ergonomic indicators of the severity and intensity of labor.

List 5 (medical manipulations)

1. perform indirect heart massage
2. perform artificial respiration
3. perform defibrillation using a manual automatic defibrillator-cardioverter
4. record a standard ECG in 12 leads
5. temporarily stop external bleeding
6. perform primary surgical treatment of the wound, dressing, removal of skin sutures, including in field conditions
7. apply a hemostatic tourniquets
8. install a nasogastric and orogastric tube
10. carry out the administration of medicinal substances (intravenous jet and drip, intraosseous), including in the field
11. provide peripheral venous access
12. measure blood pressure
13. restore airway patency

ELO code	Expected learning outcomes of the discipline	PLO code
ELO 1	The ability to carry out professional activities based on updating and integrating knowledge. The ability to be responsible for professional development, as well as to carry out further professional training with a high level of autonomy.	PLO 1
ELO 2	The ability to possess a decent knowledge of basic and clinical biomedical sciences at a level sufficient to solving professional tasks in the field of health care.	PLO 2
ELO 3	Possession of specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine as well as related interdisciplinary problems.	PLO 3
ELO 4	Ability to distinguish and identify leading clinical symptoms and syndromes (according to list 1); according to generally accepted methods, using preliminary medical history data, patient examination data, knowledge about a person, human organs and systems, establish a preliminary clinical diagnosis of the disease (according to list 2)	PLO 4

ELO 5	The ability to collect complaints, history of life and diseases, evaluate psychomotor and physical development of the patient, state of organs and systems of the body, based on the results of laboratory and instrumental studies, evaluate information regarding the diagnosis (according to the list 4), taking into account the age of the patient.	PLO 5
ELO 6	The ability to establish a final clinical diagnosis by making a reasoned decision and analyzing the received subjective and objective data of a clinical and follow-up examination, to carry out differential diagnosis, upholding relevant ethical and legal standards, under the control of the managing physician within the health care facility (according to the list 2).	PLO 6
ELO 7	Ability to assign and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) (according to the list 4) of patients with diseases of organs and body systems for carrying out differential diagnosis of diseases (according to the list 2).	PLO 7
ELO 8	Ability to determine the main clinical syndrome or preconditions for the severity of the condition of the victim/the injured (according to the list 3) by making a reasoned decision and assessing the person's condition under any circumstances (within or outside a health care facility), both in conditions of emergency and hostilities as well as in field conditions, in conditions of lack of information and limited time.	PLO 8
ELO 9	Ability to determine the nature and principles of treatment (conservative, operative) of patients with diseases (according to the list 2), taking into account the patient's age, within or outside a health care facility and at the stages of medical evacuation, including in field conditions, on the basis of a preliminary clinical diagnosis, upholding relevant ethical and legal standards, by making a reasoned decision according to existing algorithms and standard schemes;	PLO 9
ELO 10	Ability to determine the necessary mode of work, rest and nutrition on the basis of the final clinical diagnosis, upholding relevant ethical and legal standards by making a reasoned decision according to existing algorithms and standard schemes.	PLO 10

ELO 11	Ability to determine tactics and provide emergency medical care in emergency situations (according to the list 3) in limited time conditions according to existing clinical protocols and standards of treatment.	PLO 14
ELO 12	Ability to perform medical manipulations (according to the list 5) within a medical facility, at home or at work based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, upholding relevant ethical and legal standards.	PLO 17
ELO 13	Ability to determine the state of functioning and limitations of a person's vital activities and the duration of work incapacity with the preparation of relevant documents, within a health care facility, based on data about the disease and its history, peculiarities of the person's professional activity, etc. To maintain medical documentation regarding the patient and the contingent of the population on the basis of the regulatory documents.	PLO 18

5. ASSESSMENT TOOLS AND METHODS FOR DEMONSTRATING RESULTS OF EDUCATION:

Educational results evaluation forms:

PLO 1 – oral answer.

PLO 2 – clinical examination of the patient (solving clinical problems (oral, written, simulation scenario performance)).

PLO 3 – clinical analysis of the patient (solving clinical problems), test problems, analysis of prescription letters and their correction, simulation scenario performance.

PLO 4 – clinical examination of the patient (solving clinical problems), test tasks, evaluation of laboratory research results, analysis and evaluation of instrumental research results and parameters characterizing the functions of the human body, simulation scenario performance.

PLO 5 – test tasks, solving situational problems, conducting laboratory studies and evaluating their results, analyzing and evaluating the results of instrumental studies and parameters characterizing the functions of the human body, simulation scenario performance.

PLO 6 – patient care, solving test problems, situational problems, evaluation of laboratory research results, analysis and evaluation of instrumental research results and parameters characterizing the functions of the human body, simulation scenario performance.

PLO 7 – analysis of prescription letters and their correction, solving test tasks (oral, written, computer), simulation scenario performance

PLO 8 – Case History, solving test tasks (oral, written), oral interview, simulation scenario performance.

PLO 9 – demonstration of practical skills in providing emergency medical care on a dummy in a simulation center, oral interview.

PLO 10 – demonstration of medical manipulation on a dummy, solving test tasks (oral, written), oral interview.

PLO 11 – clinical examination of the patient (solving clinical problems), solving test problems (oral, written), oral interview, medical informational systems use.

Study results evaluation forms and criteria:

- Forms of current control: clinical examination of the patient (solving clinical problems), solving test tasks, evaluating the results of laboratory tests, analyzing and evaluating the results of instrumental tests, demonstrating medical manipulation on a dummy, oral response, simulation scenario performance.
- Form of module control: conducting and evaluating the modular control work (computer testing, written control work to assess theoretical knowledge and practical skills in accordance with the lists determined by the discipline program), independent work (diary), summation with points of current success and issuing a modular evaluation (points per module).
- Final control: credit.

The distribution of grades

Module 1

Current evaluation and individual work											Module control	Total
T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	Individual work		
10	10	10	10	10	10	10	10	10	10	20	80	200

Evaluation of some educational work divisions

Division of work	Number	Maximal number of points (total)	Number	Maximal number of points (total)	Number	Maximal number of points (total)
Module 1						
Practical classes	10	100				
Tests (oral, written, electronic) in topics evaluation	10	5				
Clinical work with simulation patients (clinical cases solving, simulation scenario performance)		5				
Diaries in Case History	1	20				
Module control work		80				
Clinical work with simulation patients (clinical cases solving, simulation scenario performance)	4	10				
Diaries in Case History	1	10				
Module control work	1	70				
Разом		200				

Evaluation criteria for module control work

The grade for the module (final module test) is defined as the sum of the grades of the current learning activity (in points), independent work (keeping a diary) and the grade of the module test (in points).

The maximum number of points assigned to students for mastering each module is 200, including 120 points for the current educational activity, 10 points for keeping a diary, and 70 points

for the module test.

Current control is carried out at each clinical session according to the specific goals of each topic.

Evaluation of current educational activities:

The weight of each topic within one module must be the same, but may be different for different modules of the same discipline and is determined by the number of topics in the module.

When mastering each topic of the module for the current educational activity, the student is given grades on a traditional 4-point scale, which are then converted into points depending on the number of topics in the module. The program used the following conversion system of the traditional evaluation system

Traditional scale	Points convertation							
	<i>Module 1</i>	<i>Module 2</i>	<i>Module 3</i>	<i>Module 4</i>	<i>Module 5</i>	<i>Module 6</i>	<i>Module 7</i>	
"5"	10-12	10-12	10-12	21-24	21-24	21-24	21-24	
"4"	8-9	8-9	8-9	16-20	16-20	16-20	16-20	
"3"	6-7	6-7	6-7	12-15	12-15	12-15	12-15	
"2"	0-5	0-5	0-5	0-11	0-11	0-11	0-11	

The maximum number of current success points that a student can gain while studying the module is 120 points. It is calculated by multiplying the number of points corresponding to the grade "5" by the number of topics in the module.

The minimum number of points of the current success rate, which the student must obtain when studying the module, is equal to 60 points. It is calculated by multiplying the number of points corresponding to the grade "3" by the number of topics in the module.

Evaluation of independent work:

Assessment of independent work of students, which is provided for in the topic along with classroom work, is carried out during the current control of the topic in the corresponding classroom lesson. The evaluation of topics that are assigned only to independent work and are not included in the topics of classroom training sessions is controlled by the performance of the modular control work on the final modular control. At the same time, keeping a diary is evaluated.

Final modular control:

The final module control is carried out after the study of all topics of the module is completed. It is held in the last lesson after the modular control work. The final module test is conducted using computer and written testing. The form of conducting modular control work should be standardized and include control of theoretical and practical training.

The maximum number of points that a student can receive for a modular control work is 70 points: of them: 30 points for testing, 40 points for written control tasks. The modular control work is considered passed if the student has scored at least 45 points.

All students are required to pass the test control of the tests from the bases and booklets of STEP 2. Mandatory test control is considered completed if at least 80% of the offered tests are successfully solved. Students who have not passed the mandatory test control are not allowed to take the final control of the discipline.

Evaluation criteria for the final control of the discipline

The form of final control in the academic discipline "Internal Medicine" is a credit. The

traditional grade "passed" is issued only to students who have passed all modules in the discipline. To convert to ECTS ratings in the range from A to E, the average number of points of the seven modules on which the educational discipline is structured is calculated.

A grade of FX ("failed") in the discipline is assigned to students:

- who failed to pass at least one module in the discipline after completing its study;
- who did not score the minimum number of points for the current educational activity;
- who did not pass the modular test.

Such students have the right to repeat the final module control, no more than 2 times according to the schedule established by the dean's office.

Students who received an FX ("failed") in the discipline, but were able to improve their rating to an E before the assessment, are assigned a final grade. Students who had an F grade but upgraded to FX- must take credit. It is possible to raise the grade on the test by one rating position. Moreover, points for successful improvement are assigned below the lower limit of this rating, in the terms determined by the dean's office from the head of the department for all subjects of the subject "Internal Medicine" in the 6th year.

Students who received a grade of F ("failed") at the end of the discipline (did not complete the study program from at least one module, or did not score the minimum number of points for the current study activity from the module) must undergo repeated training according to an individual study plan.

Assessment criteria for module and final control

The criteria for successful completion of student's assessment may be reaching the minimum thresholds for each planned level of control.

Conversion of the into ECTS and traditional scales:

Total number of points	ECTS grade	Traditional scale
180 – 200	A	passed
164-179	B	
148-163	C	
128-147	D	
120-127	E	
70-119	FX	not passed
0-69	F	not passed

6. SYLLABUS

6.1. The content of the discipline

Module 1: Current issues of Clinical Immunology and Allergology

Topic 1. Principles of immune status evaluation, diagnosis of the immune disorders.

Immunity. Approach to the patient with immune disorders and autoimmune diseases. The principles of immune status evaluation. Diagnostic levels of laboratory immune status evaluation. Immunochemical methods of laboratory testing. Immunohistology and immunogenetics in immunology. The principles of general haematology and immunogram results interpretation in physician's practice.

Topic 2. Principles of immune insufficiency and immunodeficiency treatment.

Basic groups of medicines used in immune insufficiency and immunodeficiency treatment. Principles of autoimmune diseases treatment. Classification, properties, principles of administration of basic groups of immunotropic medicines (thymic, synthetic, natural preparations, interferons, vaccines etc.). Prophylaxis of immune disorders in patients with internal diseases leading to the immune insufficiency and secondary immunodeficiency. Vaccination.

Topic 3. Principles of allergic diseases diagnosis.

Type of immune (hypersensitivity) reactions (by Gell and Coombs). Allergic diseases risk factors. Classification of allergens. Immunopathogenesis of allergic diseases. Method of collection of allergological anamnesis. Skin and provocation allergic tests. Mechanisms of pseudoallergy. Principles of diagnosis and differential diagnosis of pseudoallergy.

Topic 4. Principles of allergies treatment.

General rules of allergen elimination and patients' education. Specific desensitization. Basic groups of medicines for allergy and pseudoallergy treatment: antihistamines, corticosteroids (topical and systemic), mast cells membrane stabilizers, leukotriene receptors blockers etc. Features of different generations of antihistamines. Mechanisms of action, indications, contraindications side effects of medicines used in allergies treatment.

Topic 5. Respiratory allergies: allergic rhinitis, pollinosis, allergic asthma. Allergic alveolitis.

Definition, etiology, pathogenesis, clinical signs, diagnosis, differential diagnosis, treatment and prophylaxis of respiratory allergies (allergic rhinitis, pollinosis and bronchial asthma), allergic alveolitis. Allergic, toxic and idiopathic alveolites: definition, aetiology, pathogenesis, clinical signs, diagnosis, differential diagnosis, treatment and prophylaxis.

Topic 6. Food allergy. Urticaria.

Classification of food hypersensitivity. Aetiology, pathogenesis, clinical signs, diagnosis, differential diagnosis and treatment of food allergy and pseudoallergy. Urticaria. Celiac disease (gluten intolerance). FODMAPs intolerance.

Topic 7. Drug allergy.

Classification of side (adverse) effects of preparations. Mechanisms of hypersensitivity reactions during drug administration. Allergy against penicillin, NSAIDs, iodine-containing radiocontrast remedies, antihypertensive preparations (ACE-inhibitors, beta-blockers etc.). Diagnosis and treatment of drug allergy.

Topic 8. Emergency conditions in allergic diseases patients. Angioedema. Anaphylactic shock.

Definition, aetiology, pathogenesis, clinical signs, diagnosis, differential diagnosis, treatment and prophylaxis of angioedema and anaphylaxis. Severe and life-threatening asthma. Anaphylactic shock. Etiology, pathogenesis, clinical presentation and severity evaluation, laboratory diagnostics, treatment strategy.

Topic 9. Emergency conditions in allergic diseases patients. Severe and life-threatening asthma. Toxic-allergic reactions. Hypersensitivity vasculitis (serum sickness) etc.

Definition, aetiology, pathogenesis, clinical signs, diagnosis, differential diagnosis, treatment and prophylaxis of drug-induced and food-dependent toxic-allergic reactions: aetiology, pathogenesis, clinical presentation and severity evaluation, laboratory diagnostics, treatment strategy. Lyell's syndrome. Stevens-Johnson syndrome. Hypersensitivity vasculitis.

Final test for the Module 1 “Current issues of Clinical Immunology and Allergology”.

6.2. The structure of the discipline

Titles of content modules and topics	Number of hours					
	Form of study: daytime					
	Total	including				
		lectur es	practic al classes (semin ars	laborato ry classes	Individ ual work	Self- study
Module 1: Current issues of Clinical Immunology and Allergology						
Topic 1. Principles of immune status evaluation, diagnosis of the immune disorders.	8	-	-	6	-	2
Topic 2. Principles of immune insufficiency and immunodeficiency treatment.	10	-	-	8	-	2
Topic 3. Principles of allergic diseases diagnosis.	10	-	-	8	-	2

Topic 4. Principles of allergies treatment.	8	-	-	6	-	2
Topic 5. Respiratory allergies: allergic rhinitis, pollinosis, allergic asthma. Allergic alveolitis.	10	-	-	8	-	2
Topic 6. Food allergy. Urticaria.	10	-	-	8	-	2
Topic 7. Drug allergy.	10	-	-	8	-	2
Topic 8. Emergency conditions in allergic diseases patients. Angioedema. Anaphylactic shock.	10	-	-	8	-	2
Topic 9. Emergency conditions in allergic diseases patients. Severe and life-threatening asthma. Toxic-allergic reactions. Hypersensitivity vasculitis (serum sickness) etc.	10	-	-	8	-	2
Final test	4	-	-	2	-	2
Total	90	-	-	70	-	20

6.3. Topics of laboratory classes

No.	Topic name	Hours
1.	Topic 1. Principles of immune status evaluation, diagnosis of the immune disorders.	6
2.	Topic 2. Principles of immune insufficiency and immunodeficiency treatment.	8
3.	Topic 3. Principles of allergic diseases diagnosis.	8
4.	Topic 4. Principles of allergies treatment.	6

5.	Topic 5. Respiratory allergies: allergic rhinitis, pollinosis, allergic asthma. Allergic alveolitis.	8
6.	Topic 6. Food allergy. Urticaria.	8
7.	Topic 7. Drug allergy.	8
8.	Topic 8. Emergency conditions in allergic diseases patients. Angioedema. Anaphylactic shock.	8
9.	Topic 9. Emergency conditions in allergic diseases patients. Severe and life-threatening asthma. Toxic-allergic reactions. Hypersensitivity vasculitis (serum sickness) etc.	8
10.	Final test	2
	Total	70

6.4. Self- study

No.	Topic name	Hours
11.	Immune system of mucous membranes and its role in allergic diseases development	1
12.	Apoptosis	1
13.	Immune tolerance	1
14.	The basics of infectious immunity	1
15.	Immune-neuro-endocrine regulation of organism functioning	1
16.	Clinical and immunological characteristics of acute inflammation stages	1
17.	Immunological aspects of constitution anomalies	1
18.	Clinical and immunological aspects of thymomegaly	1
19.	Hypersensitive alveolitis	1
20.	Immunology of sepsis	1
21.	Sarcoidosis. Epstein-Barr viral infection	1
22.	Immune therapy.	2
23.	Immunopathogenesis of autoimmune diseases.	1
24.	Immunology of tumors. Basics of transplant immunity.	2
25.	Reproductive immunology.	2
26.	Final module control preparation	2
	Total	20

6.5. Individual tasks

Are not provided by the program.

7. TOOLS, EQUIPMENT AND SOFTWARE THE USE OF WHICH IS PROVIDED FOR THE EDUCATIONAL SUBJECT

Basic sources

1. Clinical Immunology and Allergology basics. Manual for students / M.V. Rostoka-Reznikova, M.I. Tovt-Korshynska // Ужгород: Інформаційний Центр ЦМКЛ, 2019. – 37 p.
2. 4.

Additional sources

1. Immunology Ninth Edition / David Male, R. Stokes Peebles, Victoria Male. — British Library Cataloguing., 2020. — 432 p.

Information Internet resources

1. World Allergy Organization <https://www.worldallergy.org/>
2. Allergy, asthma and Clinical Immunology Journal <http://www.aacijournal.com/>
3. BMJ <https://www.bmj.com>
4. Elsevier journals <http://www.journals.elsevier.com/clinical-immunology/>
5. Wiley onelibrary [http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1521-4141](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1521-4141)
6. Current Opinion in Immunology Journal <http://www.current-opinion.com/journals/current-opinion-in-immunology/>

**Results of the further review of
the syllabus**

The syllabus was re-approved on 20___ / 20___ academic year unchanged; with changes (Appendix___).

(underline the correct variant)

Minutes № ___ of " ___ " _____ 20 ___ Head of the Department _____

initials)

(Signature) (Surname,

The syllabus was re-approved on 20___ / 20___ academic year unchanged; with changes (Appendix ___).

(underline the correct variant)

Minutes № ___ of " ___ " _____ 20 ___ Head of the Department _____

initials)

(Signature) (Surname,

The syllabus was re-approved on 20___ / 20___ academic year unchanged; with changes (Appendix ___).

(underline the correct variant)

Minutes № ___ of " ___ " _____ 20 ___ Head of the Department _____

(Signature) (Surname, initials)