

**DANYLO HALYTSKY LVIV NATIONAL MEDICAL UNIVERSITY**

**Department of Internal Medicine N 1**  
**Department of Internal Medicine N 2**



**Approved**

First Vice-Rector for scientific and pedagogical work

Assoc. prof. Iryna SOLONYNKO

“ 30 ” 08 2023

**WORK PROGRAMME OF THE EDUCATIONAL  
ELECTIVE DISCIPLINE**

**"Clinical toxicology"**

**SB 1.50**

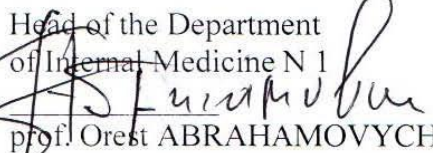
**4 years of study**

**training of specialists of the second (master's) level of higher education**

**Field of Knowledge 22 "Health care"**

**specialties 222 "Medicine"**

Discussed and approved  
on the methodical meetings  
of the Departments of  
Internal Medicine N 1 and  
Internal Medicine N 2  
protocol N 9  
dated 18.04.2023

Head of the Department  
of Internal Medicine N 1  
  
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Approved  
by the Profile Methodical Council  
on the therapeutic disciplines  
protocol N 3 dated 04.05.2023

Head of the Profile Methodical Council  
prof. Olena RADCHENKO



The work programme for the elective discipline «**Clinical toxicology** » (BБ1. 50) for the 4<sup>th</sup> year of study in the training of specialists of the 2<sup>nd</sup> level of higher education “Magister Of Medicine” the branch of knowledge 22 “Health Care” specialty 222 “Medicine” is composed by the staff of the Department of Internal Medicine No 2 Danylo Halytsky Lviv National Medical University: the Head of the department, Associate Professor Komarytsya O.Y.; Professor Radchenko O.M Associate Professor Korolyuk O. Y., Assistant Professor Slaba O.R.

Editors Associate Professor Komarytsya O.Y.; Professor Radchenko O.M.

Reviewers: Head of Department Propaedeutic of Internal Diseases Professor Dutka R.Ya.

The work programme was discussed and approved by the Profile Methodical Council of therapeutic disciplines Danylo Halytsky Lviv National Medical University.

#### Changes and additions to the work programme in 2023-2024 academic year

No	Content of the changes (additions)	Date and number of protocol of the methodical meeting of the department	Notes
1.	Not changed		

The Head of the Department  
of Internal Medicine No 2  
Associate Professor Orest KOMARYTSYA



The work programme for the optional discipline « **Clinical toxicology**» (BБ1. 50) was composed basing on the Law of Ukraine “About Higher Education”, “The procedure for training applicants for higher education Magister of Medicine in higher primary institutions”, Standard of high education – Magister of Medicine branch of knowledge 22 “Health Care”, Specialty 222 “Medicine” (the Order of the Ministry of Education and Science dated November 8, 2021); the Order of the Ministry of Education and Science of Ukraine No 1254 dated 01.10.2019 “On amendments to the Guidelines for the development of standards of higher education”; the Order of Danylo Halytsky Lviv National Medical University dated 15.03.2022 “On the introduction of the work programme for the preparation of applicants for the second (Magister) level of higher education in the specialty 222 Medicine”.

### **Description of the educational discipline (summary)**

The organization of the educational process is carried out according to the European Credit Transfer System of the Organization of the Educational Process (ECTS). The program of the optional discipline "Current issues of gastroenterology", which is taught during the 5<sup>th</sup> year, provides for the improvement of knowledge on current issues of theory and practice of the most common diseases and syndromes in gastroenterology and related to diagnosis, differential diagnosis, treatment, the need for a healthy lifestyle and prevention of the main diseases of the gastrointestinal tract (GIT). The types of classes according to the work programme are: a) practical classes, b) independent work of students. Thematic plans of practical classes and independent work disclose problematic issues of gastroenterology. Practical classes are held at the department's clinical bases. Students participate in the diagnostic and treatment process with patients under the guidance of the tutors. Mastering/acquainting with the procedures that are used for diagnosis and treatment of diseases of GIT is also provided.

### **The structure of the discipline**

The program is part of the educational program for the preparation of masters of medicine and is calculated for 3 ECTS credits

The structure of the academic discipline	Amount of credits, hours, particularly				Year	Type of control
	Totally	Classroom, hours		IWS, hours		
		Lectures	Practices			
“Clinical toxicology »	2,0 credit ECTS/60 h.	0	26	34	IV	credit

**3. The subject of study of the discipline** - approaches to planning therapeutic strategies and tactics of an individual patient, groups of patients and the organization of therapeutic and preventive measures in gastroenterology.

### **The course "Current issues of gastroenterology" as an educational discipline**

- It is based directly on the students' study of propaedeutic of internal medicine, as well as basic disciplines (medical biology, medical and biological physics, bioorganic and biological chemistry, histology, cytology, human anatomy, pathomorphology, physiology and pathophysiology, microbiology, virology, radiology) and integrates with these disciplines.
- Lays the foundation for students' assimilation of knowledge in specialized clinical professional-practical disciplines.
- Forms the ability to apply knowledge of the pathology of internal organs in the process of further education and professional activity in accordance with the principles of evidence-based medicine.

**Interdisciplinary links** are based on the study of human anatomy, medical biology, histology, cytology and embryology, pathomorphology, physiology, pathophysiology, medical and biological physics, bioorganic and biological chemistry, microbiology, virology and immunology, pharmacology, radiology and radiation medicine, propaedeutic of internal medicine.

### **1. The purpose and tasks of the educational discipline**

**1.1 The purpose** of the course is to consolidate theoretical and practical knowledge about aetiology, pathogenesis, modern laboratory and instrumental diagnostic methods, follow-up, treatment of the main diseases of GIT and digestive organs according to updated evidence-based international guidelines and

recommendations, prevention of complications and rehabilitation of patients with gastroenterological pathology.

**1.2 The main tasks** of the course are as follows:

- Learn the clinical manifestations of gastroenterological diseases, identify their diagnostic criteria in patients; differentiate the main syndromes and nosology; determine stages of the course, prognosis, learn methods of treatment and prevention.
- Examine patients with gastroenterological pathology, interpret the obtained results of additional tests, formulate and explain a preliminary diagnosis.
- Choose methods of additional tests (laboratory, imaging, functional, endoscopic) adequate for each case, analyse and summarize the obtained results, find abnormalities and use these findings for substantiation of clinical diagnosis.
- Separate the symptoms of the patient's illness that are not characteristic of a certain nosology, analyse probable causes of their occurrence, formulate the features of the course of the patient's illness; compare and analyse signs of functional insufficiency in patients.
- Plan diagnostic tests and procedures, rehabilitation measures.
- Document the medical history of the examined patient, create own short messages about the diagnostic significance of specific laboratory and instrumental tests that are used in gastroenterology.
- Administer treatment taking into account regulatory documents and the latest evidence-based data, determine the stages of primary and secondary prevention of these diseases.

**1.3. Competences and learning outcomes, the formation of which ensures the study of the discipline**

**General competences (GC):**

1. GC 1 Ability to abstract thinking, analysis and synthesis.
2. GC 2 The ability to learn and master modern knowledge.
3. GC 3 Ability to apply knowledge in practical situations.
4. GC 4 Knowledge and understanding of the subject field and understanding of professional activity.
5. GC 5 Ability to adapt and act in a new situation.
6. GC 6 Ability to make informed decisions.
7. GC 7 Ability to work in a team.
8. GC 8 Ability to interpersonal interaction.
9. GC 10 Ability to use information and communication technologies.
10. GC 11 Ability to search, process and analyze information from various sources.
11. GC 12 Determination and persistence in relation to assigned tasks and assumed responsibilities.
12. GC 13 Awareness of equal opportunities and gender issues.
13. GC 14 The ability to realize one's rights and responsibilities as a member of society, to realize the values of civil society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine.
14. GC 15 the ability to preserve and multiply moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technology, to use various types and forms of motor activities for active recreation and leading a healthy lifestyle.

**Professional competences (FC):**

1. FC 1 Ability to collect medical information about the patient and analyze clinical data.
2. FC 2 Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results.
3. FC 3 The ability to establish a preliminary and clinical diagnosis of the disease.
4. FC 4 The ability to determine the necessary regime of work and rest in the treatment and prevention of diseases.
5. FC 5 The ability to determine the nature of nutrition in the treatment and prevention of diseases.
6. FC 6 Ability to determine the principles and nature of treatment and prevention of diseases.
7. FC 7 Ability to diagnose emergency conditions.
8. FC 8 Ability to determine tactics and provide emergency medical care.
9. FC 9 Ability to carry out medical evacuation measures.
10. FC 10 Ability to perform medical manipulations.
11. FC 11 Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility.
12. FC 16 Ability to maintain medical documentation, including electronic forms.

13. FC 21 Clearly and unambiguously convey one's own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists, in particular to students.
14. FC 24 Compliance with ethical principles when working with patients and laboratory animals.
15. FC 25 Observance of professional and academic integrity, bear responsibility for the reliability of the obtained scientific results

**Program learning outcomes (PLO):**

1. PLO 1 Have thorough knowledge of the structure of professional activity. To be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.
2. PLO 2 Understanding and knowledge of fundamental and clinical biomedical sciences at a level sufficient for solving professional tasks in the field of health care.
3. PLO 3 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 and interdisciplinary problems related to it.
4. PLO 4 Highlight and identify leading clinical symptoms and syndromes (according to list 1); according to standard methods, using data from the patient's history, examination of the patient, knowledge about the person, his organs and systems, establish a preliminary diagnosis of the disease (according to list 2).
5. PLO 5 Collect complaints, anamnesis of life and diseases, evaluate the psychomotor and physical development of the patient, the state of organs and systems of the body; based on the results of laboratory and instrumental studies, evaluate information regarding the diagnosis (according to list 4), taking into account the age and gender of the patient.
6. PLO 6 Establish a final clinical diagnosis by making a reasoned decision and analyzing the received subjective and objective data of clinical and additional examinations, carry out differential diagnosis; comply with relevant ethical and legal norms; to work under the supervision of a managing physician in the conditions of a health care facility (according to list 2).
7. PLO 7 Prescribe and analyze additional (mandatory and additional) examination methods (laboratory, functional and/or instrumental) (according to list 4) for patients with diseases of organs and body systems for differential diagnosis (according to list 2).
8. PLO 8 Determine the leading clinical syndrome or establish what determines the severity of the condition of the victim/victim (according to list 3) by making a reasoned decision and assessing the person's condition under any circumstances (in the conditions of a health care facility and outside of it, including h. in conditions of an emergency and hostilities, in field conditions, in conditions of lack of information and limited time).
9. PLO 9 Determine the nature and principles of treatment (conservative, operative) of patients with diseases according to list 2, taking into account the age and gender of the patient, in the conditions of a health care institution and outside of it, including at the stages of medical evacuation and in field conditions, on the basis of a previously established clinical diagnosis, observing relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes; in case of need to expand the standard scheme, be able to substantiate personalized recommendations under the control of the head physician in the conditions of a medical institution.
10. PLO 10 Determine the necessary regime of work, rest and nutrition of the patient based on the preliminary and/or final clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to the existing algorithms and standards.
11. PLO 14 Determine tactics and provide emergency medical care in emergency situations (according to list 3) in limited time in accordance with existing clinical protocols and standards.
12. PLO 16 Form rational medical routes for patients; organize interaction with colleagues in their own and other institutions, organizations and institutions; to apply tools for the promotion of medical services in the market based on the analysis of the needs of the population, in the conditions of a health care institution, its division and in a competitive environment.
13. PLO 17 To perform medical manipulations (according to list 5) in the conditions of a medical institution, at work and at the patient's home based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, observing the relevant ethical and legal norms.
14. PLO 18 Determine the state of functioning and limitations of a person's vital activities and the duration of incapacity with the preparation of relevant documents in the conditions of a health care institution on the basis of data on the disease and its course, peculiarities of a person's professional activity, etc. To maintain medical documentation regarding the patient and a certain contingent of the population on the basis of regulatory documents.
15. PLO 19 Plan and implement a system of anti-epidemic and preventive measures regarding the occurrence and spread of diseases among the population.

16. PLO 21 Find the necessary information in the professional literature and databases of other sources, analyze, evaluate and adequately apply this information.
17. PLO 22 Apply modern digital technologies, specialized software, statistical methods of data analysis to solve complex problems of health care and research work.
18. PLO 25 Clearly and unambiguously convey one's own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists.
19. PLO 26 Manage work processes in the field of health care, which can be complex, unpredictable and require new strategic approaches; to organize the work and professional development of personnel taking into account the acquired skills of effective team work with adherence to leadership positions, appropriate quality, accessibility and fairness, ensuring the provision of integrated medical care.
20. PLO 27 Communicate freely in the national and English languages both orally and in writing to discuss professional activities, research and projects.
21. PLO 28 Make effective decisions on health care issues, assess the necessary resources, take into account social, economic and ethical consequences.

### 1. Matrix of competences

№	Competence	Knowledge	Skills	Communication	Autonomy and responsibility
<b>Integral competencies</b>					
	The ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or in the process of learning, which involves conducting research and/or implementing innovations and is characterized by the complexity and uncertainty of conditions and requirements.	Kn 2	Sk 2	C2	AR3
<b>General competences</b>					
GC1.	Ability to abstract thinking, analysis and synthesis.	Kn1	Sk1	C1	AR1
GC2.	Ability to learn and master modern knowledge.	Kn 1	Sk 3	C2	AR3
GC3.	Ability to apply knowledge in practical situations.	Kn 1	Sk 2	C1	AR1
GC4.	Knowledge and understanding of the subject area and understanding of professional activity.	Kn 2	Sk 2	C2	AR2
GC5.	Ability to adapt and act in a new situation.		Sk 3		AR2
GC6.	Ability to make informed decisions.	Kn 1	Sk 3	C1	AR1
GC7.	Ability to work in a team.	Kn 2	Sk 3	C1	AR2
GC8.	Ability to interpersonal interaction.	Kn 1	Sk 3	C1	AR2
GC10.	Ability to use information and communication technologies.	Kn 2	Sk 3	C2	AR3
GC11.	Ability to search, process and analyze information from various sources.	Kn 2	Sk 2	C2	AR2
GC12.	Determination and persistence in relation to assigned tasks and assumed responsibilities.	Kn 2	Sk 3		AR3
GC13.	Awareness of equal opportunities and gender issues.	Kn 2	Sk 1	C1	AR1
GC14.	The ability to realize one's rights and responsibilities as a member of society, to realize the values of a civil (free democratic) society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine.	Kn 1	Sk 2	C1	AR3
GC15.	The ability to preserve and multiply moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge	Kn2	Sk 3		AR3

	about nature and society and in the development of society, technology and technologies, to use various types and forms of motor activity for active recreation and leading a healthy lifestyle.				
<b>Professional competences</b>					
PC1.	Ability to collect medical information about the patient and analyze clinical data.	Kn 2	Sk 3	C2	AR3
PC2.	Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results.	Kn 2	Sk 3		AR1
PC3.	Ability to establish a preliminary and clinical diagnosis of the disease.	Kn 2	Sk 3		AR2
PC4.	The ability to determine the necessary regime of work and rest in the treatment and prevention of diseases.	Kn 2	Sk 2	C1	AR1
PC5.	The ability to determine the nature of nutrition in the treatment and prevention of diseases.	Kn 2	Sk 1	C1	AR1
PC6.	Ability to determine the principles and nature of treatment and prevention of diseases.	Kn 2	Sk 3	C1	AR1
PC7.	Ability to diagnose emergency conditions.	Kn 2	Sk 3	C1	AR2
PC8.	Ability to determine tactics and provide emergency medical care.	Kn 2	Sk 3	C1	AR2
PC9.	Ability to carry out medical evacuation measures.	Kn 2	Sk 2	C1	AR2
PC10.	Ability to perform medical manipulations.	Kn 1	Sk 3	C1	AR1
PC11.	Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility.	Kn 2	Sk 3	C1	AR2
PC16.	Ability to maintain medical documentation, including electronic forms.	Kn 2	Sk 3	C1	AR1
PC21.	It is clear and unambiguous to convey one's own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists, in particular to people who are studying.	Kn 2	Sk 3	C2	AR2
PC24.	Adherence to ethical principles when working with patients and laboratory animals.	Kn 1	Sk 2	C1	AR1
PC25.	Adherence to professional and academic integrity, to be responsible for the reliability of the obtained scientific results.	Kn 2	Sk 2	C2	AR3

<b>2. Program learning outcomes</b>		
Learning outcome code	Content of the learning outcome	Link to competency matrix code
Kn -1	Know anatomy, physiology of internal organs and systems, skin, connective tissue, blood	PLO-1-3
Kn -2	Know the pathomorphology and pathophysiology of all major changes and lesions of internal organs, skin, connective tissue, blood	PLO -1-3
Kn -3	To know the biochemistry of the main metabolic processes, the mechanisms of action of the main pharmaceutical preparations	PLO -1-3
Kn -4	Know the characteristics of pathogens of diseases of internal organs, the basics of epidemiology	PLO -1-3
Kn -5	now the methods of determining health and environmental indicators; system of preventive measures; socio-economic and biological determinants of health, methods of evaluating the performance of a	PLO -15-19

	doctor, and the quality of medical care	
Sk -1	Collect data on the patient's complaints, medical history, life history, conduct a physical examination	PLO -4-5
Sk -2	Evaluate the results of laboratory and instrumental research	PLO -5,7
Sk -3	Perform basic medical manipulations	PLO -13
C-1	Identify leading syndromes. Assign an examination. Carry out differential diagnosis. Establish preliminary and clinical diagnoses.	PLO -6-8
C-2	Determine the regime, nutrition, plan the strategy and tactics of prevention.	PLO -9-12
C-3	Determine the treatment, plan its duration.	PLO -9-12
C-4	Diagnose emergency conditions and determine the tactics of providing emergency medical care.	PLO -11
C-5	Determine health indicators; environmental factors; preventive measures; determinants of health, effectiveness of the doctor	PLO -15,19
AR -1	Organize the work of medical personnel; form rational medical routes for patients; interact with colleagues, organizations and institutions.	PLO -18-21
AR-2	Be guided by rights, freedoms, responsibilities, raise your level. To comply with the requirements of ethics, bioethics and deontology.	PLO -18-21
AR-3	Form the goals and structure of personal activity. Follow a healthy lifestyle and self-control.	PLO -18-21

### 3. Format and scope of the course

Format of the course	Full-time	
Type of training sessions	Number of hours	Number of groups
lectures (L)	0	0
practical classes (P)	26	7
seminars	0	0
individual work of students (IWS)	34	7

### 4. The structure of the discipline

Topic	Lectures	Practical classes	ISW
Topic 1. Introduction to clinical toxicology Subject of clinical toxicology. The importance of discipline in the modern health care system.		2	2
Topic 2. The global pandemic of COVID-19. Diagnosis of SARS-CoV-2. Clinical manifestations, prevention and treatment.		2	2
Topic 3. General issues of toxicology		2	3
Topic 4. Factors affecting the human body by toxic substances		2	3
Topic 5. Poisoning by acids and alkalis, compounds of heavy metals and arsenic		2	3
Topic 6. Poisoning by hypnotic and psychotropic substances. Addiction.		2	3
Topic 7. Poisoning by organophosphorus compounds, chlorinated hydrocarbons and blood poisons		2	3
Topic 8. Poisoning by some poisons of biological origin		2	3
Topic 9. General principles of poisoning diagnosis		2	3
Topic 10. General principles of treatment of poisoning by substances of different groups		2	3
Topic 11. Emergency medical assistance in case of acute poisoning by substances of various groups		2	3
Topic 12. Poisoning during disasters in peace and war		2	3
Topic 13. Credit lesson		2	0
<b>Total number of hours _60_ / _2_credits ECTS</b>	<b>0</b>	<b>26</b>	<b>33+1</b>
<b>Final control</b>	<b>Credit</b>		



<b>5. Thematic plan of practical classes</b>	<b>H.</b>
Topic 1. Introduction to clinical toxicology Subject of clinical toxicology. The importance of discipline in the modern health care system.	2
Topic 2. The global pandemic of COVID-19. Diagnosis of SARS-CoV-2. Clinical manifestations, prevention and treatment.	2
Topic 3. General issues of toxicology	2
Topic 4. Factors affecting the human body by toxic substances	2
Topic 5. Poisoning by acids and alkalis, compounds of heavy metals and arsenic	2
Topic 6. Poisoning by hypnotic and psychotropic substances. Addiction.	2
Topic 7. Poisoning by organophosphorus compounds, chlorinated hydrocarbons and blood poisons	2
Topic 8. Poisoning by some poisons of biological origin	2
Topic 9. General principles of poisoning diagnosis	2
Topic 10. General principles of treatment of poisoning by substances of different groups	2
Topic 11. Emergency medical assistance in case of acute poisoning by substances of various groups	2
Topic 12. Poisoning during disasters in peace and war	2
Topic 13. Credit lesson	2
Totally	26
<b>6. Thematic plan of individual works</b>	<b>H.</b>
Preparation for the lesson "The importance of discipline in the modern health care system"	2
Preparation for the lesson "Pandemic COVID-19"	2
Preparation for the class "General issues of toxicology"	2
Preparation for the lesson Factors of the influence of toxic substances on the human body	2
Preparation for the lesson "Poisoning with acids and alkalis, compounds heavy metals and arsenic".	2
Preparation for the class "Poisoning with hypnotics and psychotropic substances".	2
Preparation for the lesson "Poisoning with organophosphate, chlorinated and blood poisons".	2
Preparation for the lesson "Poisoning with some poisons of biological origin"	2
Preparation for the class "General principles of poisoning diagnosis"	2
Preparation for the class "General principles of treatment of poisoning by substances of different groups"	2
Preparation for the class "Emergency medical aid in case of poisoning"	2
Preparation for the lesson "Poisoning during disasters in peacetime and wartime"	2
Totally	26+8
<p><b>7. Individual tasks:</b> report of an abstract/presentation at a practical class, at clinical conferences, report of a medical history at a practical class, writing theses, articles, mastering practical skills, review of scientific literature -8h.</p> <p>Individual works of students on the discipline "Internal Medicine" are completed by students in written form, the implementation control is carried out constantly during the semester in the corresponding practical classes. Verification of the learned material on the subject of individual work is carried out at each practical class.</p>	

<b>8. Teaching methods</b>
<p>Practical, visual, verbal, work with a book, video method. During classes, such methods of interactive learning as business games, role-playing games, cases, etc. are used.</p> <p>The system of organizing classes consists of blocks: program-informational, educational-methodical, control, educational-research, auxiliary.</p> <p>The program information block is presented on the official website of the university.</p> <p>The teaching-methodical block includes theoretical lecture materials (Misa), which are read using multimedia presentations. Methodical materials for students and teachers are updated every 5 years and are available not only in printed form, but also in electronic form (MISA), in which they are distributed to students. Software material and a human torso dummy with software are also used. Educational and practical materials also include educational DVD films on the physical examination of the patient and others (on invasive methods of research and treatment), atlases on clinical diagnostics, instrumental methods of examination.</p>

The control unit contains materials for ongoing monitoring of students' activities (questions, test tasks (MISA), "Step 2" test databases).  
 The educational-research block contains the topics of creative tasks, essays, educational-research tasks, course qualification papers, etc. The department stores multimedia materials of student scientific-practical conferences, as examples and/or illustrative material; students have the opportunity to directly participate in sonography of abdominal organs.  
 The auxiliary unit is filled with video, audio, multimedia materials and electronic manuals, the materials of which can be processed on individual portable devices. To ensure students' independent work, links to electronic resources that can be used are offered.

**Course policy.** In the teaching and learning of the Internal Medicine all teachers and students adhere to the policy of academic integrity, intolerance to violations of medical and general human deontology and ethics. Examination of patients at the clinical bases of the department complies with the principles of the Helsinki Declaration of the World Medical Association regarding the ethical principles of conducting scientific medical research with human participation (1964, 2004, 2013) and Orders of the Ministry of Health of Ukraine No. 690 (2009), No. 944 (2009) and No. 616 (2012 ).

**Control methods:**  
 Oral, written, test, programmed, practical control, self-control.  
 Types of control: current and final.  
 Form of final control of study success: credit

**8. Current control.**

It is carried out during training sessions and is aimed at checking the students' assimilation of the educational material. It is carried out on the basis of a test assessment of the initial level of knowledge, a check of home written self-preparation for the class, practical work in the class according to the topic, plan and program (examination of the patient, writing of the examination protocol, solving situational problems, level 2 tests). Forms of assessment of current educational activities are standardized and include control of theoretical and practical training. During the evaluation of the mastery of each topic for the current educational activity, the student is given grades on a 4-point (traditional) scale. At the same time, all types of work provided by the educational program are taken into account. The student must receive a grade in each topic.

Learning outcome code	Class type code	Assessment criteria
example: Kn-1-15, Sc-1-15, C-1-15, AR-1-15	L-1-13, P-1-16, IWS-1-16	<p>«<b>Excellent</b>» («<b>5</b>»): 90-100% answers for format A tests are correct; correct clear, complete and logical answers for the questions about the current topic, including questions and tasks for individual work. Presence of qualitative and complete home task. A student closely links theory to practice and correctly demonstrates practical skills; able to solve clinical cases of increased complexity and to summarize the material. A student correctly conducts physical examination of thematic patient, has the necessary communication skills, and uses the principles of medical deontology.</p> <p>«<b>Good</b>» («<b>4</b>»): 70-89% answers for format A tests are correct; clear and right answers for the questions about the current topic, including questions and tasks for individual work. There is a qualitative home task. A student correctly demonstrates practical skills or makes non-significant mistakes; able to solve typical clinical cases and cases of moderate complexity. A student correctly conducts physical examination of thematic patient, has the necessary practical skills, and makes no fatal mistakes during diagnosis and treatment. A student may communicate with patients and colleagues, using the principles of medical deontology.</p> <p>"<b>Satisfactory</b>" ("<b>3</b>"): 60-69% answers for format A tests are correct. Homework is incomplete or contains mistakes. Inadequate or incomplete answers for the questions about the current topic and individual work. A student cannot build a clear, logical answer; makes significant mistakes when answering and demonstrating practical skills; solves only easy typical clinical cases, has a minimum of necessary practical skills; performs examination and plan treatments with errors that do not threaten the patient's life; has a minimum of communication skills, uses the principles of medical deontology.</p> <p>"<b>Unsatisfactory</b>" ("<b>2</b>"): &lt;60% answers for format A tests are correct. The home task is written very bad or is absent. A student does not know the material of the current topic, cannot answer independently and logically to additional questions, does not understand the content of the material; makes significant mistakes when answering and demonstrating practical skills; conducts examination and plan treatment with fatal consequences for a patient; has insufficient communication or verbal skills; insufficiently uses the principles of medical deontology.</p>

<b>11. Final control</b>		
General rating system	Participation in work during the semester is 100% on a 200-point scale	
Rating scales	Traditional 4-point scale, multi-point (200-point) scale, ECTS rating scale	
Conditions of admission to the final control	The student attended all practical classes and received at least 120 points for the current performance, a maximum of 200 points	
Type of final control	Methodology of final control	Passing criteria
Test	All topics passed and estimated positively. Rating is converted from a 4-point scale to a 200-point scale in accordance with the "Criteria, rules and procedures for evaluating the results of student's learning activities"	Maximum rating - 200. Minimal rating - 120 points

## 12. Calculation and distribution of points received by students

**Assessment** is one of the final stages of educational activity and determination of educational success.

Evaluation is based on the amount for Practice in Simulation Medicine in Internal Medicine, Surgery, Obstetrics and Gynecology, Pediatrics.

The calculation of the number of points is carried out on the basis of the grades received by the student on a traditional scale during the study of the discipline by calculating the arithmetic average (CA), which is converted into points on a multi-point scale as follows:

$$x = CA \times 200 / 5$$

For convenience, a calculation table is given on a 200-point scale:

### Recalculation of the average grade for the current activity into a multi-point scale for disciplines ending with a credit

4-point scale	200-point scale	4-point scale	200-point scale	4-point scale	200-point scale	4-point scale	200-point scale
5	200	4.45	178	3.92	157	3.37	135
4.97	199	4.42	177	3.89	156	3.35	134
4.95	198	4.4	176	3.87	155	3.32	133
4.92	197	4.37	175	3.84	154	3.3	132
4.9	196	4.35	174	3.82	153	3.27	131
4.87	195	4.32	173	3.79	152	3.25	130
4.85	194	4.3	172	3.77	151	3.22	129
4.82	193	4.27	171	3.74	150	3.2	128
4.8	192	4.24	170	3.72	149	3.17	127
4.77	191	4.22	169	3.7	148	3.15	126
4.75	190	4.19	168	3.67	147	3.12	125
4.72	189	4.17	167	3.65	146	3.1	124
4.7	188	4.14	166	3.62	145	3.07	123
4.67	187	4.12	165	3.57	143	3.02	121
4.65	186	4.09	164	3.55	142	3	120
4.62	185	4.07	163	3.52	141	Less 3	Not enough
4.6	184	4.04	162	3.5	140		
4.57	183	4.02	161	3.47	139		
4.52	181	3.99	160	3.45	138		
4.5	180	3.97	159	3.42	137		
4.47	179	3.94	158	3.4	136		

Points from the discipline are independently converted to both the ECTS scale and the 4-point scale. The points of the ECTS scale are not converted into a 4-point scale and vice versa.

Points of students studying in one specialty, taking into account the number of points scored in the discipline, are ranked according to the ECTS scale as follows:

Point ECTS	Statistical indicator
<b>A</b>	The best 10% of students
<b>B</b>	The next 25% of students
<b>C</b>	The next 30% of students
<b>D</b>	The next 25% of students

	E	The last 10% of students	
Discipline points for students who have successfully completed the program are converted to a traditional 4-point scale according to the absolute criteria shown in the table below:			
Discipline points	Evaluation on a 4-point scale		
From 170 to 200 points	5		
From 140 to 169 балів	4		
From 139 points to the minimum number of points that the student must score	3		
Below the minimum number of points that the student must score	2		
The ECTS score is not converted to a traditional scale, since the ECTS scale and the four-point scale are independent. The objectivity of the assessment of the students' educational activity is checked by statistical methods (correlation coefficient between the ECTS assessment and the assessment on the national scale).			
<b>13. Methodical support</b>			
<ol style="list-style-type: none"> <li>1. Working curriculum of the discipline, syllabus.</li> <li>2. Plans of practical classes and independent work of students.</li> <li>3. Methodological developments for teachers and students, including for independent work.</li> <li>4. Test and control tasks for practical classes, situational tasks, descriptions of clinical cases.</li> <li>5. Dummies, mannequin, available at the department.</li> <li>6. Multimedia equipment and course presentations.</li> <li>7. Scientific and educational publications of the department's staff on evidence-based medicine.</li> </ol>			
<b>14. Recommended literature</b>			
<b>Basic:</b>			
<ol style="list-style-type: none"> <li>1. eMPendium – electronic compendium "Internal diseases" in open access [Electronic resource]. Access mode: <a href="https://empendium.com/mcmtxtbook/">https://empendium.com/mcmtxtbook/</a> .</li> <li>2. Davidson's Principles and Practice of Medicine 23rd Edition. Editors: Stuart Ralston, Ian Penman, Mark Strachan Richard Hobson. Elsevier. - 2018. - 1440 p.</li> <li>3. USMLE Step 2 CK Lecture Notes 2017: Internal Medicine (Kaplan Test Prep). - 2016. - Published by Kaplan Medical. - 474 p.</li> <li>4. Kasper, Dennis L., Anthony S. Fauci, Stephen L. Hauser, Dan L. 1949- Longo, J. Larry Jameson, and Joseph Loscalzo. Harrison's Principles of Internal Medicine. 19th edition. New York: McGraw Hill Education, 2015.</li> <li>5. Council of the Obesity Society. Obesity as a disease: the Obesity Society Council resolution. Obesity (Silver Spring). 2008. Available at <a href="https://doi.org/10.1038/oby.2008.246">https://doi.org/10.1038/oby.2008.246</a></li> <li>6. American Association of clinical endocrinologists and American College of endocrinology comprehensive clinical practice guidelines for medical care of patients with obesity. / Garvey WT, Mechanick JI, Brett EM, et al. Reviewers of the AACE/ACE Obesity Clinical Practice Guidelines. // Endocr Pract. – 2016. – Vol. 22 (Suppl 3). – P. 1-203. doi: 10.4158/EP161365.GL.</li> <li>7. Peptic Ulcer Disease: Introduction. Johns Hopkins Medicine 600 North Wolfe Street, Baltimore, Maryland 21287 <a href="https://www.hopkinsmedicine.org">https://www.hopkinsmedicine.org</a></li> <li>8. Perforated and bleeding peptic ulcer: WSES guidelines. / Tarasconi A, Coccolini F, Biffi WL, et al. // World J Emerg Surg. – 2020. – Vol. 15:3. doi: 10.1186/s13017-019-0283-9.</li> <li>9. ACR appropriateness criteria right upper quadrant pain. / Yarmish GM, Smith MP, Rosen MP, et al. // J Am Coll Radiol. – 2014. – Vol. 11(3). – P. 316-22.</li> <li>10. Shah K, Wolfe RE. Hepatobiliary ultrasound. // Emerg Med Clin North Am. – 2004. – Vol. 22(3). – P. 661-73.</li> <li>11. European Association For The Study Of The Liver. EASL clinical practice guidelines: Management of chronic hepatitis B virus infection. // J Hepatol. – 2012. – Vol. 57(1). – P. 167-185</li> <li>12. Asian-Pacific consensus statement on the management of chronic hepatitis B: a 2012 update. / Liaw YF, Kao JH, Piratvisuth T, et al. // Hepatol. Int. – 2012. – P. 6(3). – P. 531-561</li> <li>13. Guidelines for the diagnostic cross sectional imaging and severity scoring of chronic pancreatitis. / Frokaer JB, Akisik F, Farooq A, et al, for the Working group for the International (IAP – APA – JPS – EPC) Consensus Guidelines for Chronic Pancreatitis. // Pancreatology. – 2018. – Vol. 18 (7). – P. 764-73.</li> </ol>			
<b>15. Information resource</b>			
Website: <a href="https://new.meduniv.lviv.ua/kafedry/kafedra-vnutrishnoyi-medytsyny-2/">https://new.meduniv.lviv.ua/kafedry/kafedra-vnutrishnoyi-medytsyny-2/</a>			
Mail: <a href="mailto:kaf_internalmed_2@meduniv.lviv.ua">kaf_internalmed_2@meduniv.lviv.ua</a>			
Phone number of the Department 0322601490			
A person responsible for the work in the student scientific circle: Professor Dzis Y.I. <a href="mailto:yevhendzis@gmail.com">yevhendzis@gmail.com</a>			