

1. General information	
Name of the faculty	
Educational program (branch, specialty, level of higher education, form of education)	22 Healthcare, 222 Medicine, second (master's) level of higher education, full-time
Academic year	2023-2024
Name of discipline , code (e-mail address on the website of LNMU named after Danylo Halytsky)	Internal medicine Mandatory components-28 https://new.meduniv.lviv.ua/kafedry/kafedra-vnutrishnoyi-medytsyny-1
Department (name, address, phone, e-mail)	Department of Internal Medicine №1 79010, Lviv, street Nekrasova, 4 tel./fax: +38 (032) 276-97-63 kaf_internalmed_1@meduniv.lviv.ua
Head of the department (contact e-mail)	Prof. Abrahamovych Orest docorest@gmail.com
Year of study (year in which the study of the discipline)	5 year
Semester (semester in which the study of the discipline is implemented)	IX-X
Type of course / module (compulsory / optional)	compulsory
Teachers (names, surnames, scientific degrees and titles of teachers who teach the discipline, contact email)	DMSc., prof. Abrahamovych Orest docorest@gmail.com PhD, Assoc. Prof Bilous Zoriana zoryanabilous@gmail.com PhD, Assoc. Prof Pliatsko Mykhailo drplzk@gmail.com
Erasmus yes / no (availability of the discipline for students within the Erasmus + program)	Yes
Person responsible for the syllabus (person to be commented on the syllabus, contact e-mail)	DMSc., prof. Abrahamovych Orest docorest@gmail.com PhD, Assoc. Prof Bilous Zoriana zoryanabilous@gmail.com PhD, Assoc. Prof Pliatsko Mykhailo drplzk@gmail.com
Number of ECTS credits	7,5 credits
Number of hours (lectures / practical classes / independent work of students)	225 hours, 14 lec./ 100 prac. c., 111 stud. self prep.,
Language of instruction	Ukr/eng
Information about consultations	onsultations are held as needed in the first and second semesters
Address and telephone number of the clinical base	"Lviv Regional Clinical Hospital", 79010, Lviv, st. Nekrasova, 4 tel./fax: +38 (032) 276-97-63
2. Short annotation to the course	
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 "Internal Medicine" in the 5th year involves the study of the basics of internal medicine in its main sections (cardiology, rheumatology, nephrology and military therapy), with emphasis on the study of etiology, pathogenesis, clinic, diagnosis, treatment and prevention of basic and the most common diseases of the internal organs.

Approximate duration of practical classes - 5.0 hours. The main purpose of this course is to teach students the basics of internal medicine. Emphasis is placed on the skills of interviewing and clinical examination of the patient, diagnosis, differential diagnosis, treatment and prevention of diseases of the internal organs, diagnosis and emergency care in case of emergency, as well as medical manipulations. Students participate in the diagnostic and treatment process of patients under the guidance of teachers of the department. It is also provided to master / get acquainted with the procedures most often used in the practice of internal medicine. Practical classes, clinical tours with assistants, associate professors and professors of the department are the main part of this course. Each student records and reports the clinical results of the patient's examination to the assistant on a daily basis and writes a patient card.

3. The purpose and objectives of the course

1. The purpose of teaching the discipline "Internal Medicine" is the formation of the ability to apply the acquired knowledge, skills, abilities and understanding to solve typical problems of the doctor in the field of health care, the scope of which provides certain lists of syndromes and symptoms of diseases, emergencies and diseases. that require special tactics of patient management; laboratory and instrumental research, medical manipulations.

2. The main tasks of studying the discipline "Internal Medicine" are:

- conduct surveys and clinical examinations of patients with major diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue and analyze their results;
- determine the etiological and pathogenetic factors of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- analyze typical clinical signs, identify clinical variants and complications of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- establish a preliminary diagnosis of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- prescribe laboratory and instrumental examination of patients with the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue and their complications;
- on the basis of evaluation of laboratory and instrumental examination results, make a differential diagnosis, substantiate and establish a clinical diagnosis of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- determine the necessary mode of work and rest during the treatment of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- determine the necessary medical nutrition in the treatment of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- determine the principles and nature of treatment in the treatment of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- prescribe treatment, including prognostic-modifying, of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue and their complications;
- determine the tactics of emergency medical care on the basis of a diagnosis of emergency;
- provide emergency medical care on the basis of an emergency diagnosis;
- carry out primary and secondary prevention of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- assess the prognosis and efficiency of patients with the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- perform medical manipulations;
- keep medical records;
- adhere to the requirements of ethics, bioethics and deontology in their professional activities.

3. Competences and learning outcomes, the formation of which is facilitated by the discipline (relationship with the normative content of training of higher education, formulated in terms of learning outcomes in the EPP (Educational and professional programs).

According to the requirements of the EPP, the discipline provides students with the acquisition of **competencies**:

- integral:

ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements.

-general:

GC1. Ability to abstract thinking, analysis and synthesis.

GC2. Ability to learn and master modern knowledge.

GC3. Ability to apply knowledge in practical situations.

GC4. Knowledge and understanding of the subject area and understanding of professional activity.

GC5. Ability to adapt and act in a new situation.

GC6. Ability to make informed decisions.

GC7. Ability to work in a team.

GC8. Interpersonal skills.

GC9. Ability to communicate in the state language both orally and in writing.

GC 11. Skills in the use of information and communication technologies.

GC 12. Definiteness and perseverance in terms of tasks and responsibilities.

GC 13. The ability to act socially responsibly and consciously.

GC 15. Ability to act on the basis of ethical considerations (motives)

- special (professional, subject):

PC1. Skills of interviewing and clinical examination of the patient.

PC2. Ability to determine the required list of laboratory and instrumental studies and evaluate their results.

PC3. Ability to establish a preliminary and clinical diagnosis of the disease.

PC4. Ability to determine the required mode of work and rest during the treatment of diseases.

PC5. Ability to determine the nature of nutrition in the treatment of diseases.

PC6. Ability to determine the principles and nature of disease treatment.

PC7. Ability to diagnose emergencies.

PC8. Ability to determine the tactics of emergency medical care.

PC9. Emergency care skills.

PC11. Skills to perform medical manipulations.

PC13. Ability to carry out sanitary and hygienic and preventive measures.

PC15. Ability to determine the tactics of management of persons subject to dispensary supervision.

PC16. Ability to conduct a performance examination.

PC17. Ability to keep medical records.

PC18. Ability to conduct epidemiological and medical-statistical studies of public health; processing of state, social, economic and medical information.

PC19. Ability to assess the impact of the environment, socio-economic and biological determinants on the health of the individual, family, population.

PC20. Ability to analyze the activities of a doctor, department, health care institution, to take measures to ensure the quality of medical care and improve the efficiency of medical resources.

PC21. Ability to conduct activities for the organization and integration of medical care and marketing of medical services.

4. Prerequisite of the course

Interdisciplinary links are based on students' 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, radiology internal medicine.

The discipline "Internal Medicine" contributes to the formation of integrative final program learning outcomes, for which students must:

- conduct professional activities in social interaction based on humanistic and ethical principles; identify future professional activities as socially significant for human health;
- apply knowledge of general and professional disciplines in professional activities;
- comply with the norms of sanitary and hygienic regime and safety requirements during professional activities;
- use the results of independent search, analysis and synthesis of information from various sources to solve typical problems of professional activity;
- argue information for decision-making, be responsible for them in standard and non-standard professional situations; adhere to the principles of deontology and ethics in professional activities;
- to carry out professional communication in modern Ukrainian, to use skills of oral communication in a foreign language, analyzing texts of professional orientation and to translate foreign language information sources;
- adhere to the norms of communication in professional interaction with colleagues, management, work effectively in a team;
- analyze the information obtained as a result of scientific research, summarize, systematize and use it in professional activities.

5. Program learning outcomes

PLO 1. Collect data on patient complaints, medical history, life history, conduct and evaluate the results of physical examination.

PLO 2. Evaluate information on the diagnosis, using a standard procedure based on the results of laboratory and instrumental studies.

PLO 3. Highlight the leading clinical symptom or syndrome. Establish the most probable or syndromic diagnosis of the disease. Assign laboratory and / or instrumental examination of the patient. Carry out differential diagnosis of diseases. Establish a preliminary and clinical diagnosis.

PLO 4. To determine the necessary mode of work and rest in the treatment of the disease.

PLO 5. To determine the necessary medical nutrition in the treatment of the disease.

PLO 6. To determine the principles and nature of treatment (conservative, operative) of the disease.

PLO 7. Determine the tactics of emergency medical care on the basis of a diagnosis of emergency.

PLO 8. Provide emergency medical care on the basis of an emergency diagnosis.

PLO 11. Perform medical manipulations.

PLO 12. To form among the fixed contingent of the population dispensary groups of patients; groups of healthy people subject to dispensary supervision. Implement a system of anti-epidemic and preventive measures within the primary health care. Implement a system of primary prevention measures within the primary health care. Organize secondary and tertiary prevention measures among the assigned contingent of the population.

PLO 14. To determine the tactics of examination and secondary prevention of patients subject to dispensary supervision; tactics of examination and primary prevention of healthy persons subject to dispensary supervision

PLO 15. To determine the presence and degree of restrictions on life, type, degree and duration of disability with the execution of relevant documents.

PLO 17. Conduct screening for major non-communicable diseases; evaluate morbidity indicators, integrated health indicators; identify risk factors for the occurrence and course of disease; to form risk groups of the population. Determine the source and / or location of the required information depending on its type; receive the necessary information from a specific source; process and analyze the received information.

PLO 18. Identify negative environmental factors; to analyze the incidence of the population, identifying risk groups.

PLO 19. Carry out the selection and use of unified clinical protocols for the provision of medical care, developed on the basis of evidence-based medicine; develop and use local health care protocols.

PLO 20. To form rational medical routes of patients.

- PLO 21. Form goals and determine the structure of personal activities.
- PLO 22. Adhere to a healthy lifestyle, use the techniques of self-regulation and self-control
- PLO 23. To be aware of and guided in its activities by civil rights, freedoms and responsibilities, to raise the general educational and cultural level.
- PLO 24. Adhere to the requirements of ethics, bioethics and deontology in their professional activities.

5. List of learning outcomes

Learning outcome code	The content of the learning outcome	References to the code of the competence matrix
Category: Kn - knowledge Ab - ability Co – competence AR - autonomy and responsibility	Learning outcomes determine that the student must know, understand and be able to perform, after completing the discipline. Learning outcomes follow from the set learning goals. To enroll in the discipline, it is necessary to confirm the achievement of each	Symbol of the Program Learning Outcome (PLO) code in the High Education Standard
Kn-1	Have specialized knowledge about the person, his organs and systems, know the methods and standard schemes of questioning and physical examination of the patient.	PLO-1
Ab-1	Be able to have a conversation with the patient; on the basis of algorithms and standards, using standard techniques, to conduct a physical examination of the patient. Be able to assess the state of human health	
Co-1	Skills of interviewing and clinical examination of the patient	
AR-1	Be responsible for the quality collection of information received on the basis of interviews, surveys, examinations, palpation, percussion of organs and systems, timely assessment of human health and taking appropriate measures	
Kn-2	Know the standard methods of laboratory and instrumental research (according to list 4)	PLO-2
Ab-2	Be able to analyze the results of laboratory and instrumental studies and on their basis to assess information about the patient's diagnosis (according to list 4)	
Co -2	Ability to determine the required list of laboratory and instrumental studies and evaluate their results	
AR-2	Be responsible for deciding on the evaluation of laboratory and instrumental research results	
Kn-3	Know the algorithms for diagnosing diseases; algorithms for isolating leading symptoms or syndromes (according to list 1); previous and clinical diagnoses (according to list 2); methods of laboratory and instrumental examination (according to list 4)	PLO-3
Ab-3	Be able to make an informed decision about the selection of the leading clinical symptom or syndrome; be able to make a preliminary and clinical diagnosis of the disease (according to list 2); to	

	appoint laboratory and instrumental examination of the patient (according to list 4) by applying standard methods	
Co -3	Ability to establish a preliminary and clinical diagnosis of the disease	
AR-3	Be responsible for making informed decisions and actions regarding the correctness of the established preliminary and clinical diagnosis of diseases	
Kn-4	Know about ethical and legal norms; algorithms and standard schemes for determining the mode of work and rest during treatment, based on preliminary and clinical diagnosis of the disease (according to list 2)	PLO-4
Ab-4	Be able to determine, on the basis of preliminary and clinical diagnosis, by making an informed decision the necessary mode of work and rest during the treatment of the disease (according to list 2)	
Co -4	Ability to determine the required mode of work and rest during the treatment of diseases	
AR-4	To be responsible for the validity of the appointment of work and rest during the treatment of the disease (according to list 2)	
Kn-5	Know the algorithms and standard schemes of nutrition during the treatment of diseases (according to list 2)	PLO-5
Ab-5	Be able to determine, on the basis of preliminary and clinical diagnosis, the nature of nutrition during the treatment of diseases (according to list 2)	
Co -5	Ability to determine the nature of nutrition in the treatment of diseases	
AR-5	To be responsible for the validity of the determine of nutrition during the treatment of the disease (according to list 2)	
Kn-6	Know algorithms and standard schemes of treatment of diseases (according to list 2)	PLO-6
Ab-6	Be able to determine the principles and nature of treatment of the disease (according to list 2)	
Co -6	Ability to determine the principles and nature of disease treatment	
AR-6	Be responsible for deciding on the principles and nature of treatment of the disease (according to list 2)	
Kn-7	Have specialized knowledge about urgent human conditions; know the standard methods of human examination (at home, on the street, in a health care facility) in the absence of information; principles of emergency medical care	PLO-7
Ab-7	Be able to identify emergencies (according to list 3); to carry out organizational and diagnostic measures aimed at saving and saving human life	
Co -7	Ability to diagnose emergencies and determine tactics of emergency medical care	
AR-7	Be responsible for the correctness and timeliness of diagnosing an emergency, its severity and tactics of emergency medical care	

Kn-8	Know the algorithms for providing emergency medical care in emergencies (according to list 3)	PLO-8
Ab-8	Be able to provide emergency medical care during an emergency (according to list 3)	
Co-8	Have the skills to provide emergency medical care	
AR-8	Be responsible for the timeliness and quality of emergency medical care	
Kn-9	Know algorithms for performing medical manipulations (according to list 5)	PLO-11
Ab-9	Be able to perform medical manipulations (according to list 5)	
Co -9	Skills to perform medical manipulations	
AR-9	Be responsible for the quality of medical manipulations (according to list 5)	
Kn-10	To know the system of sanitary-hygienic and preventive measures among the fixed contingent of the population. Know the principles of medical examination of different groups of the population: Know the indicators of evaluation of the organization and effectiveness of medical examination.	PLO-12
Ab-10	Be able to form groups of the population for their medical examination.	
Co -10	Ability to carry out sanitary and hygienic and preventive measures	
AR-10	Be responsible for the timely and high-quality implementation of measures to assess the health of the population	
Kn-11	Know the relevant ethical and legal norms for medical examination of the population; examination tactics and principles of secondary prevention of patients subject to dispensary supervision; to know the principles of organization of primary prevention of healthy persons subject to dispensary supervision	PLO-14
Ab-11	Be able to assess the health of patients and the affected population; to organize medical examination of persons subject to dispensary supervision	
Co -11	Ability to determine the tactics of management of persons subject to dispensary supervision	
AR-11	To be responsible for the quality of the organization of dispensary supervision of certain contingents of persons	
Kn-12	Have basic knowledge of medical and social examination	PLO-15
Ab-12	Be able to draw up the relevant documents certifying temporary disability	
Co -12	Ability to conduct a performance examination	
AR-12	To be responsible for the validity of decisions on medical and social examination of working capacity	
Kn-13	Know standard methods, including modern computer information technology, processing of state, social and medical information	PLO-17
Ab-13	Have standard methods of medical and statistical research.	

Co -13	Ability to conduct epidemiological and medical-statistical studies of public health; processing of state, social, economic and medical information		
AR-13	Be responsible for the validity of the conclusions about the state of health of the population; high-quality and timely execution of statistical processing and analysis of the received information		
Kn-14	Know the methods of assessing public health and the principles of risk groups	PLO-18	
Ab-14	Be able to assess the health of the population and plan preventive measures		
Co -14	Ability to assess the impact of the environment, socio-economic and biological determinants on the health of the individual, family, population		
AR-14	Be responsible for timely conclusions on the state of health of the population on the basis of the negative impact of environmental factors, socio-economic and biological determinants, for the timely submission of proposals for appropriate preventive measures.		
Ab-15	Be able to choose the appropriate unified clinical protocol for the provision of medical care	PLO-19	
Ab-16	Be able to organize their own work, work in a team with junior medical staff or in an interdisciplinary team	PLO-20	
Ab-17	Be able to form goals and determine the structure of personal activities	PLO-21	
AR-15	Be responsible for maintaining a healthy lifestyle and timely use of self-regulatory methods	PLO-22	
AR-16	To be aware of and guided in their activities by civil rights, freedoms and responsibilities, to raise the general educational and cultural level.	PLO-23	
Co -15	Adhere to the requirements of ethics, bioethics and deontology in their professional activities	PLO-24	
AR-17	Be responsible for compliance with the requirements of ethics, bioethics and deontology in their professional activities.		
6. Format and scope of the course			
Course format - full-time			
Type of study activities	Number of hours	Number of groups	
lectures	16	26	
practical	120		
seminars	0		
independent	89		
7. Topics and content of the course			
Class type code	Topic	Content of training	Code learning outcome
L-1 (lecture-1)	Essential hypertension	Definition. Etiology, pathogenesis. Classification. Clinical manifestations. Diagnosis. Examples of diagnosis formulation. Principles of treatment.	

		Primary and secondary prevention. Forecast and efficiency. Demonstration of the patient on the topic.	
L- 2	Chronic forms of ischemic heart disease	Definition. Etiology, pathogenesis. Classification. Clinical manifestations. Diagnosis. Examples of diagnosis formulation. Principles of treatment. Primary and secondary prevention. Forecast and efficiency. Demonstration of the patient on the topic.	
L-3	Systemic diseases connective tissue	Definition. Etiology, pathogenesis. Classification. Clinical manifestations. Diagnosis. Examples of diagnosis formulation. Principles of treatment. Primary and secondary prevention. Forecast and efficiency. Demonstration of the patient on the topic.	
L-4	Glomerulo-nephritis, renal failure	Definition. Etiology, pathogenesis. Classification. Clinical manifestations. Diagnosis. Examples of diagnosis formulation. Principles of treatment. Primary and secondary prevention. Forecast and efficiency. Demonstration of the patient on the topic.	
P-1 (practical lesson - 1)	Essential hypertension	Definition. The role of disorders of central and humoral mechanisms of pressure regulation, endothelial dysfunction and other factors. Classification. Clinical manifestations and data of additional research methods at different stages of hypertension. Defeat of target organs. Risk stratification. Complication. Differential therapy of hypertension taking into account its stage. Complicated and uncomplicated hypertensive crises. Features of the clinical course. Diagnosis and treatment of different variants of hypertensive crises. Prevention.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-2	Secondary arterial hypertension	Definition. The main reasons. Clinical symptoms, diagnosis of renal (renovascular, renoparenchymal), endocrine (Itsenko-Cushing's syndrome and disease, pheochromocytoma, Conn's syndrome, diffuse toxic goiter) and hemodynamic (atherosclerotic) hypertension. The value of instrumental and laboratory methods for the differential diagnosis and verification of	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18

		the diagnosis of symptomatic hypertension. Medical and surgical treatment. Primary and secondary prevention.	
P-3	Atherosclerosis. Dysautonomia	Definition of atherosclerosis. The role of vascular wall damage, general and local inflammation, hyperlipidemia and platelet function in the development of atherosclerosis. Risk factors. Features of clinical manifestations depending on the location of lesions (aorta, coronary, mesenteric and renal arteries, arteries of the lower extremities). The value of laboratory, radiological and other instrumental research methods. Differential diagnosis. Complication. General principles of treatment. Therapeutic tactics for different variants of the course. Primary and secondary prevention. Pronosis and working ability. Definition of dysautonomia. Etiology and pathogenesis. Classification. Features of clinical syndromes. Diagnosis of different flow options. Criteria for diagnosis. Differential diagnosis. Principles of treatment. Primary and secondary prevention. Forecast and working ability.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-4	IHD: acute myocardial infarction	Definition. The role of atherosclerosis, destabilization of atherosclerotic plaque and functional factors in the pathogenesis of various forms of myocardial infarction. Classification. The concept of "acute coronary syndrome". Features of the clinical course and diagnosis of various forms of the disease (including atypical). Laboratory (markers of myocardial necrosis) and ECG diagnosis of myocardial infarction. Definition of the location of the necrosis focus by ECG. Complications (acute left ventricular failure, cardiac arrhythmia and conduction, myocardial rupture, acute cardiac aneurysm, post-infarction Dressler's syndrome). Therapeutic tactics in different periods of acute myocardial infarction. Indications for surgical treatment. Rehabilitation. Primary and secondary prevention.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-5	Chronic forms of coronary heart disease	Definition. Classification. Features of the clinical course and diagnosis of different variants of stable and unstable	Kn – 1-15 Ab – 1-18 Co-1-16

		<p>angina. Painless forms of coronary heart disease (painless ischemia, postinfarction and diffuse cardiosclerosis). The role of ECG, echocardiography, exercise tests (bicycle ergometry, esophageal electrocardiostimulation), radionuclide methods, coronary angiography, biochemical parameters in the diagnosis and differential diagnosis of various forms of coronary heart disease. Criteria for diagnosis. Differential therapy of different variants of stable and unstable angina, indications for surgical treatment (coronary artery bypass grafting, stenting, transluminal angioplasty). Emergency care for angina. Primary and secondary prevention. Forecast and working ability.</p>	AR – 1-18
P-6	<p>Pulmonary heart. Pulmonary artery thromboembolism</p>	<p>Definition of "pulmonary heart". Etiology, pathogenesis. Classification. Clinical manifestations, results of instrumental research methods depending on the etiological factor, form (acute, subacute, chronic) and stage (compensation, decompensation) of the disease. Principles of treatment Primary and secondary prevention. Forecast and efficiency. Definition and classification of PE. Risk factors. Pathogenesis of hemodynamic disorders. Clinical course of various forms. Diagnosis criteria, differential diagnosis. The value of the results of instrumental research methods for diagnosis. Therapeutic tactics. Indications for surgical treatment. Primary and secondary prevention. Forecast and working ability.</p>	<p>Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18</p>
P-7	<p>Congenital and acquired heart defects</p>	<p>Definition. Defect of the atrial and interventricular septa, open ductus arteriosus, coarctation of the aorta, defects of the mitral, aortic, tricuspid valves. Mechanisms of hemodynamic disturbance and compensation. Pulmonary hypertension. The value of invasive and non-invasive instrumental methods for the diagnosis and differential diagnosis of congenital heart disease. Complication. Variants of the clinical course depending on the severity of hemodynamic disorders and the degree of pulmonary hypertension.</p>	<p>Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18</p>

		Eisenmenger syndrome. Indications for surgical treatment. Prevention of complications. Forecast and efficiency.	
P-8	Infectious endocarditis	Definition. Etiology, pathogenesis. Features of the clinical course depending on the pathogen. Clinical manifestations, diagnostic criteria. The value of laboratory methods and echocardiographic examination in diagnosis. Complications (heart failure, embolism, abscesses). Treatment, features of antibacterial therapy. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18
P-9	Myocarditis and cardiomyopathy	Definition and classification of myocarditis. Etiology and pathogenesis. Clinical manifestations. Laboratory and instrumental (ECG, EchoCG) research methods in the diagnosis of myocarditis. Criteria for diagnosis. Complication. Treatment of myocarditis depending on the etiology. Treatment of complications (heart failure). Prevention. Forecast and efficiency. Determination of cardiomyopathies. Etiology and pathogenesis of the main types of cardiomyopathies (inflammatory, metabolic, idiopathic). Clinical manifestations, changes in ECG, EchoCG and other research methods in idiopathic (dilated, hypertrophic and restrictive) cardiomyopathies. Diagnosis criteria and differential diagnosis. Complication. Features of treatment of cardiomyopathies. Primary and secondary prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18
P-10	Pericarditis	Definition. Etiology and pathogenesis. Classification. Features of the clinic, course and diagnosis of different variants of pericarditis (dry, exudative, constrictive). Methods of diagnosis verification. Differential diagnosis with myocardial damage. Indications for pericardial puncture, its diagnostic and therapeutic value. Differential therapy of different forms of pericarditis taking into account etiological factors. Primary and secondary prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18
P-11	Cardiac arrhythmias	Definition. Etiology. Electrophysiological mechanisms of	Kn – 1-15 Ab – 1-18

		arrhythmias (extrasystoles, atrial fibrillation and flutter, supraventricular and ventricular tachycardia, ventricular fibrillation). Possibilities of their recognition in the clinic. Classification. Hemodynamic disorders. Clinic, course. ECG diagnostics and differential diagnostics. Differential drug treatment. Non-drug treatments. The role of electropulse therapy in the treatment of arrhythmias (indications, contraindications, methods). Emergency care for paroxysmal arrhythmias and sudden cardiac arrest. Primary and secondary prevention. Forecast and efficiency.	Co-1-16 AR – 1-18
P-12	Impaired conduction of the heart	Definition. Etiology. Clinical signs and ECG-diagnosis of different variants and degrees of atrio-ventricular block and blockade of the legs of the His bundle. Tactics for chronic and acute conduction disorders. Emergency care for Morgan-Adams-Stokes syndrome. Indications and principles of electrical stimulation (temporary, permanent). Primary and secondary prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-13	Acute heart failure	Definition. The main causes, pathogenesis of hemodynamic disorders in various forms of acute heart failure. Classification. Features of clinical manifestations depending on the variant, stage. Diagnosis. The value of echocardiography. Treatment. Primary and secondary prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-14	Chronic heart failure	Definition. The main causes, pathogenesis of disorders of central and peripheral hemodynamics in different forms (left and right ventricular). The role of neurohumoral activation and remodeling of the heart in the development of heart failure. Classification. Features of clinical manifestations depending on the variant (systolic, diastolic), stage and functional class. Diagnosis. The value of echocardiography. Treatment. Primary and secondary prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-15	Acute rheumatic fever. Systemic connective	Acute rheumatic fever: definition. The role of streptococcal infection and	Kn – 1-15 Ab – 1-18

	tissue diseases: systemic lupus erythematosus	immunological reactivity in the development of acute rheumatic fever. Classification. Clinical picture (carditis, polyarthritis, chorea, skin lesions). Laboratory and instrumental diagnostics. Criteria for diagnosis. Differential diagnosis. Complication. Treatment taking into account the degree of activity. Primary and secondary prevention. Forecast and efficiency.	Co-1-16 AR – 1-18
P-16	Systemic connective tissue diseases: systemic scleroderma and dermatomyositis	Systemic lupus erythematosus: definition, etiological factors and pathogenesis. Classification. Clinical manifestations depending on the damage to organs and systems, disease activity. The value of laboratory (including immunological) research methods. Diagnostic criteria, differential diagnosis. Complication. Treatment. Pulse therapy with glucocorticosteroids. Prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-17	Systemic vasculitis	Definition. Etiological factors, pathogenesis. Classification. Clinical picture and course depending on the damage to organs and systems. Laboratory diagnostics. Diagnostic criteria, differential diagnosis. Complication. Treatment. Prevention. Forecast and efficiency. Hemorrhagic vasculitis (Shenlein-Genoch purpura, hypersensitive vasculitis). Definition. Etiology. Pathogenesis. Clinical manifestations. Additional survey methods. Criteria for diagnosis. Differential diagnosis. Treatment. Prevention. Forecast and efficiency. Nodular periarteritis. Definition. Etiology and pathogenesis. Clinical manifestations. Additional survey methods. Diagnostic criteria. Differential diagnosis. Complication. Treatment. Forecast.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-18	Rheumatoid arthritis	Definition. Etiological factors, pathogenesis. The role of immune status disorders in the development of the disease. Classification. Clinical picture taking into account the activity of the pathological process, the stage of the disease; systemic manifestations. The value of laboratory and instrumental methods for the diagnosis of rheumatoid arthritis, its stage and activity.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18

		Diagnostic value of synovial fluid examination. Diagnostic criteria. Formulation of a clinical diagnosis. Differential diagnosis. Complication. Differentiated treatment of different clinical variants. Basic therapy. Tactics of treatment with glucocorticosteroids and nonsteroidal anti-inflammatory drugs. Prevention. Forecast and efficiency.	
P-19	Osteoarthritis	Definition. Etiology, pathogenesis. Clinical symptoms of osteoarthritis depending on the predominant location of the lesion. Diagnosis. Laboratory and instrumental research methods. Diagnostic criteria. Differential diagnosis. Treatment: medical and non-medical treatment. Primary and secondary prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-20	Gout	Definition. Etiological factors, pathogenesis. Classification. Clinical manifestations. Laboratory and instrumental diagnostics. Criteria for diagnosis. Differential diagnosis. Treatment. Prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-21	Ankylosing spondylitis. Reactive arthritis	Definition. Etiology, pathogenesis. Classification. Clinical manifestations of reactive arthritis of various etiologies and ankylosing spondylitis. Laboratory and instrumental diagnostics. Reiter's syndrome. Criteria for the diagnosis of reactive arthritis. Differential diagnosis. Principles of treatment, the role of antibacterial therapy. Primary and secondary prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-22	Glomerulonephritis. Renal amyloidosis	Definition. Etiology, role of streptococcal infection and immunological disorders in the development of the disease. Pathogenesis of major clinical syndromes. Morphological variants of glomerulonephritis. Clinical classification. Clinical manifestations of different variants and stages of the disease. Laboratory and instrumental diagnostics. Differential diagnosis. Complications (eclampsia, acute heart failure, acute and chronic renal failure).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18

		Treatment taking into account morphological and clinical variants of the disease. Primary and secondary prevention. Forecast and efficiency. Determination of nephrotic syndrome. Etiology and pathogenesis. Clinical manifestations. Diagnostic criteria and differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency. Renal amyloidosis. Etiology, pathogenesis. Clinical manifestations. Laboratory and instrumental diagnostics. Complication. Treatment. Prevention.	
P-23	Pyelonefries. Tubulo-interstitial nephritis	Determination of pyelonephritis. The role of infection in the development of inflammatory diseases of the kidneys and urinary tract. Primary and secondary pyelonephritis. Clinical manifestations. Instrumental and laboratory diagnostic methods. Differential diagnosis. Complication. Treatment depending on the form and etiology. Primary and secondary prevention. Forecast and efficiency. Definition, etiology and pathogenesis of tubulo-interstitial nephritis. Clinical manifestations, laboratory and instrumental diagnostics. Diagnosis criteria and differential diagnosis. Complication. Primary and secondary prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-24	Acute kidney damage. Chronic kidney disease	Definition. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Classification. The concept of "chronic kidney disease". Changes in laboratory parameters depending on the stage of renal failure. Differential diagnosis. Complication. Principles of treatment of different stages of chronic kidney disease. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications to renal replacement therapy, complications. Primary and secondary prevention. Forecast and efficiency.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -1 (independent study)	Preparation for a practical lesson on "Essential arterial hypertension".	Preparation for a practical lesson on "Essential hypertension". - Mastering the method of measuring blood pressure.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18

		- Mastering the method of registration and skills of ECG interpretation on the topic.	
IS – 2	Preparation for a practical lesson on "Secondary hypertension".	- Preparation for a practical lesson on "Secondary hypertension. Neurocirculatory dystonia". - Mastering the skills of interpreting the results of Doppler echocardiography (Doppler echocardiography) on the topic. - Mastering the skills of ECG interpretation on the topic.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -3	Preparation for a practical lesson on "Atherosclerosis".	- Preparation for a practical lesson on "Atherosclerosis". - Mastering the skills of analysis of the lipid spectrum of the blood.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -4	Preparation for a practical lesson on "IHD: acute myocardial infarction".	- Preparation for a practical lesson on "IHD: acute myocardial infarction". - Mastering the skills of ECG interpretation on the topic. - Mastering the skills of analysis of biochemical parameters of blood (markers of myocardial necrosis).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -5	Preparation for a practical lesson on "Chronic forms of coronary heart disease."	- Preparation for a practical lesson on "Chronic forms of coronary heart disease." - Mastering the skills of ECG interpretation on the topic.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -6	Preparation for a practical lesson on "Pulmonary heart. Pulmonary embolism".	- Preparation for a practical lesson on "Pulmonary heart. Pulmonary artery thromboembolism". - Mastering the skills of interpreting the results of echocardiography on the topic. - Mastering the skills of analysis of coagulograms, D-dimer.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -7	Preparation for a practical lesson on "Congenital and acquired heart defects".	- Preparation for a practical lesson on "Congenital and acquired heart defects". - Mastering the skills of interpreting the results of Doppler echocardiography on the topic. - Mastering the interpretation of the results of X-ray examination of the chest on the topic. - Mastering the skills of ECG interpretation on the topic.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -8	Preparation for a practical lesson on "Infectious endocarditis"	- Preparation for a practical lesson on "Infectious endocarditis". - Mastering the skills of interpreting the results of Doppler echocardiography on	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18

		<p>the topic.</p> <ul style="list-style-type: none"> - Mastering the skills of interpreting microbiological blood tests. - Mastering the skills of interpreting the results of biochemical blood tests (acute phase parameters, total protein and protein fractions). 	
IS -9	Preparation for a practical lesson on "Myocarditis and cardiomyopathy".	<ul style="list-style-type: none"> - Preparation for a practical lesson on "Myocarditis and cardiomyopathy". - Mastering the skills of interpreting the results of Doppler echocardiography on the topic. - Mastering the skills of interpreting the results of biochemical blood tests (acute phase parameters, total protein and protein fractions). 	<p>Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18</p>
IS -10	Preparation for a practical lesson on "Perikarditis".	<ul style="list-style-type: none"> - Preparation for a practical lesson on "Perikarditis". - Mastering the skills of interpreting the results of biochemical blood tests (acute phase parameters, total protein and protein fractions). 	<p>Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18</p>
IS -11	Preparation for a practical lesson on "Heart rhythm disorders".	<ul style="list-style-type: none"> - Preparation for a practical lesson on "Heart rhythm disorders". - Mastering the skills of ECG interpretation on the topic. 	<p>Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18</p>
IS -12	Preparation for a practical lesson on "Conduction of the heart."	<ul style="list-style-type: none"> - Preparation for a practical lesson on "Conduction disorders of the heart." - Mastering the skills of ECG interpretation on the topic. 	<p>Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18</p>
IS -13	Preparation for a practical lesson on "Acute heart failure".	<ul style="list-style-type: none"> - Preparation for a practical lesson on "Acute heart failure". - Mastering the skills of interpreting the results of Doppler echocardiography on the topic. 	<p>Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18</p>
IS -14	Preparation for a practical lesson on "Chronic heart failure".	<ul style="list-style-type: none"> - Preparation for a practical lesson on "Chronic heart failure". - Mastering the skills of interpreting the results of Doppler echocardiography on the topic. - Mastering the skills of interpretation of biochemical blood tests (brain natriuretic peptide). 	<p>Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18</p>
IS -15	Preparation for a practical lesson on "Acute rheumatic fever. Systemic connective tissue diseases: systemic lupus erythematosus".	<ul style="list-style-type: none"> - Preparation for a practical lesson on "Acute rheumatic fever. Systemic connective tissue diseases: systemic lupus erythematosus. - Mastering the skills of interpretation of biochemical blood tests (acute phase 	<p>Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18</p>

		parameters, ASL-O, total protein and protein fractions). - Mastering the skills of interpreting the results of immunological blood tests (ANA, dsDNA, Sm-antigen).	
IS -16	Preparation for a practical lesson on "Systemic connective tissue diseases: systemic sclero-dermis and dermato-myositis".	- Preparation for a practical lesson on "Systemic connective tissue diseases: systemic scleroderma and dermatomyositis." - Mastering the skills of interpretation of biochemical blood tests (acute phase parameters, total protein and protein fractions, CPK). - Mastering the skills of interpreting the results of immunological blood tests (SCL-70, Jo-1).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -17	Preparation for a practical lesson on "Systemic vasculitis".	- Preparation for a practical lesson on "Systemic vasculitis". - Mastering the skills of interpreting the results of laboratory blood tests (acute phase parameters, total protein and protein fractions, creatinine, pANCA, cANCA, Hbs Ag).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -18	Preparation for a practical lesson on "Rheumatoid arthritis".	- Preparation for a practical lesson on "Rheumatoid arthritis". - Mastering the skills of interpreting the results of immunological blood tests (RF, anti-CCP). - Mastering the skills of interpretation of X-ray examination of joints on the topic.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -19	Preparation for a practical lesson on "Osteoarthritis".	- Preparation for a practical lesson on "Osteoarthritis". - Mastering the skills of interpretation of X-ray examination of joints on the topic.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -20	Preparation for a practical lesson on "Gout".	- Preparation for a practical lesson on "Gout". - Mastering the skills of interpretation of biochemical blood tests (acute phase indicators, uric acid). - Mastering the skills of interpretation of synovial fluid analysis. - Mastering the skills of interpretation of X-ray examination of joints on the topic.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -21	Preparation for a practical lesson on the topic "Ankylosing spondylitis. Reactive arthritis".	Preparation for a practical lesson on "Ankylosing spondylitis. Reactive arthritis." - Mastering the skills of interpretation of serological blood tests. - Mastering the skills of interpretation of radiological examination of joints,	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18

		sacroiliac joints on the topic.	
IS -22	Preparation for a practical lesson on "Glomerulonephritis. Renal amyloidosis".	- Preparation for a practical lesson on "Glomerulonephritis. Renal amyloidosis." - Mastering the skills of interpreting the results of laboratory research methods (general analysis of urine, daily proteinuria, general analysis of blood, total protein and protein fractions, creatinine, glomerular filtration rate, cholesterol, blood electrolytes). - Mastering the skills of interpreting the results of ultrasound of the kidneys on the topic.	Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18
IS -23	Preparation for a practical lesson on "Pyelo-jade. Tubulointerstitial nephritis".	- Preparation for a practical lesson on "Pyelonephritis. Tubulointerstitial nephritis". - Mastering the skills of interpreting the results of laboratory research methods (general urine analysis, urine analysis by OZ Nechiporenko and SS Zymnytsky, microbiological examination of urine, creatinine, glomerular filtration rate, uric acid).	Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18
IS -24	Preparation for a practical lesson on "Acute kidney damage. Chronic kidney disease".	- Preparation for a practical lesson on "Acute kidney damage. Chronic kidney disease." - Mastering the skills of interpreting the results of laboratory research methods (general urine analysis, general blood analysis, total protein and protein fractions, creatinine, glomerular filtration rate, blood electrolytes, urine albumin / creatinine content).	Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-18

Types of classes according to the curriculum are: a) lectures, b) practical classes, c) independent work of students.

Thematic plans of lectures, practical classes and independent work reveal the problematic issues of the relevant sections of internal medicine. In the lecture course didactic means are used as much as possible (multimedia presentations, slides, educational videos, demonstration of thematic patients). Lecture and practical stages of students' learning are composed mainly in such a way that lectures precede the relevant practical classes.

Practical classes are held on the clinical bases of the department. Methods of organizing practical classes in internal medicine requires:

- to make the student a participant in the process of providing medical care to patients from the moment of their hospitalization, examination, diagnosis, treatment to discharge from the hospital;
- to master professional practical skills; skills of teamwork of students, doctors, other participants in the process of providing medical care;
- to form in the student, as a future specialist, an understanding of responsibility for the level of their training, its improvement during training and professional activities.

To implement the relevant module specified in the first lesson, it is necessary to provide the student with a detailed plan of work in the clinic and provide conditions for its implementation. This plan should include:

- research that the student must master (or get acquainted with);
- algorithms (protocols) of examinations, diagnosis, treatment, prevention in accordance with the standards of evidence-based medicine;
- supervision of patients, which should be carried out by the student during the study of the discipline;
- reports of the patient's medical history in the study group, at clinical rounds, practical conferences.

Patient management includes:

- 1) clarification of the patient's complaints, medical history and life, conducting a survey of organs and systems;
- 2) conducting a physical examination of the patient and determining the main symptoms / syndromes of the disease;
- 3) analysis of the results of laboratory and instrumental research;
- 4) diagnosis;
- 5) appointment of treatment;
- 6) definition of primary and secondary prevention measures;
- 7) report on the results of examination of the patient by a team of students in the study group, analysis under the guidance of the teacher of the correctness of diagnosis, differential diagnosis, scheduled examination, treatment tactics, assessment of prognosis and performance, prevention.

It is recommended to conduct practical classes with the inclusion of:

- 1) control of the initial level of knowledge with the help of test questions, compiled in the format of a question with 5 answer options, of which 1 - correct and checking workbooks;
- 2) management of 1-2 patients with diseases and conditions corresponding to the subject of the lesson, followed by discussion of the correctness of diagnosis, differential diagnosis and treatment with the use of evidence-based medicine and in accordance with National and European guidelines and protocols;
- 3) consideration of the results of additional research methods (laboratory and instrumental) used in the diagnosis and differential diagnosis, consideration of which is provided by the topic of practical training;
- 4) control of the final level of knowledge on test tasks.

In practical classes, students are recommended to keep protocols (patient card), in which it is necessary to enter brief information about the patients examined during the practical lesson, diagnosis, examination plan and prescribed treatment.

Independent and individual work of students is an integral part of educational activities and is included in the ECTS (European Community Course Credit Transfer System) credits of each module and discipline as a whole. It includes:

- preparation for practical classes;
- implementation and defense of ISRS (International Classification for Primary Care) (report of the abstract in a practical lesson; report at clinical conferences of departments; writing theses, articles; review of scientific literature on topics);
- preparation and writing of medical history;
- mastering practical skills;
- preparation for final control;
- writing a workbook on the topic of the lesson.

Teachers of the department provide an opportunity to carry out independent work. During practical classes and final control, control and evaluation of its implementation are carried out.

The Department of Internal Medicine has the right to make changes to the curriculum within 15.0%. Assimilation of the topic (current control) is controlled in practical classes, assimilation of content modules (intermediate control) - in practical final classes. It is recommended to use the following tools to assess the level of preparation of students: test tasks, solving situational problems, conducting laboratory tests and evaluating their results, analysis and evaluation of instrumental research and parameters characterizing the functions of the human body, control of practical skills and medical manipulations.

The final control is made at the last practical lesson to the teacher of the department according to the schedule approved at the educational and methodical meeting of the department. Assessment of

student success in the discipline is a rating and is set on a multi-point scale, taking into account the assessment of the mastery of individual modules.

For those students who want to improve the grade in the discipline, upon completion of the discipline, the curriculum provides a deadline for re-assembly.

The organization of the educational process should ensure the participation of students in the management of at least 2/3 of inpatients. If it is not possible to provide supervision of patients with diseases on the topic of the lesson, students fill in the study history of diseases with diseases of the relevant topic. The need to write such a history is determined by the assistant / associate professor (responsible for teaching and methodological work) on the basis of a weekly review of information on the availability of relevant patients in the departments.

Daily patient examination reports are provided to the associate professor / assistant for supervision. Associate professors / assistants ensure that each student receives the necessary competence in the following areas: questioning the patient, clinical examination, oral report, making diagnostic decisions and determining treatment tactics (critical thinking), filling out documentation.

8. Verification of learning outcomes

Current control

is carried out during training sessions and aims to check the assimilation of educational material by students.

The current control during classes should be based on test control, current survey, examination of the patient, filling out the patient's card and independent work, after which the student is given a comprehensive assessment. Forms of assessment of current educational activities should be standardized and include control of theoretical and practical training. The final grade for the current educational activity is set on a 4-point (national) scale.

Learning outcome code	Code of the type of classes	Method of verification of learning outcomes	Enrollment criteria
Kn – 1-15 Ab – 1-18 Co–1-16 AR – 1-77	Lec 1-4 Prac- 1-24 Semin - 1-24 Indep Study - 1-24	test control, solving situational problems, questioning and clinical examination of the patient, analysis and evaluation of the results of instrumental research and parameters that characterize the functions of the human body, determining the treatment tactics of the patient, filling the patient's card, demonstration of practical skills, report on the performed independent study	1. Knowledge of theoretical material has significant errors, no homework, initial test control of knowledge is written less than 60.0%, unsatisfactory examination of the patient (unsatisfactory assessment of practical skills), the main test on the topic is written on unsatisfactory assessment, the student makes mistakes, that can lead to the death of the patient - unsatisfactory ; 2. Knowledge of theoretical material has errors, which, however, can not cause the death of the patient, the initial test control is written at 60.0-74.0%, a satisfactory grade for practical skills, a test on the topic written on a satisfactory grade, the student makes mistakes that lead to a prolongation of the diagnostic search, but do not threaten the patient's life - satisfactory ; 3. Knowledge of theoretical material without errors, corresponds to the program, the initial test control is written on 75,0-89,0%, the grade "good" for the performed practical skills, the test on the studied topic is written on the grade "good", the student does not make mistakes - good . 4. Knowledge of theoretical material without errors, corresponds to the program, from

			basic disciplines excellent knowledge which the student can use in therapy, the initial test control is written on 90,0% and more, an estimation "excellent" for the executed practical skills, control work on the studied subject written on the grade "excellent", the student does not make mistakes, is able to examine the patient, interpret the results of examinations and prescribe modern, individual, with a dosage of treatment - excellent.
Exam evaluation criteria			
Exam	The exam is credited to a student if he has scored at least 50 points out of 80 possible.	Each test task is evaluated in 1 point. The maximum number of points for the exam is 80 points.	
<p>The maximum number of points that a student can score for the current academic activity for admission to the exam (differentiated test) is 120 points.</p> <p>The minimum number of points that a student must score for the current academic activity for admission to the exam (differentiated test) is 72 points.</p> <p>The calculation of the number of points is based on the grades obtained by the student on a 4-point (national) scale during the study of the discipline, by calculating the arithmetic mean (CA), rounded to two decimal places. The resulting value is converted into points on a multi-point scale as follows:</p> $x = CA \times 120/5$			
9. Course policy			
<p>The course is compulsory for students majoring in "222 Medicine". The student is obliged to fully master the knowledge, skills, practical skills and competencies in the discipline. The presence and activity of the student during the practical classes must be taken into account.</p> <p>The applicant of higher education has the right to an individual schedule of attending lectures. Debt settlement as a result of semester control is carried out under the control of the dean's office of the faculty in accordance with the schedule approved by the dean of the faculty.</p> <p>For high efficiency of the educational process the student is obliged to follow the following rules:</p> <ul style="list-style-type: none"> - attend practical classes according to the schedule - obligatory in a dressing gown and removable shoes, with an identifier; - must have a mask, gloves, stethoscope and tonometer; - do not be late for class; - follow the rules of internal regulations of the university; - do not talk during classes; - turn off your mobile phone; - do not miss classes without good reason; - timely and diligently perform tasks; - do not write off and do not use plagiarism; - be polite and friendly to classmates and teachers; - be punctual and obligatory. 			
10. References			
<p>Required:</p> <p style="text-align: center;">LIST OF EDUCATIONAL MATERIALS</p> <ol style="list-style-type: none"> 1. Adebajo A., Dunkley L. ABC of Rheumatology. 2018. 226 p. 2. Alan D., Jessica J., Joan T., Sharon Andrea. Rapid Review of Rheumatology and Musculoskeletal Disorders. 2014. 172 p. 3. Baker T., Nikolic G. Practical Cardiology An Approach to the Management of Problems in Cardiology. 2016. 405 p. 			

4. Bender J., Russell K., Rosenfeld L., Chaudry S. Oxford American Handbook of Cardiology (Oxford American Handbooks in Medicine) 2010. 706.
5. Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine. 2018. 5174 p.
6. Clunie G., Wilkinson N., Nikiphorou E., Jadon D.. Oxford Handbook of Rheumatology. 2018. 832 p.
7. Feehally J. Comprehensive Clinical Nephrology. 2019. 1570 p.
8. Firestein G. S., Budd R. C., Gabriel S. E. Kelley and Firestein's Textbook of Rheumatology. 2017. 2441 p.
9. Mayo Clinic Cardiology : Board Review Questions and Answers. 2007. 328 p.
10. Navadia Chirag. Cardiology: Expert Consult - Online and Print (Cardiology (Mosby)), Third Edition. 2009. 1970 p.
11. Schrier R. W. Manual of Nephrology. 2014. 453 p.
12. Hayes P. 2016: Guidelines for preventive activities in general practice, 9th edition
13. The Royal Australian College of General Practitioners, 173 p.
Hoffman R., Edward J., Benz Jr. et al 2017 7th edition. Hematology. Basic principles and practice. ELSEVIER, 2650 p..
14. Lynn S. Bickley. I 2016: Bates' Guide to Physical Examination and History Taking, 10th Edition. 1010p.
15. Murtagh J., Rosenblatt J., Coleman J., Murtagh C. General Practice, 2019:7th edition, McGraw-Hill Education (Australia) Pty Ltd, 6541 p.
16. Wearne S. 2016: Clinical cases for general practice exams / Susan Wearne. Edition: 3rd ed. 374 p.

Information resources

1. <https://www.aasld.org/>
2. <https://www.diabetes.org>
3. <http://www.eagen.org/>
4. <http://www.ers-education.org/guidelines.aspx>
5. <http://www.esmo.org/Guidelines/Haematological-Malignancies>
6. <https://ehaweb.org/organization/committees/swg-unit/scientific-working-groups/structure-and-guidelines/>
7. <http://www.gastro.org/guidelines>
8. www.ginasthma.org

11. Equipment, logistics and software of the discipline / course

- 1) synopsis or extended plan of lectures
- 2) plans for practical classes
- 3) tasks for independent work
- 4) guidelines / recommendations for students and teachers
- 5) algorithms for treatment and emergency care (according to the standards of evidence-based medicine)
- 6) algorithms for performing skills practices, medical manipulations, videos
- 7) results of laboratory and instrumental research methods
- 8) models, phantoms, etc.
- 9) simulators, electronic directories, computers with appropriate information support
- 10) questions, tasks, tasks or cases for current and final control.

Equipment:

1. Enzyme-linked immunosorbent assay (BioTek, USA)
2. ABPM-04 (daily blood pressure monitoring) (Meditech Ltd., Hungary)
3. Daily monitor of blood pressure and electrocardiographic signals SDM 23 (LLC "X-Techno", Kyiv, Ukraine)
4. Sonost 2000 (diagnosis of osteoporosis by densitometric method) ("Osteosys", South Korea)
5. Pulse oximeter "NANOX exo". (MedLab, Germany)

6. Recorder of the daily electrocardiogram according to Holter B16600-12 (Heaco ltd.)
7. Electrocardiograph ELI 230 (Mortara, Milwaukee, USA)
8. Electrocardiograph "BIOMED" BE 300 (Shenzhen Comen Medical Instruments Co., Ltd., China)
9. Scanner ultrasonic diagnostic UGEO H60 (Samsung Medison Co., ltd.)
10. Patient monitor G3D (General Meditech, Inc.) (3 pcs.)
11. Syringe pump SN 50 F66 (SINO Medical-Device Technology Co., ltd.) (2 pcs.)
12. Video gastroscope EG27-i10 (Pentax)
13. Video colonoscope EC34-i10L (Pentax)
14. HOREV-2516 (washing and disinfection machine for 2 flexible endoscopes) (Kharkov, Ukraine)
15. Centrifuge laboratory SM-6MT with a rotor 6M 02 (ELMI ltd.)
16. Combined system "HELIK-scan-M" (LLC "AMA", Russia)
17. Power Heart AED G3 pro (automated external defibrillation) (Cardiac Science Corp., Bothell, USA)

12. Additional information

The student scientific circle of the department is present and each teacher prepares the student for participation in the scientific conference.

Practical classes are held on the clinical bases of the Department of Internal Medicine № 1.

link to the web page of the department:

<https://new.meduniv.lviv.ua/kafedry/kafedra-vnutrishnoyi-medytsyny->

13. Appendices

List 1 (syndromes and symptoms)

- 1) arterial hypertension
- 2) arterial hypotension
- 3) chest pain
- 4) fever
- 5) exanthema, enanthema
- 6) hepatomegaly and hepatolienal syndrome
- 7) headache
- 8) dysuria
- 9) dysphagia
- 10) shortness of breath
- 11) cardiomegaly
- 12) hemoptysis
- 13) edematous syndrome
- 14) polyuria
- 15) heart rhythm and conduction disorders
- 16) urinary syndrome
- 17) joint syndrome
- 18) cyanosis

List 2 (diseases)

I. Diseases of the cardiovascular system:

- 1) aortic aneurysms
- 2) atherosclerosis
- 3) varicose veins of the lower extremities
- 4) congenital heart disease
- 5) secondary arterial hypertension
- 6) acute occlusion of the main and peripheral arteries;
- 7) endocarditis
- 8) essential and secondary arterial hypertension
- 9) coronary heart disease
- 10) carditis

- 11) cardiomyopathy
- 12) pulmonary heart
- 13) acquired heart defects
- 14) obliterating endarteritis
- 15) pericarditis
- 16) heart rhythm and conduction disorders
- 17) heart failure
- 18) injuries of the heart and blood vessels
- 19) thromboembolism of the pulmonary artery
- 20) phlebitis, thrombophlebitis

II. Diseases of the genitourinary system:

- 21) renal amyloidosis
- 22) congenital malformations of the urinary system
- 23) glomerulonephritis
- 24) dysmetabolic nephropathy
- 25) nephrotic syndrome
- 26) neoplasms of the kidney, urinary tract and prostate
- 27) pyelonephritis
- 28) urolithiasis
- 29) tubulointerstitial nephritis
- 30) urethritis
- 31) chronic kidney disease
- 32) cystitis

III. Diseases of the musculoskeletal system and connective tissue:

- 33) ankylosing spondylitis
- 34) congenital and acquired malformations of the musculoskeletal system
- 35) acute rheumatic fever
- 36) dermatomyositis and polymyositis
- 37) malignancy of the musculoskeletal system
- 38) osteoarthritis
- 39) osteomyelitis
- 40) gout
- 41) reactive arthritis
- 42) rheumatoid arthritis
- 43) systemic scleroderma
- 44) systemic lupus erythematosus
- 45) systemic vasculitis (nodular polyarteritis, hemorrhagic vasculitis, hypersensitive vasculitis)
- 46) damage to large joints (hip, knee, ankle, elbow)
- 47) chronic rheumatic disease
- 48) juvenile rheumatoid arthritis

List 3 (emergencies):

- 1) hypertensive crisis
- 2) acute urinary retention
- 3) acute kidney damage
- 4) acute heart failure
- 5) acute coronary syndrome
- 6) cardiac arrest
- 7) collapse
- 8) renal colic
- 9) acute cardiac arrhythmias,
- 10) shocks

List 4 (laboratory and instrumental research):

- 1) analysis of ascitic fluid
- 2) urine analysis according to Zymnysky

- 3) urine analysis according to Nechiporenko
- 4) blood proteins and their fractions, C-reactive protein
- 5) blood lipids and lipoproteins and their fractions
- 6) creatinine, urea, blood and urine, glomerular filtration rate
- 7) blood electrolytes
- 8) blood aminotransferases
- 9) coagulogram
- 10) blood uric acid
- 11) histomorphological examination of the biopsy of mucous membranes
- 12) histomorphological examination of muscle and skin biopsy
- 13) study of the function of external respiration
- 14) standard ECG (in 12 leads)
- 15) echocardiography and Doppler
- 16) general blood test
- 17) general analysis of urine
- 18) general immunological profile of blood
- 37) X-ray contrast angiography
- 38) methods of instrumental visualization of the thoracic cavity
- 39) methods of instrumental visualization of the genitourinary system
- 40) methods of instrumental visualization of the spine, bones and joints

List 5 (medical manipulations):

- 1) perform indirect heart massage
- 2) perform artificial respiration
- 3) perform defibrillation using a manual automatic defibrillator-cardioverter
- 4) to register a standard ECG in 12 leads
- 5) to temporarily stop external bleeding
- 6) to carry out administration of medicinal substances (intravenous jet and drip, intraosseous)
- 7) provide peripheral venous access
- 8) measure blood pressure
- 9) to restore airway patency
- 10) to carry out finger research of a rectum
- 11) perform a pleural puncture
- 12) determine blood groups, rhesus affiliation
- 13) transfuse blood components and blood substitutes
- 14) taking smears for bacterioscopic, bacteriological and cytological examinations

Syllable compiler

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