MINISTRY OF HEALTH OF UKRAINE

ODESA NATIONAL MEDICAL UNIVERSITY

Department of Internal Medicine №1

CONFIRMED by
vice-rector for scientific and pedagogical work

_____ Eduard BURIACHKIVSKYI

September 1st, 2025

WORKING PROGRAM OF ACADEMIC DISCIPLINE

INTERNAL MEDICINE

Level of higher education: second (master's degree)

Field of knowledge: 22 «Health care»

Specialty: 222 «Medicine»

Educational and professional program: Medicine

2025

The work program is based on the educational and professional program "Medicine" for training specialists of the second (master's) level of higher education in the specialty 222 "Medicine" of the field of knowledge 22 "Healthcare", approved by the Academic Council of ONMedU (minutes No. 10 of June 27, 2024) and the educational and professional program "Medicine" for training specialists of the second (master's) level of higher education in the specialty I 2 "Medicine" of the field of knowledge I "Healthcare and Social Security", approved by the Academic Council of ONMedU (minutes No. 10 of June 26, 2025).

Authors:
Head of the department, Professor Yurii Karpenko, Associate Professor Olha Savelyeva

The working program was approved at the meeting of the department of Internal Medicine No.1
Protocol No.1 dated 28.08.2025

Head of the department _____ Yurii KARPENKO

Approved by the guarantor of
the educational and professional program _____ Valeriia MARICHEREDA

Approved by the subject cycle methodical commission for therapeutic disciplines of ONMedU
Protocol No.1 dated 29.08.2025

Head of the subject cycle methodical commission _____ Olena VOLOSHYNA

Revised and approved at a meeting of the department of Internal Medicine №1
Protocol No. __ dated «____» _____ 20_____

Head of department _____ Yurii KARPENKO

Revised and approved at a meeting of the department of the department of Internal Medicine №1
Protocol No. __ dated «_____» _____ 20_____

Head of Department _____ Yurii KARPENKO

1. Description of the discipline:

Name of indicators	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the discipline
Total number: Credits of ECTS: 7 Hours: 210 Content modules:10	Field of knowledge 22 «Health care» Specialty 222 «Medicine» Level of higher education second (master's degree)	*Full-time (day) education* *Compulsory discipline*
		Course: 6
		Semester: XI - XII
		Lectures (0 hours)
		Seminars (0 hours)
		Practical classes (140 hours)
		Laboratories (0 hours)
		Independent work (70 hours)
		Form of final control – Exam

2. The purpose and tasks of the educational discipline, competences, program learning outcomes.

Purpose: Acquisition by the student of higher education of knowledge and formation of elements of professional competences in the field of internal medicine and improvement of skills and competences acquired during the study of previous disciplines.

Task:

1. Formation of skills and abilities: on differential diagnosis, the most common diseases in adults.
2. Improving the skills of substantiating a clinical diagnosis, drawing up a plan for laboratory and instrumental research,
3. Mastering the ability to determine the tactics of emergency care, treatment and prevention of the most common diseases in adults.

The process of studying a discipline aimed at **forming elements of the following competencies:**

General competencies (GC):

GC1 – Ability to abstract thinking, analysis and synthesis.
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 reasoned decisions.
GC7– Ability to work in a team.
GC8 – Ability to interpersonal interaction.
GC10 – Ability to use information and communication technologies
GC11– Ability to search, process and analyze information from various sources.

special (SC):

SC 1. Ability to collect medical information about the patient and analyze clinical data
SC 2. Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results
SC 3. Ability to establish a preliminary and clinical diagnosis of the disease

SC 4. The ability to determine the necessary regime of work and rest in the treatment and prevention of diseases
SC 5. The ability to determine the character of nutrition in the treatment and prevention of diseases
SC 6. Ability to determine the principles and character of treatment and prevention of diseases
SC 7. Ability to diagnose emergency conditions
SC 8. Ability to determine tactics and provide emergency medical care
SC 9. Ability to carry out medical evacuation measures
SC 10. Ability to perform medical manipulations
SC 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, including an early intervention system
SC 13. Ability to carry out sanitary and hygienic and preventive measures
SC 14. Ability to plan and carry out preventive and anti-epidemic measures regarding infectious diseases
SC 15. The ability to conduct an examination of working capacity
SC 16. Ability to maintain medical documentation, including electronic forms
SC 18. The ability to analyze the activity of a doctor, unit, health care institution, ensure the quality of medical care and increase the efficiency of the use of medical resources
SC 21. The ability to 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 people who are studying
SC 24. Adherence to ethical principles when working with patients and laboratory animals
SC 25. Adherence to professional and academic integrity, to be responsible for the reliability of the obtained scientific results
SC 26. The ability to determine the management tactics of persons subject to dispensary supervision.

Program learning outcomes (PLO):
PLO 1 - Have basic 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.
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.
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 related interdisciplinary problems, including an early intervention system.
PLO 4 – To highlight and identify leading clinical symptoms and syndromes (according to list 1); according to standard methods, using preliminary data of the patient's history, data of the patient's examination, knowledge about the person, his organs and systems, establish a preliminary clinical diagnosis of the disease (according to list 2).
PLO 5 - Collect complaints, anamnesis of life and illness, assess 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 about the diagnosis (according to list 4), taking into account the age of the patient.

PLO 6 - To establish a final clinical diagnosis by making a reasoned decision and analyzing the received subjective and objective data of clinical, additional examination, carrying out differential diagnosis, observing the relevant ethical and legal norms, under the control of the managing physician in the conditions of a health care institution (according to list 2).
PLO 7 - Prescribe and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) (according to list 4) of patients with diseases of organs and body systems for differential diagnosis of diseases (according to list 2).
PLO 8 - Determine the main clinical syndrome or symptom that determines the severity of the injured condition (according to list 3) by making a reasoned decision about the person's condition under any circumstances (in the conditions of a health care facility, outside its boundaries), including in conditions of emergency and hostilities, in field conditions, in conditions of lack of information and limited time.
PLO 9 - Determine the character and principles of treatment (conservative, operative) of patients with diseases (according to list 2), taking into account the age of the patient, in the conditions of a health care institution, outside its borders and at the stages of medical evacuation, including in field conditions, on the basis of a preliminary clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes, in case of the need to expand the standard scheme, be able to justify personalized recommendations under the control of the head physician in the conditions of a medical institution.
PLO 10 - Determine the necessary mode of work, rest and nutrition on the basis of the final clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes.
PLO 14 - Determine tactics and provide emergency medical care in emergency situations (according to list 3) in limited time conditions according to existing clinical protocols and standards of treatment.
PLO 17 - Perform medical manipulations (according to list 5) in the conditions of a medical institution, at home or at work 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.
PLO 18 - To determine the state of functioning and limitations of a person's vital activities and the duration of incapacity for work with the preparation of relevant documents, in the conditions of a health care institution, based on data about the disease and its course, peculiarities of a person's professional activity, etc. Maintain medical documentation regarding the patient and the contingent of the population on the basis of regulatory documents.
PLO 21 - Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information.
PLO 23 - Assess the impact of the environment on human health to assess the morbidity of the population.

As a result of studying the academic discipline, the student of higher education must:

Know: Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention of common diseases in patients of different ages.

Master the skills:

- Communicate with patients and their relatives, collect complaints, life anamnesis and diseases.Проводити клінічне обстеження пацієнтів за стандартними методиками.
- Analyze the results of laboratory, functional and instrumental research.
- Carry out differential diagnosis and substantiate the clinical diagnosis.

- Determine tactics and provide emergency medical care in emergency situations.
  To determine the nature and principles of treatment of patients on the basis of a preliminary clinical diagnosis, observing relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes.
- Perform medical manipulations (according to list 5) for common diseases.
- Keep medical documentation for common diseases.

3. CONTENT OF THE EDUCATIONAL DISCIPLINE

Content module 1.

"Management of patients with basic symptoms and syndromes in the cardiology clinic"

Topic 1. Management of a patient with arterial hypertension

The main diseases and conditions accompanied by arterial hypertension: essential and secondary arterial hypertension, in particular, renal (renovascular, renoparenchymatous); endocrine (itsenko-Cushing syndrome and disease, pheochromocytoma, primary hyperaldosteronism, thyrotoxicosis); coarctation of the aorta, isolated systolic arterial hypertension, arterial hypertension during pregnancy. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by arterial hypertension. Primary and secondary prevention. Forecast and performance.

Topic 2. Management of a patient with heart rhythm disorders.

Differential diagnosis of supraventricular and ventricular extrasystole, atrial fibrillation and flutter. Patient management tactics. The main classes of antiarrhythmic agents, indications for their use, side effects. Electropulse therapy. Non-pharmacological methods of treatment of arrhythmias, in particular catheter procedures. Primary and secondary prevention. Forecast and performance.

Topic 3. Management of a patient with impaired cardiac conduction.

Violations of sinoatrial conduction, atrioventricular blockades of various degrees, blockades of the legs of the bundle of His. Sinus node weakness syndrome. Frederick's syndrome. ECG diagnosis. Patient management tactics, additional instrumental methods of examination. Methods of electrocardiostimulation. Primary and secondary prevention, prognosis and performance.

Topic 4. Management of a patient with cardiac pain.

The main diseases and conditions accompanied by chronic pain in the chest: diseases of the cardiovascular system (ischemic heart disease, in particular, stable angina pectoris, aortic valve stenosis, hypertrophic cardiomyopathy, neurocirculatory dystonia); diseases of the digestive system (gastroesophageal reflux disease, cardiospasm, esophageal spasm, hernia of the esophageal opening of the diaphragm, peptic ulcer of the stomach and duodenum); diseases of the musculoskeletal system (osteochondrosis of the thoracic spine); panic attack syndrome. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by chronic chest pain. Primary and secondary prevention. Forecast and performance.

Topic 5. Management of a patient with chronic coronary syndrome.

Typical and atypical angina pectoris, diagnostic criteria. Drawing up an examination plan, additional laboratory and instrumental methods of examination (ECG with physical load, daily Holter monitoring, stress-Echo-KG, coronary angiography). Patient management tactics depending on the functional class. Existing standards of treatment. Endovascular and surgical methods of treatment. Primary and secondary prevention. Forecast and performance.

Topic 6. Management of a patient with cardiomegaly.

Differential diagnosis of cardiomegaly in heart defects, myocarditis, cardiomyopathies, HCS. Drawing up an examination plan, additional instrumental methods of examination (x-ray of the lungs and heart, ECG, Echo-CG, coronary angiography). Patient management tactics. Non-drug, drug and surgical treatment. Primary and secondary prevention. Forecast and performance.

Topic 7. Management of a patient with heart murmurs.

The main diseases and conditions accompanied by systolic and/or diastolic heart murmurs: congenital heart defects (ventricular septal defect, atrial septal defect, patent ductus arteriosus, coarctation of the aorta); acquired heart defects (mitral stenosis, mitral valve insufficiency: organic and relative, mitral valve prolapse, aortic valve stenosis, aortic valve insufficiency, tricuspid valve insufficiency: organic and relative), hypertrophic cardiomyopathy, "innocent" systolic murmur in young people). Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by shortness of breath. Indications for surgical treatment, Primary and secondary prevention. Forecast and performance.

Topic 8. Management of a patient with heart failure.

Right ventricular, left ventricular and biventricular heart failure. Differential diagnosis depending on the leading cause. Drawing up an examination plan, additional instrumental methods of examination (x-ray of the lungs and heart, ECG, Echo-CG, coronary angiography). Patient management tactics depending on the genesis, functional class and stage of heart failure. Non-drug, drug and surgical treatment. Existing standards of treatment. Primary and secondary prevention. Forecast and performance.

Topic 9. Management of a patient with shortness of breath.

The main diseases and conditions accompanied by shortness of breath: heart failure with preserved and reduced systolic function of the left ventricle, respiratory failure due to violation of bronchial patency and diseases of the lungs and pleura; pathology of pulmonary vessels, in particular, thromboembolism of the pulmonary artery and diseases of the chest or respiratory muscles; anemia; hyperventilation syndrome in neuroses and neurocirculatory dystonia; damage to the respiratory center in organic diseases of the brain. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by shortness of breath. Primary and secondary prevention. Forecast and performance.

Topic 10. Management of a patient with edematous syndrome.

Differential diagnosis in edemas of various genesis (cardiac, renal, alimentary, etc.). Drawing up an examination plan, the role of instrumental and laboratory methods of examination (ultrasound, radiography, ECG, general and biochemical tests, urine tests according to Zimnytskyi, Nechyporenko). Patient management tactics depending on the cause, differentiated therapy. Drug and non-drug treatment. Advantages and disadvantages of diuretic therapy. Existing standards of treatment. Primary and secondary prevention. Forecast and performance.

Content module 2

"Management of patients with main symptoms and syndromes in a rheumatology clinic"

Topic 11. Management of a patient with pain in the back and limbs.

The main diseases and conditions accompanied by pain in the limbs and back: seronegative spondyloarthropathies (ankylosing spondylitis, reactive arthritis, arthritis in enterocolitis), osteochondrosis of the spine, osteoporosis, dermatomyositis/polymyositis, neuropathies of various genesis, in particular, with vasculitis, diabetes, etc. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-medicinal and medicinal treatment of the main diseases accompanied by pain in the limbs and back. Primary and secondary prevention. Forecast and performance.

Topic 12. Management of a patient with joint syndrome.

The main diseases and conditions accompanied by joint syndrome: rheumatoid arthritis, ankylosing spondylitis, reactive arthritis, gout, systemic lupus erythematosus, systemic scleroderma, dermatomyositis/polymyositis, polyarteritis nodosa, acute rheumatic fever. Differential diagnostic value of clinical manifestations and data of additional laboratory and

instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by joint syndrome. Primary and secondary prevention. Forecast and performance.

Content module 3
"Management of patients with main symptoms and syndromes in the pulmonology clinic"

Topic 13. Management of a patient with broncho-obstructive syndrome.

The main diseases and conditions accompanied by broncho-obstructive syndrome: chronic obstructive pulmonary disease, bronchial asthma, tumors of the trachea, bronchi and mediastinum. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by broncho-obstructive syndrome. Primary and secondary prevention. Forecast and performance.

Topic 14. Management of a patient with infiltrative darkening in the lungs.

The main diseases and conditions accompanied by pulmonary infiltrate: pneumonia, infiltrative pulmonary tuberculosis, eosinophilic pulmonary infiltrate, lung infarction, lung cancer, benign lung tumors, pulmonary sarcoidosis, focal pneumosclerosis. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by pulmonary infiltrate. Primary and secondary prevention. Forecast and performance.

Topic 15. Management of a patient with community-acquired pneumonia. Management of a patient with hospital-acquired pneumonia.

Differential diagnosis of bacterial, viral, allergic pneumonia, differential diagnosis of pneumonia with tuberculosis, lung tumors, lung infarction, etc. Existing algorithms for the diagnosis of pneumonia. Drawing up an examination plan, the role of radiological, instrumental and laboratory methods of examination (x-ray, bronchography, CT, bronchoscopy, general and biochemical analyses, sputum cultures). Patient management tactics depending on the cause, differentiated therapy. Indications for consultations by other specialists (phtisiatrist, oncologist, etc.). Drug and non-drug treatment. Existing standards of treatment. Primary and secondary prevention. Forecast and performance.

Definition, differential diagnosis of pneumonia of different etiology and genesis. Existing algorithms for the diagnosis of pneumonia. Drawing up an examination plan, the role of radiological, instrumental and laboratory methods of examination (x-ray, bronchography, CT, bronchoscopy, general and biochemical analyses, sputum cultures). Patient management tactics depending on microflora resistance, differentiated therapy. First and second line antibiotics. Drug and non-drug treatment. Existing standards of treatment. Primary and secondary prevention. Forecast and performance.

Topic 16. Management of a patient with hemoptysis. Management of a patient with respiratory failure.

The main diseases and conditions accompanied by hemoptysis: malignant tumors of the bronchi and lungs, pulmonary tuberculosis, pneumonia, bronchiectasis, lung abscess, mitral stenosis, pulmonary infarction, etc. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-medicinal and medicinal treatment of the main diseases accompanied by hemoptysis. Primary and secondary prevention. Forecast and performance.

The main causes of respiratory failure. Diagnosis and differential diagnosis, the role of research on the function of external breathing. Drawing up an examination plan, the role of radiological, instrumental and laboratory methods of examination. Patient management tactics depending on the cause, differentiated therapy. Existing standards of treatment. Primary and secondary prevention. Forecast and performance.

Topic 17. Management of a patient with fever of unknown origin. Damage to organs and systems during HIV infection.

The main diseases and conditions accompanied by prolonged fever: infectious endocarditis, systemic connective tissue diseases, polyarteritis nodosa, rheumatoid arthritis, malignant neoplasms, including leukemias, lymphomas, myeloma, lymphogranulomatosis; sepsis, tuberculosis, Crohn's disease, AIDS. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-medicinal and medicinal treatment of the main diseases accompanied by prolonged fever. Primary and secondary prevention. Forecast and performance.

Content module 4
"Management of patients with basic symptoms and syndromes in the gastroenterological clinic"

Topic 18. Management of a patient with gastric dyspepsia.

Definition. The main causes of development. Classification. Functional dyspepsia and its variants: epigastric pain syndrome and postprandial distress syndrome. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment. Primary and secondary prevention. Forecast and performance.

Topic 19. Management of a patient with chronic diarrheal syndrome.

The main diseases and conditions accompanied by prolonged diarrhea: chronic atrophic gastritis, diseases of the operated stomach, Zollinger-Ellison syndrome, irritable bowel syndrome, Crohn's disease, small intestinal bacterial overgrowth syndrome, celiac disease, food intolerance, Whipple's disease, nonspecific ulcerative colitis, chronic pancreatitis, diabetic enteropathy, amyloidosis, acquired immunodeficiency syndrome. The role of food component intolerance, enzymopathies and immune factors. Syndromes of malabsorption and maldigestion. Secretory, exudative, dysmotor and functional diarrhea. The main coprological syndromes. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by diarrhea. Primary and secondary prevention. Forecast and performance.

Topic 20. Management of a patient with jaundice.

The main diseases and conditions accompanied by jaundice: chronic hepatitis, cirrhosis and liver cancer, hemolytic anemia, gallstone disease, cancer of the head of the pancreas, cancer of the nipple, benign hyperbilirubinemia. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by jaundice. Primary and secondary prevention. Forecast and performance.

Topic 21. Management of a patient with ascites. Management of a patient with portal hypertension.

The main diseases and conditions leading to the development of portal hypertension and ascites: cirrhosis and liver tumors, right ventricular heart failure, including with constrictive pericarditis, thrombosis of the hepatic veins, thrombosis of the portal vein or its branches and thrombosis, stenosis, obliteration of the inferior vena cava at the level or above the hepatic veins, etc. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by portal hypertension and ascites. Indications for endoscopic and surgical treatment (shunt operations, liver transplantation). Primary and secondary prevention. Forecast and performance

Topic 22. Management of a patient with hepatomegaly and hepatolienal syndrome.

The main diseases and conditions accompanied by hepatomegaly and hepatolienal syndrome: diseases of the parenchyma and vessels of the liver, including chronic hepatitis, cirrhosis and liver

cancer, thrombosis of hepatic veins; diseases of the blood and blood-forming organs, in particular, leukemia, lymphogranulomatosis, erythremia; right ventricular heart failure, including with constrictive pericarditis; accumulation diseases, in particular, hemachromatosis, etc. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by hepatomegaly and hepatolienal syndrome. Indications for surgical treatment. Primary and secondary prevention. Forecast and performance.

Content module 5

"Management of patients with basic symptoms and syndromes in the nephrology clinic"

Topic 23. Management of a patient with urinary syndrome.

Definition and characteristics of components of urinary syndrome. Differential diagnosis with hematuria, leukocyturia, proteinuria. Drawing up an examination plan, the role of radiological, instrumental and laboratory methods of examination (ultrasound pyelography, radiography, CT scan, scintigraphy, general and biochemical analyses, urine analyzes according to Zimnytskyi, Nechyporenko). Patient management tactics depending on the cause, differentiated therapy. Drug and non-drug treatment. Existing standards of treatment. Primary and secondary prevention. Forecast and performance.

Topic 24. Management of a patient with nephrotic syndrome.

Definition, etiology, pathogenesis of nephrotic syndrome. Clinical manifestations. Drawing up an examination plan, the role of instrumental and laboratory examination methods. Diagnostic criteria and differential diagnosis. Patient management tactics, drug and non-drug treatment. Existing standards of treatment. Primary and secondary prevention. Forecast and performance.

Topic 25. Management of a patient with chronic kidney disease.

Definition and classification. Etiological factors. The concept of "chronic kidney disease". Classification. Pathogenesis of lesions of organs and systems, their clinical manifestations. Clinic and changes in laboratory indicators depending on the stage. Differential treatment at different stages. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications for hemodialysis, complications. Primary and secondary prevention. Forecast and performance.

Content module 6

"Management of patients with basic symptoms and syndromes in the hematology clinic"

Topic 26. Management of a patient with anemia.

Definition, classification, diagnostic criteria and differential diagnosis of iron-deficient and VI2-deficient anemia. The main causes of iron deficiency. Drawing up an examination plan, the role of laboratory examination methods in iron-deficiency and VI2-deficiency anemias. Patient management tactics, drug and non-drug treatment. Indications for hemotransfusion. Existing standards of treatment. Primary and secondary prevention. Forecast and performance.

Topic 27. Management of a patient with a leukemic reaction and leukemia.

Definition, main reasons, classification. Differential diagnosis of leukemia and leukemoid reaction. Principles of differentiated treatment. Bone marrow transplantation. Supportive therapy. Primary and secondary prevention. Forecast and performance.

Topic 28. Management of a patient with lymphadenopathy.

The main causes of lymphadenopathy. Differential diagnosis of Hodgkin's and non-Hodgkin's lymphomas, enlargement of lymph nodes in other diseases (tuberculosis, sarcoidosis, metastases, SLE, etc.). Patient management tactics, drug and non-drug treatment. Existing standards of treatment. Primary and secondary prevention. Forecast and performance.

Topic 29. Management of a patient with hemorrhagic syndrome. Management of a patient with purpura.

The main diseases and conditions accompanied by hemorrhagic syndrome: hemorrhagic vasculitis, hypersensitivity vasculitis, polyarteritis nodosa, idiopathic thrombocytopenic purpura,

disseminated intravascular coagulation syndrome. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment of the main diseases accompanied by purpura. Primary and secondary prevention. Forecast and performance.

Ideopathic thrombocytopenic purpura. Definition. Etiology and pathogenesis, main clinical syndromes. Diagnosis criteria. Differential diagnosis of thrombocytopenic and non-thrombocytopenic purpura. Patient management tactics, drug and non-drug treatment. Existing standards of treatment. Primary and secondary prevention. Forecast and performance.

Content module 7.
"Emergencies in cardiorheumatology"

Topic 30. Management of a patient with a complicated hypertensive crisis. Management of a patient with cardiac asthma and pulmonary edema

Existing standards of diagnosis and emergency treatment at the pre-hospital and hospital stage. Treatment tactics depending on the damage to the target organs. Further management of patients.

Topic 31. Management of a patient with acute coronary syndrome. Management of a patient with myocardial infarction. Management of a patient with cardiogenic shock

Existing standards of urgent diagnosis and emergency treatment at the pre-hospital and hospital stage. Tactics of treatment depending on the elevation of the ST segment and the presence of a pathological Q wave. Further management of patients.

Topic 32. Management of a patient with pulmonary embolism. Treatment tactics for sudden cardiac death.

Management of a patient with pulmonary embolism

Existing standards of urgent diagnosis and emergency treatment at the pre-hospital and hospital stage. Treatment tactics depending on the level of embolization. Further management of patients.

Treatment tactics for sudden cardiac death.

Existing standards of urgent diagnosis and emergency treatment at the pre-hospital and hospital stage. Technique of resuscitation measures. Defibrillation. Tactics of further treatment and management of patients.

Topic 33. Management of a patient with paroxysmal rhythm and conduction disorders.

Existing standards of urgent diagnosis and emergency treatment at the pre-hospital and hospital stage. Treatment tactics depending on the type of arrhythmia or blockade. Electropulse therapy and electrostimulation. Further management of patients.

Content module 8.
"Emergencies in pulmonology and allergology"

Topic 34. Management of a patient with severe community-acquired and hospital-acquired pneumonia. Management of a patient with total pleural effusion and pneumothorax.

Existing standards of diagnosis and treatment. Treatment tactics depending on severity and spread. The role of X-ray, instrumental and laboratory methods of follow-up examination. Indications for pleural puncture. Indications for transfer to the intensive care unit, artificial lung ventilation. Further management of patients.

Topic 35. Management of a patient with asthmatic status.

Existing standards of diagnosis and treatment. Treatment tactics depending on the stage. The role of X-ray, instrumental and laboratory methods of follow-up examination. Indications for transfer to the intensive care unit, artificial lung ventilation. Further management of patients.

Topic 36. Management of a patient with anaphylactic shock and Quincke's edema.

Existing standards of diagnosis and treatment. Treatment tactics depending on the cause and severity. Further management of patients.

Content module 9.
"Emergencies in gastroenterology and nephrology"

Topic 37. Management of a patient with acute liver failure.

Existing standards of diagnosis and treatment. Treatment tactics depending on the cause and stage. The role of instrumental and laboratory methods of additional examination. Indications for paracentesis. Indications for transfer to the intensive care unit, efferent therapy. Further management of patients.

Topic 38. Management of a patient with acute renal failure

Existing standards of diagnosis and management of patients. Patient management tactics depending on the cause. The role of instrumental and laboratory methods of additional examination. Conservative treatment, indications for hemodialysis. Further management of patients.

Topic 39. Management of a patient with acute abdominal pain. Management of a patient with gastrointestinal bleeding.

Existing standards of diagnosis and management of patients. Patient management tactics depending on the cause. The role of instrumental and laboratory methods of additional examination. Indications for urgent surgical treatment. Indications for transfer to the surgical department or intensive care unit. Conservative treatment, indications for hemotransfusion. Indications for endoscopic hemostasis or urgent surgical treatment. Further management of patients.

Content module 10
"Emergencies in the clinic of military therapy and features of management of seriously ill, incurable patients."

Topic 40. Emergency conditions in the clinic of military therapy

General characteristics of combat injuries, classification, diagnosis. Phased treatment of those affected by poisonous substances during hostilities. Organization of emergency therapeutic assistance at the stages of medical evacuation. Volumes of medical assistance. Peculiarities of injury by poisonous substances during peacetime accidents at chemical enterprises.

Topic 41. Peculiarities of management of seriously ill, incurable patients. Methodology for assessing the patient's condition. Treatment and care planning. Psychological, spiritual and social issues of palliative care for incurable patients and their relatives.

4. The structure of the educational discipline

№	Topic	Number of hours				
		total	Including			
			lectures	seminars	practical classes	Independent work
Content module 1. "Management of patients with basic symptoms and syndromes in the cardiology clinic"						
1	Management of a patient with arterial hypertension.	7			6	1
2	Management of a patient with heart rhythm disorders.	7			6	1
3	Management of a patient with impaired cardiac conduction.	7			6	1
4	Management of a patient with cardiac pain.	4			2	2
5	Management of a patient with chronic coronary syndrome.	6			4	2
6	Management of a patient with cardiomegaly.	4			2	2
7	Management of a patient with heart	4			2	2

	murmurs.					
8	Management of a patient with heart failure.	4			2	2
9	Management of a patient with shortness of breath.	4			2	2
10	Management of a patient with edematous syndrome.	4			2	2
	Total by content module 1	**51**			**34**	**17**
Content module 2 "Management of patients with main symptoms and syndromes in a rheumatology clinic"						
11	Management of a patient with pain in the back and limbs.	6			4	2
12	Management of a patient with joint syndrome.	4			2	2
	Total by content module 2	**10**			**6**	**4**
Content module 3 "Management of patients with main symptoms and syndromes in the pulmonology clinic"						
13	Management of a patient with broncho-obstructive syndrome.	7			6	1
14	Management of a patient with infiltrative darkening in the lungs.	4			2	2
15	Management of a patient with community-acquired pneumonia. Management of a patient with hospital-acquired pneumonia.	4			2	2
16	Management of a patient with hemoptysis. Management of a patient with respiratory failure.	4			2	2
17	Management of a patient with fever of unknown origin. Damage to organs and systems during HIV infection.	6			4	2
	Total by content module 3:	**25**			**16**	**9**
Content module 4 "Management of patients with basic symptoms and syndromes in the gastroenterological clinic"						
18	Management of a patient with gastric dyspepsia.	6			4	2
19	Management of a patient with chronic diarrheal syndrome.	4			2	2
20	Management of a patient with jaundice.	4			2	2
21	Management of a patient with ascites. Management of a patient with portal hypertension.	4			2	2
22	Management of a patient with hepatomegaly and hepatolienal syndrome.	4			2	2
	Total by content module 4:	**22**			**12**	**10**

Content module 5 "Management of patients with basic symptoms and syndromes in the nephrology clinic"						
23	Management of a patient with urinary syndrome.	4			2	2
24	Management of a patient with nephrotic syndrome.	4			2	2
25	Management of a patient with chronic kidney disease.	4			2	2
	Total by content module 5:	**12**			**6**	**6**
Content module 6 "Management of patients with basic symptoms and syndromes in the hematology clinic"						
26	Management of a patient with anemia.	5			4	1
27	Management of a patient with a leukemic reaction and leukemia.	5			4	1
28	Management of a patient with lymphadenopathy.	4			2	2
29	Management of a patient with hemorrhagic syndrome. Management of a patient with purpura.	5			4	1
	Total by content module 6:	**19**			**14**	**5**
Content module 7. "Emergencies in cardiorheumatology"						
30	Management of a patient with a complicated hypertensive crisis. Management of a patient with cardiac asthma and pulmonary edema	4			2	2
31	Management of a patient with acute coronary syndrome. Management of a patient with myocardial infarction. Management of a patient with cardiogenic shock	8			6	2
32	Management of a patient with pulmonary embolism. Treatment tactics for sudden cardiac death.	8			6	2
33	Management of a patient with paroxysmal rhythm and conduction disorders.	8			6	2
	Total by content module 7:	**28**			**20**	**8**
Content module 8. "Emergencies in pulmonology and allergology"						
34	Management of a patient with severe community-acquired and hospital-acquired pneumonia. Management of a patient with total pleural effusion and pneumothorax.	7			6	1
35	Management of a patient with asthmatic status.	5			4	1
36	Management of a patient with anaphylactic shock and Quincke's edema.	4			2	2
	Total by content module 8:	**16**			**12**	**4**
Content module 9. "Emergencies in gastroenterology and nephrology"						
37	Management of a patient with acute liver failure.	5			4	1
38	Management of a patient with acute renal failure	4			2	2
39	Management of a patient with acute abdominal pain. Management of a patient with gastrointestinal bleeding.	7			6	1
	Total by content module 9:	**16**			**12**	**4**
Content module 10 "Emergencies in the clinic of military therapy and features of management of seriously ill, incurable patients."						

40	Emergency conditions in the clinic of military therapy	7			6	1
41	Peculiarities of management of seriously ill, incurable patients.	4			2	2
	Total by content module 10:	**11**			**8**	**3**
	Total	**210**			**140**	**70**

5. Themes of lectures / seminars / practical classes / laboratories

5.1. Themes of lectures
Lectures are not provided.

5.2. Themes of seminars
Seminars are not provided.

5.3. Themes of practical classes

№	Days / Topics	Hours
1	**Topic 1. Management of a patient with arterial hypertension.** The main diseases and conditions accompanied by arterial hypertension: essential and secondary arterial hypertension.	2
2	**Topic 1. Management of a patient with arterial hypertension.** Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods.	2
3	**Topic 1. Management of a patient with arterial hypertension.** Non-drug and drug treatment of the main diseases accompanied by arterial hypertension. Primary and secondary prevention.	2
4	**Topic 2. Management of a patient with heart rhythm disorders.** Differential diagnosis of supraventricular and ventricular premature beats, atrial fibrillation and flutter.	2
5	**Topic 2. Management of a patient with heart rhythm disorders.** The main classes of antiarrhythmic drugs, indications for their use, side effects.	2
6	**Topic 2. Management of a patient with heart rhythm disorders.** Cardioversion. Non-medicinal methods of treatment of arrhythmias, in particular catheter procedures. Primary and secondary prevention.	2
7	**Topic 3. Management of a patient with conduction disorders.** Violations of sinoatrial conduction, atrioventricular blocks of various degrees, bundle branch blocks. Weak sinus node syndrome.	2
8	**Topic 3. Management of a patient with impaired cardiac conduction.** Frederick's syndrome. ECG diagnosis. Treatment, additional instrumental methods of examination.	2
9	**Topic 3. Management of a patient with conduction disorders.** Pacemaker implantation. Primary and secondary prevention.	2
10	**Topic 4. Management of a patient with cardialgia.** The main diseases and conditions accompanied by chronic pain in the chest: diseases of the cardiovascular system, diseases of the digestive system, diseases of the musculoskeletal system, panic attack syndrome. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Differential diagnosis algorithm. Patient management tactics.	2
11	**Topic 5. Management of a patient with chronic coronary syndrome.** Typical and atypical angina pectoris, diagnostic criteria. Examination plan, additional laboratory	2

	and instrumental examination methods.	
12	**Topic 5. Management of a patient with chronic coronary syndrome.** Patient management tactics depending on the functional class. Existing standards of treatment. Endovascular and surgical methods of treatment. Primary and secondary prevention.	2
13	**Topic 6. Management of a patient with cardiomegaly.** Differential diagnosis of cardiomegaly in heart defects, myocarditis, cardiomyopathies. Examination plan, additional instrumental examination methods. Treatment. Non-drug, medical and surgical treatment. Primary and secondary prevention.	2
14	**Topic 7. Management of a patient with heart murmurs.** Major diseases and conditions accompanied by systolic and/or diastolic heart murmurs. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods.	2
15	**Topic 8. Management of a patient with heart failure.** Right ventricular, left ventricular and biventricular heart failure. Differential diagnosis depending on the leading cause. Examination plan, additional instrumental methods of examination.	2
16	**Topic 9. Management of a patient with shortness of breath.** The main diseases and conditions accompanied by shortness of breath. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Differential diagnosis algorithm. Treatment.	2
17	**Topic 10. Management of a patient with edema syndrome.** Differential diagnosis in edemas of various genesis (cardiac, renal, alimentary, etc.). Drawing up an examination plan, the role of instrumental and laboratory methods of examination (ultrasound, radiography, ECG, general and biochemical analyses, urine test). Patient management tactics.	2
18	**Topic 11. Management of a patient with pain in the back and limbs.** The main diseases and conditions accompanied by pain in the limbs and back: seronegative spondyloarthropathies (ankylosing spondylitis, reactive arthritis, arthritis in enterocolitis), osteochondrosis of the spine, osteoporosis, dermatomyositis/polymyositis, neuropathies.	2
19	**Topic 11. Management of a patient with pain in the back and limbs.** Differential diagnosis algorithm. Patient management tactics. Non-medicinal and medicinal treatment of the main diseases accompanied by pain in the limbs and back.	2
20	**Topic 12. Management of a patient with joint syndrome.** The main diseases and conditions accompanied by joint syndrome: rheumatoid arthritis, ankylosing spondylitis, reactive arthritis, gout, systemic lupus erythematosus, systemic scleroderma, dermatomyositis/polymyositis, polyarteritis nodosa, acute rheumatic fever. Algorithm of differential diagnosis. Patient management tactics. Non-drug and drug treatment.	2
21	**Topic 13. Management of a patient with broncho-obstructive syndrome.** The main diseases and conditions accompanied by broncho-obstructive syndrome: chronic obstructive pulmonary disease, bronchial asthma, tumors of the trachea, bronchi and mediastinum.	2
22	**Topic 13. Management of a patient with broncho-obstructive syndrome.** Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis.	2
23	**Topic 13. Management of a patient with broncho-obstructive syndrome.** Treatment. Non-medicinal and medicinal treatment of the main diseases accompanied by broncho-obstructive syndrome. Primary and secondary prevention.	2
24	**Topic 14. Management of a patient with infiltrative darkening of the lungs.** The main diseases and conditions accompanied by a pulmonary infiltrate: pneumonia, infiltrative pulmonary tuberculosis, eosinophilic pulmonary infiltrate, lung	2

	infarction, lung cancer, benign lung tumors, pulmonary sarcoidosis, focal pneumosclerosis. Algorithm of differential diagnosis.	
25	**Topic 15. Management of a patient with community-acquired pneumonia and hospital-acquired pneumonia.** Differential diagnosis of bacterial, viral, allergic pneumonia, differential diagnosis of pneumonia with tuberculosis, lung tumors, lung infarction, etc. Algorithms for diagnosis and treatment of pneumonia.	2
26	**Topic 16. Management of a patient with hemoptysis. Management of a patient with respiratory failure.** The main diseases and conditions associated with hemoptysis: malignant tumors of the bronchi and lungs, pulmonary tuberculosis, pneumonia, bronchiectasis, lung abscess, mitral stenosis, lung infarction, etc. Algorithm of differential diagnosis. Treatment.	2
27	**Topic 17. Management of a patient with fever of unknown origin. Damage to organs and systems during HIV infection.** The main diseases and conditions accompanied by prolonged fever: infective endocarditis, systemic connective tissue diseases, nodular polyarteritis, rheumatoid arthritis, cancers, including leukemia, lymphoma, myeloma; sepsis, tuberculosis, Crohn's disease, AIDS.	2
28	**Topic 17. Management of a patient with fever of unknown origin. Damage to organs and systems during HIV infection.** Algorithm of differential diagnosis. Patient management tactics. Non-medicinal and medicinal treatment of the main diseases accompanied by prolonged fever. Primary and secondary prevention.	2
29	**Topic 18. Management of a patient with gastric dyspepsia.** Definition. The main causes. Classification. Functional dyspepsia and its variants: epigastric pain syndrome and postprandial distress syndrome.	2
30	**Topic 18. Management of a patient with gastric dyspepsia.** Differential diagnosis algorithm. Patient management tactics. Non-drug and drug treatment.	2
31	**Topic 19. Management of a patient with chronic diarrhea syndrome.** Major diseases and conditions accompanied by prolonged diarrhea. The role of food component intolerance, enzymopathies and immune factors. Syndromes of malabsorption and maldigestion. Secretory, exudative, dysmotor and functional diarrhea. Basic coprological syndromes. Algorithm of differential diagnosis. Patient management tactics.	2
32	**Topic 20. Management of a patient with jaundice.** The main diseases and conditions accompanied by jaundice: chronic hepatitis, cirrhosis and liver cancer, hemolytic anemia, gallstone disease, cancer of the head of the pancreas, cancer of the nipple, benign hyperbilirubinemia. Differential diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods.	2
33	**Topic 21. Management of a patient with ascites. Management of a patient with portal hypertension.** The main diseases and conditions leading to the development of portal hypertension and ascites: cirrhosis and liver tumors, right ventricular heart failure. Differential diagnosis algorithm. Treatment.	2
34	**Topic 22**. **Management of a patient with hepatomegaly and hepato-lienal syndrome.** The main diseases and conditions accompanied by hepatomegaly and hepatolienal syndrome: diseases of the liver parenchyma and vessels; diseases of the blood and blood-forming organs. Algorithm of differential diagnosis. Treatment.	2
35	**Topic 23. Management of a patient with urinary syndrome.** Definition and characteristics of components of urinary syndrome. Differential diagnosis with hematuria, leukocyturia, proteinuria. Examination plan, the role of radiological, instrumental and laboratory methods of examination.	2
36	**Topic 24. Management of a patient with nephrotic syndrome.** Definition, etiology, pathogenesis of nephrotic syndrome. Clinical manifestations. Drawing up an examination plan, the role of instrumental and laboratory examination methods. Diagnostic criteria and differential diagnosis. Treatment.	2

37	**Topic 25. Management of a patient with chronic kidney disease.** Definition and classification. Etiological factors. The concept of "chronic kidney disease". Classification. Pathogenesis of lesions of organs and systems, their clinical manifestations. Symptoms and changes in laboratory indicators depending on the stage. Differential treatment at different stages. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications for hemodialysis, complications.	2
38	**Topic 26. Management of a patient with anemia.** Definition, classification, diagnostic criteria and differential diagnosis of iron-deficient and BI2-deficient anemia. The main causes of iron deficiency.	2
39	**Topic 26. Management of a patient with anemia.** Examination plan, the role of laboratory examination methods in iron-deficiency and BI2-deficiency anemias. Treatment, drug and non-drug treatment. Indications for blood transfusion. Existing standards of treatment. Primary and secondary prevention.	2
40	**Topic 27. Management of a patient with a leukemic reaction and leukemia.** Definition, main causes, classification. Differential diagnosis of leukemia and leukemoid reaction.	2
41	**Topic 27. Management of a patient with a leukemic reaction and leukemia.** Principles of differentiated treatment. Bone marrow transplantation. Supportive therapy. Primary and secondary prevention.	2
42	**Topic 28. Management of a patient with lymphadenopathy.** The main causes of lymphadenopathy. Differential diagnosis of Hodgkin's and non-Hodgkin's lymphomas, enlargement of lymph nodes in other diseases (tuberculosis, sarcoidosis, metastases, SLE, etc.).	2
43	**Topic 29**. **Management of a patient with hemorrhagic syndrome.** The main diseases and conditions accompanied by hemorrhagic syndrome: hemorrhagic vasculitis, hypersensitivity vasculitis, nodular polyarteritis, idiopathic thrombocytopenic purpura, disseminated intravascular coagulation syndrome. Management of a patient with purpura. Definition. Etiology and pathogenesis, main clinical syndromes. Diagnosis criteria.	2
44	**Topic 29**. **Management of a patient with hemorrhagic syndrome. Management of a patient with purpura.** Differential diagnosis algorithm. Treatment. Non-drug and drug treatment of the main diseases accompanied by purpura. Differential diagnosis of thrombocytopenic and non-thrombocytopenic purpura. Treatment, drug and non-drug treatment.	2
45	**Topic 30. Management of a patient with complicated hypertensive crisis. Management of a patient with cardiac asthma and pulmonary edema.** Existing standards of diagnosis and emergency treatment at the pre-hospital and hospital stage. Clinical manifestations of pulmonary edema. The role of ultrasound and X-ray diagnostics. Management of a patient with complicated hypertensive crisis. Treatment tactics depending on the damage to the target organs. Further management of patients.	2
46	**Topic 31. Management of a patient with myocardial infarction. Management of a patient with cardiogenic shock.** Acute coronary syndromes with and without ST segment elevation. Existing standards of urgent diagnosis and emergency treatment at the pre-hospital and hospital stage.	2
47	**Topic 31. Management of a patient with acute coronary syndrome. Management of a patient with myocardial infarction. Management of a patient with cardiogenic shock.** The role of the ECG in the diagnosis of ACS. Treatment tactics depending on ST segment elevation and the presence of a pathological Q wave.	2

48	**Topic 31. Management of a patient with acute coronary syndrome. Management of a patient with myocardial infarction. Management of a patient with cardiogenic shock.** ACS complicated by cardiogenic shock. Treatment algorithms.	2
49	**Topic 32. Management of a patient with pulmonary embolism. Treatment tactics for sudden cardiac death.** Existing standards of urgent diagnostics at the pre-hospital and hospital stage.	2
50	**Topic 32. Management of a patient with pulmonary embolism. Treatment tactics for sudden cardiac death.** The role of scales, laboratory indicators, CT angiography data. Examples.	2
51	**Topic 32. Management of a patient with pulmonary embolism. Treatment tactics for sudden cardiac death.** Treatment tactics: conservative, surgical and combined.	2
52	**Topic 33. Management of a patient with paroxysmal rhythm and conduction disorders.** Existing standards of urgent diagnosis and emergency treatment at the pre-hospital and hospital stage.	2
53	**Topic 33. Management of a patient with paroxysmal rhythm and conduction disorders.** ECG manifestations of emergency conditions in arrhythmology.	2
54	**Topic 33. Management of a patient with paroxysmal rhythm and conduction disorders.** Treatment tactics depending on the type of arrhythmia or block. Cardioversion and pacemakers. Further management of patients.	2
55	**Topic 34. Management of a patient with severe out-of-hospital and in-hospital pneumonia.** Management of a patient with total pleural effusion and pneumothorax. Existing standards of diagnosis and treatment. Treatment tactics depending on severity and spread.	2
56	**Topic 34. Management of a patient with severe out-of-hospital and in-hospital pneumonia. Management of a patient with total pleural effusion and pneumothorax.** The role of X-ray, instrumental and laboratory methods of follow-up examination. Indications for pleural puncture.	2
57	**Topic 34. Management of a patient with severe out-of-hospital and in-hospital pneumonia. Management of a patient with total pleural effusion and pneumothorax.** Indications for transfer to the intensive care unit, artificial lung ventilation. Further management of patients.	2
58	**Topic 35. Management of a patient with asthmatic status.** Existing standards of diagnosis and treatment. Treatment tactics depending on the stage.	2
59	**Topic 35. Management of a patient with asthmatic status.** The role of X-ray, instrumental and laboratory methods of additional examination. Indications for transfer to the intensive care unit, artificial lung ventilation. Further management of patients.	2
60	**Topic 36. Management of a patient with anaphylactic shock and Quincke's edema.** Existing standards of diagnosis and treatment. Treatment tactics depending on the cause and severity.	2
61	**Topic 37. Management of a patient with acute liver failure.** Existing standards of diagnosis and treatment. Treatment tactics depend on the cause and stage.	2
62	**Topic 37. Management of a patient with acute liver failure.** Indications for paracentesis. Indications for transfer to the department of intensive therapy, efferent therapy. Further management of patients.	2
63	**Topic 38. Management of a patient with acute kidney injury.** Existing standards of diagnosis and management of patients. Conservative treatment, indications for hemodialysis. Further management of patients. Side effects of replacement therapy.	2

	Indications for transplantation.	
64	**Topic 39. Management of a patient with acute abdominal pain. Management of a patient with gastrointestinal bleeding.** Patient management tactics depending on the cause. The role of instrumental and laboratory methods of follow-up examination.	2
65	**Topic 39. Management of a patient with acute abdominal pain. Management of a patient with gastrointestinal bleeding.** Indications for urgent surgical treatment. Indications for transfer to the surgical department or the intensive care unit.	2
66	**Topic 39. Management of a patient with acute abdominal pain. Management of a patient with gastrointestinal bleeding.** Conservative treatment, indications for hemotransfusion. Indications for endoscopic hemostasis or urgent surgical treatment. Further management of patients.	2
67	**Topic 40. Emergencies in the military therapy.** General characteristics of combat injuries, classification, diagnosis. Concept of TCCC (Tactical Combat Casualty Care).	2
68	**Topic 40. Emergencies in the military therapy. MARCH protocol.** Organization of emergency therapeutic assistance at the stages of medical evacuation. Medical assistance.	2
69	**Topic 40. Emergencies in the military therapy.** Peculiarities of injury by poisonous substances during peacetime accidents at chemical enterprises.	2
70	**Topic 41. Features of management of seriously ill, incurable patients.** Methodology for assessing the patient's condition. Treatment and care planning. Psychological, spiritual and social issues of palliative care for incurable patients and their relatives.	2
	Total:	**140**

5.4. Themes of laboratories

Laboratory classes are not provided**.**

6. Independent work of the student

№	Theme	Hours
1	**Topic 1.** Management of a patient with arterial hypertension.	1
2	**Topic 2.** Management of a patient with a heart rhythm disorder.	1
3	**Topic 3.** Management of a patient with impaired cardiac conduction.	1
4	**Topic 4.** Management of a patient with cardiac pain.	2
5	**Topic 5.** Management of a patient with chronic coronary syndrome	2
6	**Topic 6.** Management of a patient with cardiomegaly.	2
7	**Topic 7.** Management of a patient with heart murmurs.	2
8	**Topic 8.** Management of a patient with heart failure.	2
9	**Topic 9.** Management of a patient with shortness of breath.	2
10	**Topic 10.** Management of a patient with edematous syndrome.	2
11	**Topic 11.** Management of a patient with pain in the limbs and back.	2
12	**Topic 12.** Management of a patient with joint syndrome.	2
13	**Topic 13.** Management of a patient with broncho-obstructive syndrome.	1
14	**Topic 14.** Management of a patient with infiltrative darkening in the lungs.	2
15	**Topic 15.** Management of a patient with community-acquired pneumonia. Management of a patient with hospital-acquired pneumonia.	2

16	**Topic 16.** Management of a patient with hemoptysis. Management of a patient with respiratory failure.	2
17	**Topic 17.** Management of a patient with fever of unknown origin. Damage to organs and systems during HIV infection	2
18	**Topic 18.** Management of a patient with gastric dyspepsia.	2
19	**Topic 19.** Management of a patient with chronic diarrheal syndrome.	2
20	**Topic 20.** Management of a patient with jaundice.	2
21	**Topic 21.** Management of a patient with ascites. Management of a patient with portal hypertension.	2
22	**Topic 22.** Management of a patient with hepatomegaly and hepatolienal syndrome.	2
23	**Topic 23.** Management of a patient with urinary syndrome.	2
24	**Topic 24.** Management of a patient with nephrotic syndrome.	2
25	**Topic 25.** Management of a patient with chronic kidney disease.	2
26	**Topic 26.** Management of a patient with anemia.	1
27	**Topic 27.** Management of a patient with a leukemic reaction and leukemia.	1
28	**Topic 28.** Management of a patient with lymphadenopathy.	2
29	**Topic 29.** Management of a patient with hemorrhagic syndrome. Management of a patient with purpura	1
30	**Topic 30.** Management of a patient with a complicated hypertensive crisis. Management of a patient with cardiac asthma and pulmonary edema.	2
31	**Topic 31.** Management of a patient with acute coronary syndrome. Management of a patient with cardiogenic shock	2
32	**Topic 32.** Management of a patient with pulmonary embolism. Treatment tactics for sudden cardiac death.	2
33	**Topic 33.** Management of a patient with paroxysmal rhythm and conduction disorders.	2
34	**Topic 34.** Management of a patient with severe community-acquired and hospital-acquired pneumonia. Management of a patient with total pleural effusion and pneumothorax.	1
35	**Topic 35.** Management of a patient with asthmatic status.	1
36	**Topic 36.** Management of a patient with anaphylactic shock and Quincke's edema	2
37	**Topic 37.** Management of a patient with acute liver failure.	1
38	**Topic 38.** Management of a patient with acute renal failure.	2
39	**Topic 39.** Management of a patient with acute abdominal pain. Management of a patient with gastrointestinal bleeding.	1
40	**Topic 40.** Emergency conditions in the clinic of military therapy	1
41	**Topic 41.** Peculiarities of management of seriously ill, incurable patients. Methodology for assessing the patient's condition. Treatment and care planning. Psychological, spiritual and social issues of palliative care for incurable patients and their relatives.	2
	Total:	**70**

7. Teaching methods

Practical classes: conversation, role-playing, solving clinical situational problems, practicing patient examination skills, practicing manipulation skills according to list 5, instruction and practicing skills on simulation dummies, training exercises on differential diagnosis of the most

common diseases.

Independent work: study of topics that are not part of the classroom lesson plan; work in departments of clinical bases of departments, including in laboratories and departments (offices) of functional diagnostics, interpretation of data of laboratory and instrumental research methods in internal pathology; learning practical skills using phantoms and working with patients (according to the list); work with additional clinical materials on the website of the department.

8. Forms of control and evaluation methods (including criteria for evaluating learning outcomes)

Ongoing control: oral survey, testing, assessment of performance of practical skills, assessment of communication skills during role play, solution of situational clinical tasks, assessment of activity in class.

Assessment at the practical classes:

1. Assessment of the theoretical knowledge on the theme:
   - methods: survey, solving a situational clinical problem
   - the maximum score – 5, the minimum score – 3, the unsatisfactory score – 2.
2. Assessment of practical skills and manipulations on the topic:
   - methods: assessment of the correctness of the performance of practical skills
   - the maximum score – 5, the minimum score – 3, the unsatisfactory score – 2.
3. Assessment of work with a patient on the topic of the lesson:
   - methods: assessment of: a) communication skills of communicating with the patient and his parents, b) the correctness of prescribing and evaluating laboratory and instrumental studies, c) compliance with the differential diagnosis algorithm, d) justification of the clinical diagnosis, e) drawing up a treatment plan;
   - the maximum score – 5, the minimum score – 3, the unsatisfactory score – 2.
   - The score for one practical class is the arithmetic average of all components and can only
   - have an integer value (5, 4, 3, 2), which is rounded statistically.

Criteria of ongoing assessment at the practical class

Score	Assessment criterion
Perfectly «5»	The student is fluent in the material, takes an active part in discussing and solving a situational clinical tasks, confidently demonstrates practical skills during patient examination and interpretation of clinical, laboratory and instrumental research data, expresses his opinion on the subject of the lesson, demonstrates clinical thinking.
Good «4»	The student has a good command of the material, participates in the discussion and solution of a situational clinical problem, demonstrates practical skills during the patient examination and interpretation of clinical, laboratory and instrumental research data with some errors, expresses his opinion on the subject of the lesson, demonstrates clinical thinking.
Satisfactorily «3»	The student does not have sufficient knowledge of the material, is unsure of participating in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data with significant errors.
Unsatisfactorily «2»	The student does not possess the material, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data.

Final control: structured exam, OSKI 2

A structured exam - is a form of final control that takes place as a separate control measure. Exams are taken by examiners who are approved at a meeting of the department and submitted to the educational department of the University.

Exams are taken by applicants: according to the schedule, after studying the educational component in accordance with the curriculum.

The methodology for conducting final control of the educational component in the form of an exam is unified and involves the use of standardized forms.

The number of questions on the exam is 120. It consists of 4 blocks of 30 questions each: block 1, 2 – theoretical questions, block 3 – electrocardiogram analysis, block 4 – solving a situational problem.

Final control: structured exam, OSKI 2

A structured exam - is a form of final control that takes place as a separate control measure. Exams are taken by examiners who are approved at a meeting of the department and submitted to the educational department of the University.

Exams are taken by applicants: according to the schedule, after studying the educational component in accordance with the curriculum.

The methodology for conducting final control of the educational component in the form of an exam is unified and involves the use of standardized forms.

The number of questions that are put on the exam is 120. It consists of 4 blocks of 30 questions: block 1, 2 - theoretical questions, block 3 - analysis of the electrocardiogram, block 4 - solving a situational problem.

Only those applicants who have fulfilled the requirements of the curriculum in the discipline, have no academic debt, and their average score for current academic activity in the discipline is at least 3.00 are allowed to take the final examination in the form of an exam.

The exam, as a form of final (semester) control, takes place as a separate control measure. Exams are taken by applicants: according to the schedule of the educational process after studying the educational component in accordance with the curriculum - with a cyclical schedule of classes.

The methodology for conducting the final (semester) control of the educational component in the form of an exam is unified and involves the use of standardized forms. The number of questions that are put on a standardized exam corresponds to the amount of credits allocated for studying the academic discipline. The form of the examination ticket is standardized and consists of structural elements (components). The examination ticket may consist only of theoretical questions or with the addition of a situational task. Each ticket may contain from 3 to 5 questions. The questions are short, simple, understandable, clear and transparent, composed in such a way that a full answer to it takes no more than 5 minutes. The timing of the oral structured exam is standard - no more than 30 minutes. A checklist (answer template) is compiled for each question, which provides key points that are required to provide a full answer to the question posed. A literary source with pages is indicated for each answer template. During the oral structured exam, the candidate sees the questions, the teacher sees a checklist with reference answers and determines which components were or were not named by the candidate.

The overall score for the oral structured exam is calculated as the arithmetic average of all scores received for the answers to the questions (including situational tasks).

OSKI-2

According to the Regulations on the organization and procedure for conducting an objective structured practical (clinical) examination (hereinafter referred to as OSP(K)I) at the Odessa National Medical University, approved by the Academic Council on January 30, 2025.

Only those applicants who have fulfilled the requirements of the curriculum in the discipline, have no academic debt and their average score for current educational activities in the discipline is at least 3.00 and have passed a structured exam in the discipline are allowed to take the final control in the form of OKSI-2.

Criteria for assessing the results of higher education applicants in the exam

According to the Regulations on the organization and procedure for conducting an objective structured practical (clinical) exam (hereinafter referred to as OSP(K)I) at the Odessa National Medical University, approved by the Academic Council on January 30, 2025.

9. Distribution of points received by applicants of higher education

The obtained average score for the academic discipline for applicants who have successfully mastered the work program of the academic discipline is converted from a traditional four-point scale to points on a 200-point scale, as shown in the table:

Conversion table of a traditional assessment into a multi-point scale

Traditional four-point scale	Multipoint 200-point scale
Excellent ("5")	185 - 200
Good ("4")	151 - 184
Satisfactory ("3")	120-150
Unsatisfactory ("2")	Below 120

A multi-point scale (200-point scale) characterizes the actual success of each applicant in learning the educational component. The conversion of a traditional grade into a 200-point grade is performed by the University's information and technology department using the "Contingent" program according to the appropriate formula: Average grade point average (current grade point average in the discipline) x 40.

The ECTS rating scale evaluates the achievements of applicants in an academic discipline who are studying in the same course of the same specialty, according to the points they received, by ranking, namely:

Evaluation on the ECTS scale	Statistical indicator
A	Top 10% applicants
B	The next 25% of applicants
C	The next 30% of applicants
D	The next 25% of applicants
E	The next 10% of applicants

The ECTS scale is a relative-comparative rating, which establishes the applicant's belonging to the group of better or worse among the reference group of fellow students (faculty, specialty). An "A" grade on the ECTS scale cannot be equal to an "excellent" grade, a "B" grade to a "good" grade, etc. When converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" according to the ECTS scale do not coincide with the limits of grades "5", "4", "3" according to the traditional scale. Applicants who have received grades of "FX" and "F" ("2") are not included in the list of ranked acquirers. The grade "FX" is awarded to applicants who have obtained the minimum number of points for the current learning activity, but who have not passed the final examination. A grade of "F" is assigned to students who have attended all classes in the discipline, but have not achieved a grade point average (3.00) for the current academic activity and are not admitted to the final examination.

10. Methodological support

- Working program of the academic discipline
- Syllabus

- Methodical developments for practical classes
- Methodical recommendations for independent work of higher education applicants
- Multimedia presentations
- Situational clinical tasks
- Scenarios of role-playing games (if necessary)
- Electronic bank of test tasks by subdivisions of the discipline

Educational and methodical literature:

1. Karpenko Y.I., Zolotaryova N.A., Savelieva O.V., etc. Internal medicine: methodological recommendations for practical classes for applicants of higher education of the 6th year of the second master's level of the specialty "Medicine" / methodological recommendations for practical classes Odesa, ONMedU, 2025.102 p.
2. Karpenko Y.I., Zolotaryova N.A., Savelieva O.V., etc. Internal medicine: methodological recommendations for independent work of applicants of higher education of the 6th year of the second master's level of the specialty "Medicine" / methodological recommendations for independent work Odesa, ONMedU, 2025.175 p.

11. Questions for preparation for the final control (exam). List of tasks for OSKE-2.

Questions for the structured exam in Internal Medicine. BLOCK 1

1. Management of a patient with arterial hypertension. Definition of the concept of "arterial hypertension"; modern classification of hypertension by degree, stage, risk; examination algorithm; definition of the concept of "hypertensive crisis"; tactics of antihypertensive therapy.
2. Management of a patient with a heart rhythm disorder: causes of arrhythmias, classification of extrasystoles and their characteristics, characteristics of atrial fibrillation and flutter: ECG signs; classification of antiarrhythmic drugs; surgical treatment of atrial fibrillation: methods of implementation, possible complications.
3. Management of a patient with cardiac arrhythmia: syndromes and ECG phenomena of premature ventricular excitation: Wolff-Parkinson-White syndrome; P-R interval shortening syndrome (Clark-Levy-Kritesco); long Q-T interval syndrome, sick sinus syndrome; treatment of supraventricular paroxysmal tachycardia (reflex and drug methods).
4. Management of a patient with cardiac conduction disorders: sinoatrial block, AV block I, II, III degree, classification, causes, clinical manifestations; ECG signs, indications for implantation of an electrocardiostimulator (ECS).
5. Management of a patient with cardiac conduction disorders: causes of left and right bundle branch block formation; morphological changes; ECG criteria for complete and incomplete left and right bundle branch block; indications for implantation of an EEG in patients with bundle branch block.
6. Management of a patient with chronic coronary syndrome: modern classification of ischemic heart disease (IHD), functional classes (FC) of stable angina according to the Canadian classification and their correspondence to stress tests (VEM, treadmill), examination of a patient with stable angina, drug treatment depending on FC.
7. Management of a patient with chronic coronary syndrome: clinical and instrumental signs of coronary syndrome X. The phenomenon of painless myocardial ischemia: diagnostics. Indications for the appointment of Holter monitoring. Indications for coronary angiography.
8. Management of a patient with cardiomyopathy: definition of the concept, classification of cardiomyopathies, examination algorithm, electrocardiographic signs of hypertrophy of the heart chambers, diagnostics, treatment.
9. Management of a patient with pericarditis: definition, classification (pathogenetic variants, according to clinical course), examination algorithm, electrocardiographic signs, treatment.

10. Management of a patient with heart murmurs (mitral heart defects): clinical signs of mitral heart defects, auscultatory signs of mitral heart defects, algorithm for examining a patient with mitral heart defects, principles of treatment, indications for surgical treatment
11. Management of a patient with heart murmurs: Aortic stenosis (AS): definition and etiopathogenesis; symptoms of AS; clinical and auscultatory signs of AS; examination algorithm, indications for surgical treatment of AS. Aortic insufficiency (AN) definition; symptoms of AN; clinical and auscultatory signs of AN; examination algorithm, indications for surgical treatment of AN.
12. Management of a patient with heart failure (HF): definition of the term heart failure (HF); types of HF; stages of CHF and NYHA classification; Symptoms (subjective, objective) of left ventricular and right ventricular failure; laboratory and instrumental research methods; lifestyle modification, treatment.
13. Management of a patient with shortness of breath: definition of "shortness of breath"; types of shortness of breath; diseases that cause shortness of breath; clinical and instrumental and laboratory examination to determine the disease that caused shortness of breath; tactics of managing patients depending on the genesis of shortness of breath.
14. Management of a patient with edematous syndrome: definition of the concept of "edema", "edematous syndrome"; systematization of edema by prevalence, types of edema depending on diseases. Mechanisms of formation of edematous syndrome in chronic heart failure. Features of "cardiac" edema. Treatment of edematous syndrome in CHF.
15. Management of a patient with edematous syndrome: definition of the concept of "edematous syndrome"; definition of the concept of "nephrotic syndrome": pathogenetic mechanism of development; etiological causes of development. Basic principles of therapy of nephrotic syndrome. Hypoproteinemia: etiology, features of edema.
16. Management of a patient with pain in the limbs and back: clinical features, diagnostics, treatment of rheumatoid arthritis, ankylosing spondylitis, osteoporosis, reactive arthritis.
17. Management of a patient with joint syndrome: clinical, laboratory and radiological manifestations of joint syndrome in patients with gouty arthritis and in patients with systemic lupus erythematosus (SLE). Modern principles of treatment of SLE and gouty arthritis.
18. Management of a patient with bronchoobstructive syndrome: chronic obstructive pulmonary disease (COPD). Definition, classifications, clinical features, diagnostics, treatment.
19. Management of a patient with bronchoobstructive syndrome: bronchial asthma (BA). Definition, classifications, clinical features, diagnostics, treatment.
20. Management of a patient with infiltrative opacification in the lungs. Sarcoidosis: definition, clinical features, diagnostics, treatment.
21. Management of a patient with infiltrative darkening in the lungs: diagnostic methods that allow verifying the etiology, nature of the pulmonary infiltrate. Algorithm of differential diagnosis in pulmonary infiltrate Features of the diagnosis of pneumonia and tuberculous infiltrate.
22. Management of a patient with community-acquired pneumonia: definition of the concept, classification of community-acquired pneumonia, relevant pathogens, criteria for severe community-acquired pneumonia. Therapy. Criteria for the effectiveness of treatment.
23. Management of a patient with hospital-acquired pneumonia: definition of the concept, relevant pathogens and sources of infection in the hospital. The concept of "ventilator-associated" pneumonia. Laboratory and radiological criteria. Treatment (groups of antibacterial drugs). Complications of hospital-acquired pneumonia.
24. Management of a patient with hemoptysis and pulmonary hemorrhage: definition of the concept of hemoptysis and pulmonary hemorrhage; differential diagnosis of the main diseases that cause hemoptysis; classification of pulmonary hemorrhages clinic. Main methods of diagnosing pulmonary hemorrhages. Main stages of treatment of patients with hemoptysis. Algorithm for providing emergency care to patients with pulmonary

hemorrhage.

25. Management of a patient with respiratory failure (RF): definition of the concept of RF, classification; clinical criteria, methods of studying the function of external respiration, variants of disorders, diagnostic value; laboratory criteria for RF. Oxygen therapy: indications, variants, rules for conducting.
26. Management of a patient with fever of undetermined genesis (FUG). Definition of the concepts of "fever" and "FUG". Examination program for FUG. Laboratory methods of research. Instrumental research and consultations of related specialists. Principles of treatment.
27. Management of a patient with HIV infection. The concepts of "HIV infection", "AIDS". Clinic and classification. Laboratory diagnostics of HIV. Groups of drugs in the treatment of HIV infection.
28. Management of a patient with gastric dyspepsia. The main types of dyspepsia. Clinical manifestations of dyspepsia and symptoms of anxiety. Three leading clinical and morphological forms of chronic gastritis. Drugs for the eradication of H.pulo.
29. Management of a patient with chronic diarrheal syndrome. Signs of chronic diarrhea. The main mechanisms of occurrence. The concepts of "maldigestion", "malabsorption". Clinical manifestations of malabsorption. Laboratory and instrumental diagnostics. Main areas of treatment.
30. Management of a patient with Crohn's disease (CD), nonspecific ulcerative colitis (NUC). Definition of CD and NUC. Leading symptoms of these diseases exclusively with extraintestinal manifestations. Methods of verification. Treatment.

BLOCK 2

1. Management of a patient with jaundice: classification of jaundice; criteria for jaundice; non-invasive imaging methods for examining patients with jaundice; invasive methods for examining patients with jaundice; characteristics of Gilbert's syndrome.
2. Management of a patient with ascites: main mechanisms of ascites formation; examination of patients with ascites: physical and instrumental studies; diagnostic laparocentesis: indications, contraindications; definition and forms of portal hypertension (by localization); clinical and biochemical syndromes of liver damage (main indicators)
3. Management of a patient with portal hypertension: classification of portal hypertension according to clinical manifestations, state of hepatic blood circulation in the portal vein system and degree of severity; clinical manifestations of portal hypertension: features of prehepatic and intrahepatic portal hypertension; laboratory methods of assessment; instrumental methods of assessment; GAVE-syndrome (gastric antral venous ectasia).
4. Management of a patient with hematomegaly and hepatolienal syndrome: definition of hepatomegaly and splenomegaly, classification of diseases accompanied by hepato- and hepato-splenomegaly.; biochemical tests of liver function.; instrumental methods of studying the hepatobiliary system; methods of examining the spleen.
5. Management of a patient with urinary syndrome: clinical classification of urinary syndrome; clinical urine analysis, normal values of indicators; concepts of hyposthenuria, isosthenuria, proteinuria. Clinically significant proteinuria. Diagnostic value of microalbuminuria. Hematuria: types of hematuria, assessment of the degree of hematuria, nature of hematuria. Characteristics of renal hematuria.
6. Management of a patient with nephrotic syndrome: definition of nephrotic syndrome, etiology (most common causes), clinical manifestations, laboratory and instrumental diagnostics, treatment standards.
7. Management of a patient with chronic kidney disease (CKD): definition of the concept of CKD, criteria, stages, main clinical manifestations of CKD, depending on the stage of the disease, main laboratory indicators that change in a patient with CKD; instrumental research methods, treatment tactics depending on the stage; indications and contraindications for the

use of the hemodialysis method.

8. Management of a patient with anemia: definition of the concept of anemia, classification of anemia by severity in women, diagnostic criteria for iron deficiency and B12 deficiency anemia. Treatment standards for iron deficiency and B12 deficiency anemia.
9. Management of a patient with hemolytic anemia: definition of the concept, classification, general diagnostic features of hemolytic anemias, principles of treatment of hereditary and acquired hemolytic anemias, general indications for blood transfusion.
10. Management of a patient with leukemoid reaction and leukemia: definition of the concepts of "leukemoid reaction" and "leukemia", classification of leukemia, main syndromes of acute leukemias and types of leukemoid reactions, differential diagnosis of leukemia and leukemoid reaction, bone marrow transplantation (indications, types of transplantations).
11. Management of a patient with lymphadenopathy: definition of the concepts of "lymphogranulomatosis", "lymphadenopathy"; main clinical manifestations of lymphogranulomatosis; features of lymph node involvement in lymphogranulomatosis; laboratory and instrumental methods for diagnosing lymphogranulomatosis; basic principles of treating lymphogranulomatosis.
12. Management of a patient with hemorrhagic syndrome. Thrombocytopenic purpura. Definition of the concept of "hemorrhagic syndrome". Types of bleeding. Main diseases and conditions accompanied by hemorrhagic syndrome; characteristic signs of thrombocytopenic purpura, diagnosis of TPP. Schönlein-Henoch vasculitis, leading clinical syndromes, diagnosis.
13. Management of a patient with complicated hypertensive crisis (HC): definition of hypertensive crisis; characteristics of complicated HC, initial assessment of the patient's condition; diagnostic measures to clarify the degree of target organ involvement in GC; general principles of GC treatment. Treatment of GC and acute left ventricular failure.
14. Management of a patient with cardiac asthma and pulmonary edema: definition of "pulmonary edema"; classification of pulmonary edema by origin; clinical manifestations of pulmonary edema, laboratory and instrumental diagnostics, emergency care for cardiogenic pulmonary edema.
15. Management of a patient with acute coronary syndrome (ACS): definition of ACS, classification, clinical criteria for ACS without ST elevation. Diagnostic methods for ACS without ST segment elevation, ECG signs of ACS without ST elevation, basic principles of treatment.
16. Management of a patient with acute coronary syndrome (ACS): definition of the concept of acute coronary syndrome (ACS), classifications of ACS, clinical manifestations of MI, laboratory and instrumental diagnostics of myocardial infarction with ST segment elevation.
17. Management of a patient with myocardial infarction: treatment of STEMI, treatment of nonSTEMI and unstable angina. Complications of myocardial infarction.
18. Management of a patient with pulmonary embolism (PE): definition, classification, clinical manifestations, diagnostics, treatment tactics.
19. Management of a patient with paroxysmal rhythm disturbances: supraventricular and ventricular paroxysmal tachycardias: causes, clinical manifestations, classifications, diagnostics, treatment tactics.
20. Management of a patient with paroxysmal rhythm disturbances: atrial fibrillation and flutter: clinical manifestations and complications, classifications, diagnostics, treatment tactics
21. Management of a patient with paroxysmal rhythm disturbances: ventricular flutter and fibrillation: definition, symptoms, ECG diagnostic criteria, emergency care.
22. Management of a patient with pleural effusion and pneumothorax: laboratory and instrumental methods of examination; treatment tactics depending on severity and prevalence; indications for pleural puncture, indications for artificial lung ventilation.
23. Management of a patient with asthmatic status: basis of pathogenesis of asthmatic status, forms, stages: clinical manifestations depending on the stage; principles of treatment of

asthmatic status, the most important clinical signs indicating the effectiveness of the asthmatic status therapy.

24. Management of a patient with anaphylactic shock: definition, clinical signs, diagnosis, emergency care protocol, prevention of anaphylactic shock.
25. Management of a patient with angioedema (angioedema): definition, clinical signs, diagnostics, emergency care protocol, prevention methods.
26. Management of a patient with acute liver failure: definition of the syndrome of "acute liver failure", etiological factors. Clinical manifestations exclusively with encephalopathy. Leading factor of encephalopathy, and its main mechanisms. Laboratory and instrumental diagnostics. Main directions of treatment.
27. Management of a patient with acute kidney injury (AKI). Definition of AKI syndrome. Forms of AKI depending on causal factors. Severity by creatinine level compared to baseline concentration (KDIGO 2012). Clinical manifestations. Diagnostics. Main directions of treatment. Indications for replacement therapy.
28. Management of a patient with abdominal pain. Pathophysiological classification of abdominal pain. The concept of "acute pain" in the abdomen and its features. What allergic, cardiovascular, endocrine, pulmonary diseases can manifest themselves as acute abdominal pain. Symptoms of "red flags". Diagnostic algorithm. Features of treatment.
29. Management of a patient with gastrointestinal bleeding (GI). The main causes of upper (above the ligament of Treitz) and lower GI. Clinical signs of GI. Severity levels according to hemoglobin and shock index. Instrumental and laboratory methods of research. Drug therapy of GI. Endoscopic means of treating bleeding from the upper GI (ulcers, varicose veins of the esophagus).
30. Military medicine. Classification of sanitary casualties. What relates to therapeutic combat trauma. Basic principles of medical triage and stages of evacuation. MARCH protocol: reveal the content. Assistance in tactical conditions. Help with burns.

Block 3 (ECG) and Block 4 (situational tasks) – materials are presented on the department's page in the info system: https://info.odmu.edu.ua/chair/internal_medicine1/files/724/ua

LIST OF TASKS FOR OSKE-2:

According to the “Regulations on the Organization and Procedure for Conducting an Objective Structured Practical (Clinical) Examination (hereinafter referred to as OSP(K)I) at the Odessa National Medical University” approved by the Academic Council on January 30, 2025.

Examination materials for OSKI - 2 are a set of examination tasks for OSKI stations, clinical cases (scenarios) with packages of additional materials, practical material, work algorithms, instructions for standardized patients and examiners, checklists, other accounting, reporting, regulatory documents that ensure the determination of the results of training and acquired clinical competencies of a graduate in basic practically-oriented (clinical) disciplines.

Examination tasks for “Internal Medicine” include 3 stations:
-Internal Medicine. Standardized patient;,
- Internal medicine. Clinical skills;
- Internal medicine. Practical skills

Number of clinical scenarios - 61.
File location - https://moodle.odmu.edu.ua/course/view.php?id=2143

Detailed information (station content) at the links:

https://moodle.odmu.edu.ua/pluginfile.php/324038/mod_resource/content/0/Внутрішня%20медицина.%20Клінічні%20навички.pdf

https://moodle.odmu.edu.ua/pluginfile.php/324040/mod_resource/content/0/Внутрішня%20медицина.%20Стандартизований%20пацієнт.pdf

https://moodle.odmu.edu.ua/pluginfile.php/324033/mod_resource/content/0/Внутрішня%20медицина.%20Практичні%20навички.pdf

12. LIST OF RECOMMENDED LITERATURE

Basic literature:

1. Davidson's Principles and Practice of Medicine, 24rd Edition, 2020.
2. USMLE Step 2 CK Lecture Notes 2021: Internal Medicine (Kaplan Test Prep). - 2022. - Published by Kaplan Medical. - 474 pages.
3. The ECG in Practice = навчальний посібник / Джон Р. Хемптон; переклад 7-го англ. видання. – Київ: Медицина, 2022. – 560 с.

Harrison's Principles of Internal Medicine, 21th edition, 2020.

Additional literature:

1. Ferri's Clinical Advisor (5 Books in 1) / F.F. Ferri. - Elsevier, 2020
2. Goldman's Cecil Medicine / L. Goldman, A.I. Schafer. - 24th ed. - Elsevier, 2020. - 3031 p.
3. Oxford Textbook of Medicine. Vol.1 / ed. by D.A. Warrell, T.M. Cpx, J.D. Firth. - 5th ed. - Oxford University Press, 2020.
4. 2021 Update of the Joint European League Against Rheumatism and European Renal Association– European Dialysis and Transplant Association (EULAR/ ERA–EDTA) recommendations for the management of lupus nephritis. Fanouriakis A, Kostopoulou M, Cheema K, et al. Ann Rheum Dis 2022;79:713–723.
5. EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs: 2019 update. Smolen JS, Landewé R, Bijlsma J, et al. Ann Rheum Dis 2020;76:960–977.
6. 2022 update of the EULAR recommendations for the management of systemic lupus erythematosus. Fanouriakis A, Kostopoulou M, Alunno A, et al. Ann Rheum Dis 2023;78:736–745.
7. EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs: 2019 update. Smolen JS, Landewé RBM, Bijlsma JWJ, et al. Ann Rheum Dis 2020;79:685–699.

13. Electronic information resources

1. World Health Organization. URL: www.who.int/ru/index.html.
2. European Regional Office of the World Health Organization. URL: www.euro.who.int.
3. https://www.aasld.org/
4. https://academic.oup.com/ndt/pages/General_Instruction
5. https://cprguidelines.eu/
6. https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines
7. http://www.eagen.org/
8. http://www.oxfordmedicaleducation.com/
9. http://ard.bmj.com
10. https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines
11. https://guidelines.moz.gov.ua/ - Міжнародні протоколи лікування