

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

SUMY STATE UNIVERSITY

Academic and Research Medical Institute

Кафедра внутрішньої та сімейної медицини

PROPAEDEUTICS OF INTERNAL MEDICINE

Higher education level	The Second
Major: study programme	222 Medicine: Medicine

Approved by Quality Council HHMI

Chairman of the Quality Council HHMI
Petrashenko Viktoriia Oleksandrivna

DATA ON APPROVAL

Author

Bokova Svitlana

Dudchenko Yevhenii Serhiiovych

Considered and approved at the meeting of the work group of Study programme Медицина	Head of the work group (Head of the Study programme) Lychko Volodymyr Stanislavovych
Considered and approved at the meeting of the Кафедра внутрішньої та сімейної медицини	Head of the Department Prystupa Liudmyla Nykodymivna

SYLLABUS

1. General information on the course

Full course name	Propaedeutics of Internal Medicine
Full official name of a higher education institution	Sumy State University
Full name of a structural unit	Academic and Research Medical Institute. Кафедра внутрішньої та сімейної медицини
Author(s)	Bokova Svitlana , Dudchenko Yevhenii Serhiiovych
Cycle/higher education level	The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle
Duration	one semester
Workload	4 ECTS, 120 hours. For full-time course 90 hours are working hours with the lecturer (18 hours of lectures, 72 hours of seminars), 30 hours of the individual study.
Language(s)	English

2. Place in the study programme

Relation to curriculum	Compulsory course available for study programme "Medicine"
Prerequisites	Latin and Medical Terminology, Medical Biology, Medical Informatics, Human Anatomy, Clinical Physiology, Histology, Cytology and Embryology, Biological and Bioorganic Chemistry, Microbiology, Virology and Immunology, Nursing practice: practice of internal medicine, Care for the patients
Additional requirements	There are no specific requirements
Restrictions	There are no specific restrictions

3. Aims of the course

The purpose of the discipline is to form the student's basics of clinical reasoning and the acquisition of professional competencies of examination of the patient and assessment of the main manifestations of diseases of internal organs in compliance with the principles of medical ethics and deontology.

4. Contents

Topic 1 The role and place of Propaedeutics in Internal Medicine as a clinical discipline.

Propaedeutics of internal medicine as an introduction to clinical practice. History of formation of propaedeutics of Internal Medicine in Ukraine and abroad. The main goals and objects of study of Internal Medicine. The main methods of examination of patients in the clinic of Internal Medicine: physical, instrumental, and laboratory.

Topic 2 Inquiring the patient. General examination of the patient. Examination of individual parts of the body: head, neck, torso and limbs. Diagnostic value of symptoms detected during the examination of the patient.

Methods of interviewing the patient, its diagnostic value, taking into account the individual, intellectual and psychological characteristics of the patient. The main structural parts of the anamnesis. Methods of general examination of the patient. Sequence of palpation of lymph nodes. Palpation of the thyroid glands. The diagnostic value of symptoms obtained during the general examination of the patient.

Topic 3 The main complaints of patients with respiratory diseases. Static and dynamic inspection of the chest. Palpation of the chest.

The sequence of clarification and detailing of the most important subjective symptoms of respiratory system disorders and their semiological assessment. Features of clarifying the anamnesis of the disease and life. Methods of static and dynamic inspection of the chest. Determination of topographic areas and physiological formations on the chest and their diagnostic value. Physiological and pathological forms of the chest, their criteria. Pathological forms of respiration, their characteristics and causes. The sequence of chest palpation, determination of vocal fremitus and semiological evaluation of its results.

Topic 4 Percussion as a method of physical examination of the lungs. Methods of comparative lung percussion. Methods of topographic percussion of the lungs. The main symptoms and syndromes based on lung percussion.

History of percussion as a method of physical examination. The role of percussion in determining the condition of the lungs. Classification of percussion by purpose, by the force of percussion, by the method of conducting. Varieties and conditions of percussion tones. The main topographic areas and landmarks on the surface of the chest. The main tasks and methods of comparative percussion of the lungs. Algorithm for comparative lung percussion. The sequence of characteristics and diagnostic value of the obtained data.

Topic 5 Auscultation as a method of physical examination of the lungs. Method of lung auscultation. Basic respiratory noises. Additional respiratory noises (rales, crepitation, pleural friction noise).

History of development of auscultation as a method of physical examination of the patient. Rules for using a stethoscope and phonendoscope. Methods of approximate comparative auscultation of the lungs. The main respiratory noises. Methods for determining bronchophonia and its diagnostic value. Classification of additional respiratory noises. Causes of dry and wet rales, their varieties. Diagnostic value of consonant and non-consonant rales. Conditions of crepitation and the noise of friction of the pleura. Differential signs of additional respiratory noises. Additional auscultatory phenomena (noise of Hippocrates' splash, noise of a falling drop, noise of a "water pipe"), the reasons of their occurrence, and the diagnostic value.

Topic 6 Instrumental and laboratory methods of examination of patients with diseases of the respiratory system.

The role of blood tests in the diagnosis of respiratory system diseases. Laboratory examination of sputum. Pleural puncture. Indications and methods of spirometry, the main indicators are normal, changes in obstructive and restrictive variants of respiratory disorders. Pulse oximetry and study of arterial and venous blood gases. The principles and diagnostic value of bronchoscopy. X-ray examination of the chest, its varieties and diagnostic value. Computed tomography of the chest, the main indications for its implementation.

Topic 7 Pneumonia and pleurisy: symptoms and syndromes based on clinical-instrumental and laboratory research methods,

Definition and classification of pneumonia. The main etiological factors of pneumonia. Complaints of patients and features of these physical methods of examination of patients with pleuro- and bronchopneumonia. Criteria for severe pneumonia. Possibilities of instrumental diagnostics of pulmonary tissue compaction. Laboratory signs of inflammatory syndrome in pneumonia. Pulmonary compaction syndrome. Causes of inflammation of the pleural leaves. Ways of formation and circulation of intrapleural fluid in normal and in pathology. Features of the patient's complaints of dry and exudative pleurisy, the difference between the data of physical examination in different forms of pleurisy. Syndromes of accumulation of fluid and air in the pleural cavity. Possibilities of instrumental diagnostics. Pleural puncture: study of the contents of the pleural cavity. The difference between exudate and transudate according to physical and laboratory examination. The main clinical manifestations and stages of respiratory failure syndrome in lung diseases.

Topic 8 Bronchial obstruction syndrome. Chronic obstructive pulmonary disease. Asthma.

Definition and main mechanisms of development of COPD and asthma. The main complaints and data of physical examination of patients with COPD and asthma. Syndrome of bronchial obstruction, mucociliary insufficiency and increased lung ventilation. Basic methods of instrumental diagnostics. Important role of spirometry in diagnostics of bronchial obstruction. Laboratory signs of asthma according to the general analysis of blood and sputum research. Definition and main clinical manifestations of bronchiectasis.

Topic 9 Interviewing and examination of patients with diseases of the digestive system. Examination and superficial palpation of the abdomen. Deep sliding penetrative palpation of the intestines and stomach, liver, spleen, kidneys.

The sequence of clarification and detailing of complaints of a patient with a pathology of the digestive system. Features of collecting medical history and life. Changes in the appearance of the patient with various pathologies of the gastrointestinal tract. Sequence of examination of the abdomen. The concept of topographic zones and topographic lines on the surface of the abdomen. Tasks and methods of superficial palpation of the abdomen. Methods of ascites detection. Projection of the gastrointestinal tract on the surface of the abdomen. The sequence of deep sliding penetrative palpation of the intestinal tract: normal parameters of the sigmoid, cecum, terminal ileum, ascending, descending, and transverse colon. Methods for determining the lower edge of the stomach. Percussion determination of the size and boundaries of the liver. Causes of increase and decrease in the size of the liver.

Topic 10 Instrumental and laboratory methods of examination of the digestive system.

Acquaintance with indications and methods of fibrogastroduodenoscopy and fibrocolonoscopy. Modern methods of studying the secretory and acid-producing activity of the stomach. Method of conducting multi-moment duodenal sounding. X-ray methods of examination of the gastrointestinal tract. Methods of intragastric pH-metry, fractional study of gastric juice, and analysis of the obtained data. Methods of diagnosis of *Helicobacter pylori*. Methods of multi-moment duodenal sounding, analysis of the obtained data. Investigation of the exocrine function of the pancreas and the function of the small intestine.

Topic 11 Clinical and instrumental and laboratory studies of patients with chronic gastritis, peptic ulcer in stomach and duodenum. The main symptoms and syndromes.

Definition and modern classification of gastritis and peptic ulcer in the stomach and duodenum. The main etiological factors of these diseases. Contamination of *Helicobacter pylori*, conditions of damage to the gastric mucosa and duodenum. The main complaints of patients with chronic gastritis and peptic ulcer. Features of the pain syndrome depending on the location of the pathological focus and the state of acid-producing function of the stomach. Manifestations of dyspeptic syndrome in chronic gastritis and peptic ulcer of the stomach and duodenum. Possibilities of instrumental and laboratory examination of patients. The main complications of peptic ulcer of the stomach and duodenum. Gastric bleeding syndrome.

Topic 12 Intestinal diseases. Chronic pancreatitis. The main symptoms and syndromes.

The main symptoms and syndromes in patients with enteritis and colitis: intestinal dyspepsia syndrome, malabsorption and maldigestion syndromes. Enteropathy. The concept of irritable bowel syndrome. Chronic pancreatitis: etiology, pathogenesis, classification. Disorders of exocrine and endocrine function in chronic pancreatitis and methods of their assessment.

Topic 13 The main symptoms and syndromes in diseases of the biliary tract

Definition and principles of modern classification of chronic cholecystitis and cholangitis. The concept of dyskinesia of the biliary tract and its types. The main complaints of patients with cholecystitis and cholangitis. Physical examination data of patients with chronic cholecystitis and cholangitis. The concept of cutaneous-visceral and viscero-cutaneous symptoms in diseases of the biliary tract. Instrumental research methods in the pathology of the biliary tract, laboratory diagnosis, and the results of duodenal sounding. Gallstone disease: main complaints and physical examination data. Features of the pain syndrome. The main manifestations of jaundice and cholestasis syndrome, their laboratory signs.

Topic 14 Main symptoms and syndromes in liver disease.

Definition and principles of modern classification of chronic hepatitis and liver cirrhosis. The main etiological factors of hepatitis and liver cirrhosis. The mechanism of liver damage in hepatitis of viral etiology. The main complaints of patients with hepatitis and liver cirrhosis, features of examination results and physical examination data. Morphological and biochemical signs of liver damage. The concept of the index of histological activity and the Child-Pugh criteria. Syndromes of portal hypertension, liver failure, and encephalopathy in liver disorders. The main complications of liver cirrhosis.

Topic 15 Chronic kidney disease. Renal failure. Urine examination.

The concept of chronic kidney disease, definition, and classification. Modern classification of chronic renal failure: Urinary, nephrotic, nephritic syndromes in kidney disease. Edema syndrome and hypertension syndrome in kidney disease. Possibilities of instrumental diagnosis of renal pathology. Laboratory study of urine, analysis, and interpretation of the results of general clinical analysis of urine and quantitative tests. The results of biochemical blood tests in renal pathology. Methods for determining the glomerular filtration rate.

Topic 16 The main symptoms and syndromes of kidney disease. Acute and chronic glomerulonephritis and pyelonephritis. Instrumental methods of diagnostics of urinary system.

Instrumental methods of diagnostics of the urinary system. Definition and modern classification of glomerulonephritis and pyelonephritis. The main mechanisms of glomerulonephritis and pyelonephritis. Complaints of patients with kidney damage and the results of physical examination of patients with glomerulonephritis and pyelonephritis. Instrumental methods of research of the urinary system.

Topic 17 Physical methods of examination of the cardiovascular system. Interviewing and general examination of patients with pathology of the cardiovascular system.

Diagnostic value of the main physical methods of examination of the circulatory system (interview, examination, palpation, percussion, auscultation). The sequence of clarification and detailing of complaints of a patient with cardiovascular pathology. Features of collecting medical history. Conducting a general examination of a cardiac patient. The concept of cardiovascular risk.

Topic 18 Study of pulse (arterial, venous, capillary) and blood pressure.

Vessels available to determine the pulse (arterial, venous). Rules and sequence of pulse examination on the radial artery. Determination of the main properties of the pulse (synchronicity, rhythm, frequency, voltage, filling, height, speed, uniformity), detection of deficiency, lability, orderliness, dichroic pulse. Rules for measuring blood pressure in the upper and lower extremities. Basic methods of determining blood pressure. The concept of Korotkoff's tones. The main parameters that determine the indicators of systolic and diastolic blood pressure. The concept of pulse and mean dynamic blood pressure. Normal blood pressure values.

Topic 19 Examination and palpation of the precordium. Percussion of the boundaries of relative and absolute cardiac dullness, determination of the width of the vascular bundle.

The sequence of examination of the heart. Diagnostic value of cardiac hump, pulsations in the heart and neck. Methods and techniques of palpation of the precardiac area: apical shock; heartbeat, causes of its occurrence and methods of determination; pulsation of the abdominal aorta, liver, Plesch's symptom, pulsation of the ascending aorta and its arch, detection of pulsation of the pulmonary trunk. Presystolic and systolic tremor, causes. The concept of relative and absolute cardiac dullness, their percussion definition and changes in pathology. Structures forming the vascular bundle, percussion determination of its width.

Topic 20 Auscultation of the heart. Normal heart sounds, splitting and reduplication of sounds, additional sounds (quail rhythm, gallop rhythm). Organic and functional heart murmurs.

Methods and techniques of auscultation of the heart. Main and additional points of auscultation. Places of projection and the best listening of heart valves. The mechanism of formation of heart sounds. Causes of strengthening and weakening of sounds. Sound accent. Sound changes. The concept of splitting and reduplication of heart sounds, the reasons for their occurrence and temporal characteristics. Additional sounds - mitral valve opening sound, gallop rhythms. Methodological features of auscultation of the heart - directly by the ear, stethoscope, phonendoscope: in the position of the patient standing, lying down, at rest and after exercise. Causes and classification of cardiac noises.

Topic 21 Electrocardiographic method of studying heart function. Methods of ECG recording and decoding.

Clinical and diagnostic value of the method of electrocardiography. Biophysical and physiological bases of an ECG. The structure and function of the drivers of heart rhythm and the conduction system. The main and additional ways of conducting the pulse. Methods and techniques of ECG recording: standard leads, unipolar leads from the extremities, chest leads. The main elements of the ECG: the value of the duration and amplitude of the waves, the duration of the intervals, and segments are normal. Algorithm and technique of ECG decoding.

Topic 22 Electrocardiographic examination of patients with nonarrhythmic heart disease.

Electrocardiographic signs of atrial and ventricular hypertrophy. Amplitude indices in the diagnosis of left ventricular hypertrophy. Romhilt-Estes score system. Pathological changes on the ECG in electrolyte metabolism dysfunction. The concept of channelopathy. The role of long-term ECG recording and stress tests in the diagnosis of cardiovascular pathology. ECG diagnosis of complex pathology.

Topic 23 Electrocardiographic examination of patients with disorders of automatism and excitability.

The main structures that provide the function of automaticity of the heart. ECG signs of automatic disorders: sinus tachycardia, sinus bradycardia, sinus arrhythmia, sick sinus node syndrome. Premature contractions. ECG signs of sinus, atrial, atrioventricular and ventricular extrasystoles (PAC and PVC). Differentiation of right and left premature ventricular contractions. Classification of PVCs. Types of allorhythmia.

Topic 24 Electrocardiographic examination of patients with conduction disorders. ECG signs of combined heart rhythm disorders.

Pulse conduction time in different parts of the conduction system of the heart. ECG signs of sino-auricular and interatrial block. Classification and ECG signs of atrioventricular block. Morgan-Adams-Stokes attacks, their cause, and clinical manifestations. Intraventricular blockade, differentiation of the blockade of the left and right branches of the His bundle. Acquaintance with indications for carrying out and rules of performance of electroimpulse therapy. ECG and clinical signs of atrial fibrillation and flutter. Clinical manifestations and ECG signs in ventricular fibrillation, paroxysmal ventricular tachycardia, ventricular fibrillation.

Topic 25 Instrumental methods of examination of the cardiovascular system.

Phonocardiography: diagnostic value of the method, method of registration and principles of FCG decoding. Polycardiography. Echocardiography: diagnostic value of the method, technique and technique of echocardiographic examination. The most important echocardiographic parameters are the volumes of the heart cavities, the ejection fraction, the thickness of the interventricular septum and the posterior wall of the left ventricle. Dopplerography of the heart and blood vessels. Phlebography, rheovasography: diagnostic value of methods. Research methods and techniques. The role of coronary angiography, computed tomography, magnetic resonance imaging in the modern diagnosis of cardiovascular pathology.

Topic 26 Heart failure syndrome: basic clinical and instrumental methods of examination. Acute and chronic vascular insufficiency.

Determination of heart failure and the main pathogenetic pathways of its development. Modern classification of heart failure (stages of heart failure, hemodynamic variants, functional classes of patients). The main clinical manifestations of heart failure and data on instrumental and laboratory methods of research confirming its presence. Vascular insufficiency and its main types: fainting, collapse, and shock. The concept of syncopal states, the mechanism of their occurrence, and the main clinical manifestations.

Topic 27 Mitral valve diseases: main symptoms and syndromes based on clinical and instrumental methods of examination.

Definition of valve disorders. Rheumatic fever, modern classification and main clinical manifestations. The main causes and mechanisms of mitral regurgitation and mitral stenosis. Changes in hemodynamics in mitral heart disease. The main complaints of patients with mitral stenosis and mitral valve insufficiency. Examination data, palpation of the precordium and percussion in mitral valve diseases. Auscultatory picture of mitral stenosis and mitral regurgitation. ECG and FCG signs of mitral heart disease. Radiological signs of mitral regurgitation. The concept of mitral valve prolapse.

Topic 28 Aortic valve disorders: main symptoms and syndromes based on clinical and instrumental methods of examination.

Etiological factors and mechanisms of aortic regurgitation and aortic stenosis. Changes in hemodynamics in aortic valve diseases. The main complaints of patients with aortic stenosis and aortic regurgitation. Examination data, palpation of the precordium and percussion in aortic valve disease. Auscultatory picture of aortic stenosis and aortic regurgitation. ECG and FCG signs of aortic valve disorders. Radiological signs of aortic valve disorders.

Topic 29 Main symptoms and syndromes of essential arterial hypertension.

WHO / MTG determination for arterial hypertension, essential hypertension (hypertension) and symptomatic hypertension. The main risk factors for hypertension and the mechanisms of its development. Classification of hypertension by blood pressure level and target organ damage. The main complaints of the patient with hypertension, examination data, palpation of the precordium, percussion of the boundaries of cardiac dullness and auscultation of the heart. ECG signs of myocardial changes in hypertension.

Topic 30 Symptomatic arterial hypertension. Hypertensive crises.

Symptomatic arterial hypertension. Classification. Features of the course. The concept of complicated and uncomplicated hypertensive crises. Basic principles of the treatment of patients with arterial hypertension.

Topic 31 Chronic coronary heart disease: main symptoms and syndromes. Definition of "coronary heart disease" (CHD). The main pathogenetic mechanisms and risk factors for coronary heart disease. Dyslipidemia. Atherosclerosis. Modern classification of coronary heart disease. Definition and main clinical manifestations of angina. Functional classes of stable angina. Methods of objective diagnosis of angina (ECG, daily ECG monitoring, stress tests, coronary angiography, heart scintigraphy).
Topic 32 Ischemic heart disease: main symptoms and syndromes in acute coronary syndrome. Unstable angina, the concept of acute coronary syndrome. Definition and main clinical manifestations of acute myocardial infarction. Data on physical methods of examination of patients with acute myocardial infarction. Periodization of myocardial infarction. ECG changes in different forms of myocardial infarction in different periods of its course. Modern laboratory markers of myocardial necrosis.
Topic 33 Complete blood count. The main symptoms and syndromes of anemia. Definition and classification of anemias. Basic laboratory criteria for anemia. The causes and mechanisms of development of iron deficiency, hemolytic, B12, and folate deficiency anemias. The main clinical syndromes and laboratory criteria. Analysis and interpretation of complete blood count.
Topic 34 The main syndromes in leukemia. The concept of leukemia. The main syndromes of leukemia: leukemic, anemic, hemorrhagic, lymphadenopathy. Interpretation of hemogram and myelogram results in leukemia.
Topic 35 Final control of mastering practical skills in patient examination methods and their use for diagnosing the main syndromes of diseases of internal organs. Final control of practical and theoretical training in the discipline, assessment of students' knowledge and skills to identify basic symptoms and syndromes in analyzing the results of instrumental and laboratory methods of examination.
Topic 36 Final control of mastering practical skills in patient examination methods and their use for diagnosing the main syndromes of diseases of internal organs. Final control of practical and theoretical training in the discipline, assessment of students' knowledge and skills to identify basic symptoms and syndromes in analyzing the results of instrumental and laboratory methods of examination.

5. Intended learning outcomes of the course

After successful study of the course, the student will be able to:

LO1	Carry out professional activities by updating and integrating knowledge and understanding responsibility for professional development.
LO2	Identify the leading clinical symptoms and syndromes, based on the anamnesis and objective examination of patients with pathology of internal organs; to establish the most probable preliminary clinical diagnosis of the disease.
LO3	Collect complaints, life and disease history, assess the patient's psychomotor and physical development, the condition of organs and body systems.
LO4	Assign and interpret the results of laboratory and instrumental studies.

LO5	Determine the main clinical syndrome, the cause of the severity of the patient's condition by making an informed decision and assessing the person's condition
LO6	Perform medical manipulations based on a previous clinical diagnosis and/or indicators of the patient's condition in a medical institution, at home, or at work.
LO7	Work with professional literature, analyze and use the information obtained.
LO8	Assess the impact of the environment on the health of the population
LO9	Express and draw conclusions on health care problems and related issues in a reasoned manner.

6. Role of the course in the achievement of programme learning outcomes

Programme learning outcomes achieved by the course.

For 222 Medicine:

PO1	Possess comprehensive knowledge of the structure of professional activity. Perform professional activities that require the continuous updating and integration of knowledge. Assume responsibility for professional development and demonstrate the capacity for further independent professional learning with a high level of autonomy.
PO4	Isolate and identify primary clinical symptoms and syndromes (according to List 1); establish a provisional clinical diagnosis of a disease (according to List 2) using standard methodologies, based on preliminary patient history, physical examination findings, and knowledge of human anatomy, organs, and systems.
PO5	Collect patient complaints, medical and life history; assess the patient's psychomotor and physical development, as well as the state of bodily organs and systems; evaluate diagnostic information based on laboratory and instrumental findings (according to List 4), accounting for the patient's age.
PO7	Prescribe and analyse supplementary (mandatory and elective) diagnostic methods (laboratory, functional, and/or instrumental) (according to List 4) for patients with diseases of organs and bodily systems to perform differential diagnosis (according to List 2).
PO8	Determine the primary clinical syndrome or the underlying cause of a casualty's/affected individual's critical condition (according to List 3) by making informed decisions and assessing the individual's condition under any circumstances (inside or outside a healthcare facility), including emergency situations, combat operations, field settings, and environments with limited time and information.
PO17	Perform medical procedures and manipulations (according to List 5) in a hospital, home, or occupational environment based on a provisional clinical diagnosis and/or patient status indicators, making informed decisions and adhering to relevant ethical and legal standards.
PO21	Retrieve required information from professional literature, databases, and other sources; analyse, evaluate, and apply this information.
PO23	Evaluate environmental impacts on human health to assess population morbidity patterns.

PO25	Communicate one's own knowledge, conclusions, and reasoning regarding healthcare and related issues to both specialist and non-specialist audiences clearly and unambiguously.
------	--

7. The role of the course in the development of program competencies

Program competencies addressed by the course:

For 222 Medicine:

PC1	GC 1. Ability to think abstractly, analyse, and synthesize.
PC2	GC 2. Ability to learn and master modern knowledge.
PC3	GC 3. Ability to apply knowledge in practical situations.
PC4	GC 4. Knowledge and understanding of the subject area and understanding of the professional activity.
PC5	GC 6. Ability to make informed decisions.
PC6	GC 7. Ability to work in a team.
PC7	GC 8. Ability to engage in interpersonal interaction.
PC8	GC 10. Ability to use information and communication technologies.
PC9	GC 11. Ability to search, process, and analyse information from various sources.
PC10	GC 12. Determination and persistence concerning tasks and responsibilities undertaken.
PC11	SC 2. Ability to determine the required scope of laboratory and instrumental investigations and evaluate their results.
PC12	SC 3. Ability to establish provisional and clinical diagnoses of diseases.
PC13	SC 4. Ability to determine the appropriate work and rest regimen for the treatment and prevention of diseases.
PC14	SC 8. Ability to determine management strategies and provide emergency medical care.
PC15	SC 9. Ability to execute medical evacuation and triage measures.
PC16	SC 10. Ability to perform medical procedures and manipulations.
PC17	SC 11. Ability to solve medical problems in new or unfamiliar environments amidst incomplete or limited information, incorporating aspects of social and ethical responsibility, including the early intervention system.
PC18	SC 17. Ability to assess the impact of environmental, socioeconomic, and biological determinants on the health status of individuals, families, and populations.
PC19	SC 18. Ability to analyse the performance of a physician, department, or healthcare institution, ensuring the quality of medical care and improving the efficiency of healthcare resource utilization.
PC20	SC 22. Ability to manage workflows in the healthcare sector that are complex, unpredictable, and require novel strategic approaches.

PC21	SC 25. Adherence to professional and academic integrity, assuming responsibility for the validity of obtained scientific results.
------	---

8. Teaching and learning activities

Topic 1. The role and place of Propaedeutics in Internal Medicine as a clinical discipline. lect.1 "The role and place of Propaedeutics to Internal Medicine as a clinical discipline. Inquiring the patient. General examination of the patient." (full-time course) Propaedeutics of internal medicine as an introduction to clinical practice. History of formation of propaedeutics of Internal Medicine in Ukraine and abroad. The main goals and objects of study of Internal Medicine. The main methods of examination of patients in the clinic of Internal Medicine: physical, instrumental, laboratory. Teaching is conducted in the form of multimedia lectures.
pr.tr.1 "The role and place of Propaedeutics to Internal Medicine as a clinical discipline." (full-time course) Propaedeutics of internal medicine as an introduction to clinical practice. History of formation of propaedeutics of Internal Medicine in Ukraine and abroad. The main goals and objects of study of Internal Medicine. The main methods of examination of patients in the clinic of Internal Medicine: physical, instrumental, laboratory. The study of this topic involves theoretical work in the classroom.
Topic 2. Inquiring the patient. General examination of the patient. Examination of individual parts of the body: head, neck, torso and limbs. Diagnostic value of symptoms detected during the examination of the patient. pr.tr.2 "Inquiring the patient. General examination of the patient. Examination of individual parts of the body: head, neck, torso and limbs. Diagnostic value of symptoms detected during the examination of the patient" (full-time course) The method of questioning the patient, its diagnostic value, the systematicity of the conduct, taking into account the individual, intellectual, and psychological characteristics of the patient. The main structural parts of the anamnesis. Methodology of general examination and examination of individual parts of the patient's body. Diagnostic value of the obtained symptoms. The study of this topic involves working in the classroom, using the following teaching methods: surveying, practicing practical skills (including in a simulation center using dummies), role-playing, testing, and, if possible, working at the patient's bedside, in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).
Topic 3. The main complaints of patients with respiratory diseases. Static and dynamic inspection of the chest. Palpation of the chest. lect.2 "The main complaints of patients with respiratory diseases. Static and dynamic inspection of the chest. Palpation of the chest. Bronchial obstruction syndrome." (full-time course) The main complaints of patients with respiratory diseases. The main symptoms and syndromes in diseases of the respiratory system. Bronchial obstruction syndrome. Teaching is conducted in the form of multimedia lectures.

pr.tr.3 "The main complaints of patients with respiratory diseases. Static and dynamic inspection of the chest. Palpation of the chest." (full-time course)

The sequence of clarification and detailing of the most important subjective symptoms of respiratory system disorders and their semiological assessment. Features of clarifying the anamnesis of the disease and life. Methods of static and dynamic inspection of the chest. Determination of topographic areas and physiological formations on the chest and their diagnostic value. Physiological and pathological forms of the chest, their criteria. Pathological forms of respiration (Cheyne-Stokes, Biot, Kussmaul, Grocco), their characteristics and causes. The sequence of chest palpation, determination of vocal fremitus and semiological evaluation of its results. The study of this topic involves working in the classroom. There is a need to use the following methods: practical skills training in a simulation center, surveys, testing and master the practical skills at the patient's bed in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 4. Percussion as a method of physical examination of the lungs. Methods of comparative lung percussion. Methods of topographic percussion of the lungs. The main symptoms and syndromes based on lung percussion.

pr.tr.4 "Percussion as a method of physical examination of the lungs. Methods of comparative lung percussion. Methods of topographic percussion of the lungs. The main symptoms and syndromes based on lung percussion." (full-time course)

History of percussion as a method of physical examination. The role of percussion in determining the condition of the lungs. Classification of percussion by purpose, by the force of percussion, by the method of conducting. Varieties and conditions of percussion tones. The main topographic areas and landmarks on the surface of the chest. The main tasks and methods of comparative percussion of the lungs. Algorithm for comparative lung percussion. The sequence of characteristics and diagnostic value of the obtained data. The study of this topic involves working in the classroom using the following methods: watching a video with discussion, practical skills training in a simulation center, survey, testing and master the practical skills at the patient's bed in specialized departments of the medical institution (according to the cooperation agreement between the medical institution and the university).

Topic 5. Auscultation as a method of physical examination of the lungs. Method of lung auscultation. Basic respiratory noises. Additional respiratory noises (rales, crepitation, pleural friction noise).

pr.tr.5 "Auscultation as a method of physical examination of the lungs. Method of lung auscultation. Basic respiratory noises. Additional respiratory noises (rales, crepitation, pleural friction noise)." (full-time course)

History of development of auscultation as a method of physical examination of the patient. Rules for using a stethoscope and phonendoscope. Methods of approximate comparative auscultation of the lungs. The main respiratory noises: vesicular and bronchial respiration, their quantitative and qualitative changes, conditions for occurrence. Methods for determining bronchophonia and its diagnostic value. Classification of additional respiratory noises (wheezing, crepitation, pleural friction noise). Causes of dry (wheezles) and wet (crackles) rales, their varieties. Diagnostic value of consonant and non-consonant rales. Conditions of crepitation and the noise of friction of the pleura. Differential signs of additional respiratory noises. Additional auscultatory phenomena (noise of Hippocrates' splash, noise of a falling drop, noise of a "water pipe"), the reasons for their occurrence, and the diagnostic value. The study of this topic involves working in the classroom with the following methods: watching a video with discussion, practical skills training in a simulation center, survey, testing, and mastering the practical skills of auscultation of the chest at the patient's bed in the departments of the medical institution (according to the cooperation agreement between the medical institution and the university).

Topic 6. Instrumental and laboratory methods of examination of patients with diseases of the respiratory system.

pr.tr.6 "Instrumental and laboratory methods of examination of patients with diseases of the respiratory system." (full-time course)

Laboratory examination of sputum. Pleural puncture (technique and laboratory examination of the puncture). Indications and methods of spirometry, the main indicators are normal, changes in obstructive and restrictive variants of respiratory disorders. Pulse oximetry and study of arterial and venous blood gases. The principles and diagnostic value of bronchoscopy. X-ray examination of the chest, its varieties and diagnostic value. Computed tomography of the chest, the main indicators for the procedure. The study of this topic involves working in the classroom. There is a need to use the following methods: virtual simulation (watching films with methods of functional and instrumental research of the respiratory system (spirometry, pneumotachometry, pulse oximetry, bronchoscopy, X-ray examination), pleural puncture), with further discussion, testing, interviewing.

Topic 7. Pneumonia and pleurisy: symptoms and syndromes based on clinical-instrumental and laboratory research methods,

pr.tr.7 "Pneumonia and pleurisy: symptoms and syndromes based on clinical-instrumental and laboratory research methods." (full-time course)

Definition, etiology, pathogenesis, and modern classification of pneumonia. Complaints of patients and peculiarities of these physical methods of examination of patients with pleuro- and bronchopneumonia. Criteria for a severe course of pneumonia. Instrumental and laboratory signs of inflammatory syndrome in pneumonia. Pulmonary tissue compaction syndrome. Etiology, pathogenesis, classification, clinical and diagnostic (instrumental, laboratory) criteria for various forms of pleurisy. Pleural puncture. Difference between exudate and transudate according to physical and laboratory examination data. Syndromes of fluid and air accumulation in the pleural cavity. The main clinical manifestations and stages of respiratory failure syndrome in lung diseases. The study of this topic involves working in the classroom. There is a need to use the following methods: solving situational tasks, group cases, and interpretation of the obtained data of laboratory and instrumental methods of examination of patients in the departments of the medical institution (according to the cooperation agreement between the medical institution and the university).

Topic 8. Bronchial obstruction syndrome. Chronic obstructive pulmonary disease. Asthma.

pr.tr.8 "Bronchial obstruction syndrome. Chronic obstructive pulmonary disease. Asthma." (full-time course)

Definition and main mechanisms of development of COPD and asthma. The main complaints and data of physical examination of patients with COPD and asthma. Syndrome of bronchial obstruction, mucociliary insufficiency, and increased lung ventilation. Basic methods of instrumental diagnostics. Important role of spirometry in the diagnosis of bronchial obstruction. Laboratory signs of asthma according to the general analysis of blood and sputum research. Definition and main clinical manifestations of bronchiectasis. The study of this topic involves working in the classroom. There is a need to use the following methods: interviewing, testing, group cases, and interpretation of the results of laboratory and instrumental examination methods in specialized departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 9. Interviewing and examination of patients with diseases of the digestive system. Examination and superficial palpation of the abdomen. Deep sliding penetrative palpation of the intestines and stomach, liver, spleen, kidneys.

pr.tr.9 "Interviewing and examination of patients with diseases of the digestive system. Examination and superficial palpation of the abdomen. Deep sliding penetrative palpation of the intestines and stomach, liver, spleen, kidneys" (full-time course)

The sequence of clarifying and detailing the complaints of a patient with a pathology of the gastrointestinal tract. Peculiarities of collecting medical and life anamnesis. Changes in the appearance of the patient with various pathologies of the gastrointestinal tract. Abdominal examination sequence. The concept of topographic zones and topographic lines on the surface of the abdomen. Tasks and methods of superficial and deep palpation of the abdomen. Methods of detecting ascites. Percussion determination of the size and borders of the liver according to the methods of Obraztsov and Kurlov. Reasons for increasing and decreasing the size of the liver. The technique of conducting deep sliding palpation of the liver, spleen, and kidneys. The study of this topic involves working in the classroom. There is a need to use the following methods: watching a video with discussion, practicing practical skills in a simulation center, interviewing, testing, role-playing games, improvement of mastering the skills of interviewing, examination, palpation and percussion while working at the bedside of a patient in a specialized department (in the absence of quarantine restrictions).

Topic 10. Instrumental and laboratory methods of examination of the digestive system.

pr.tr.10 "Instrumental and laboratory methods of examination of the digestive system." (full-time course)

Acquaintance with indications and methods of fibrogastroduodenoscopy and fibrocolonoscopy. Modern methods of studying the secretory and acid-producing activity of the stomach. Method of conducting multi-moment duodenal sounding. X-ray methods of examination of the gastrointestinal tract. Methods of intragastric pH-metry, fractional study of gastric juice, and analysis of the obtained data. Methods of diagnosis of *Helicobacter pylori*. Methods of multi-moment duodenal sounding, analysis of the obtained data. Investigation of the exocrine function of the pancreas and the function of the small intestine. The study of this topic involves working in the classroom. There is a need to use the following methods: virtual simulation (watching a video of the methods of instrumental examination with discussion), solving situational tasks, and interpretation of the results of additional examination methods.

Topic 11. Clinical and instrumental and laboratory studies of patients with chronic gastritis, peptic ulcer in stomach and duodenum. The main symptoms and syndromes.

lect.3 "Clinical and instrumental and laboratory studies of patients with chronic gastritis, peptic ulcer in the stomach and duodenum. The main symptoms and syndromes" (full-time course)

Definition and modern classification of gastritis and peptic ulcer in the stomach and duodenum. The main etiological factors of these diseases. Contamination of *Helicobacter pylori*, conditions of damage to the gastric mucosa and duodenum. The main complaints of patients with chronic gastritis and peptic ulcer. Features of the pain syndrome depending on the location of the pathological focus and the state of acid-producing function of the stomach. Manifestations of dyspeptic syndrome in chronic gastritis and peptic ulcer of the stomach and duodenum. Possibilities of instrumental and laboratory examination of patients. The main complications of peptic ulcer of the stomach and duodenum. Gastric bleeding syndrome. Teaching is conducted in the form of multimedia lectures.

pr.tr.11 "Clinical and instrumental and laboratory studies of patients with chronic gastritis, peptic ulcer in stomach and duodenum. The main symptoms and syndromes." (full-time course)

Definition and modern classification of gastritis and peptic ulcer in the stomach and duodenum. The main etiological factors of these diseases. Contamination of *Helicobacter pylori*, conditions of damage to the gastric mucosa and duodenum. The main complaints of patients with chronic gastritis and peptic ulcer. Features of the pain syndrome depending on the location of the pathological focus and the state of acid-producing function of the stomach. Manifestations of dyspeptic syndrome in chronic gastritis and peptic ulcer of the stomach and duodenum. Possibilities of instrumental and laboratory examination of patients. The main complications of peptic ulcer of the stomach and duodenum. Gastric bleeding syndrome. The study of this topic involves working in the classroom. There is a need to use the following methods: virtual simulation (watching a video with methods of instrumental examination with discussion), interpretation of the results of additional examination methods, solving situational tasks, mastery of the practical skills at the patient's bedside, and interpretation of the obtained data of instrumental and laboratory research in the specialized department.

Topic 12. Intestinal diseases. Chronic pancreatitis. The main symptoms and syndromes.

pr.tr.12 "Intestinal diseases. Chronic pancreatitis. The main symptoms and syndromes." (full-time course)

The main symptoms and syndromes in patients with enteritis and colitis: intestinal dyspepsia syndrome, malabsorption and maldigestion syndromes. Enteropathy. The concept of irritable bowel syndrome. Chronic pancreatitis: etiology, pathogenesis, classification. Disorders of exocrine and endocrine function in chronic pancreatitis and methods of their assessment. The study of this topic involves working in the classroom. There is a need to use the following methods: practical skills training, survey, case, role-playing, interpretation of the results of additional examination methods, mastering the skills of interviewing, inspection, palpation, percussion at the patient's bedside and interpretation of the received data of instrumental and laboratory investigation in the specialized department (according to the agreement on cooperation between the medical institution and the university).

Topic 13. The main symptoms and syndromes in diseases of the biliary tract

pr.tr.13 "The main symptoms and syndromes in diseases of the biliary tract" (full-time course)

Definition and principles of modern classification of chronic cholecystitis and cholangitis. The concept of dyskinesia of the biliary tract and its types. The main complaints of patients with cholecystitis and cholangitis. Physical examination data of patients with chronic cholecystitis and cholangitis. The concept of cutaneous-visceral and viscerocutaneous symptoms in diseases of the biliary tract. Instrumental research methods in the pathology of the biliary tract, laboratory diagnosis, and the results of duodenal sounding. Gallstone disease: main complaints and physical examination data. Features of the pain syndrome. The main manifestations of jaundice and cholestasis syndrome, their laboratory signs. The study of this topic involves working in the classroom. There is a need to use the following methods: multimedia presentation, training of practical skills, survey, testing, role-playing, interpretation of the results of additional examination methods, the mastery of the skills of interviewing, examination, palpation, percussion while working at the patient's bedside and interpretation of the obtained data of instrumental and laboratory research in the specialized department of medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 14. Main symptoms and syndromes in liver disease.

lect.4 "Main symptoms and syndromes in liver disease" (full-time course)

Definition and principles of modern classification of chronic hepatitis and liver cirrhosis. The main etiological factors of hepatitis and liver cirrhosis. The mechanism of liver damage in hepatitis of viral etiology. The main complaints of patients with hepatitis and liver cirrhosis, features of examination results and physical examination data. Morphological and biochemical signs of liver damage. The concept of the index of histological activity and Child-Pugh criteria. Syndromes of portal hypertension, liver failure and encephalopathy in liver disorders. The main complications of liver cirrhosis. Teaching is conducted in the form of multimedia lectures.

pr.tr.14 "Main symptoms and syndromes in liver disease." (full-time course)

Definition and principles of modern classification of chronic hepatitis and liver cirrhosis. The main etiological factors of hepatitis and liver cirrhosis. The mechanism of liver damage in hepatitis of viral etiology. The main complaints of patients with hepatitis and liver cirrhosis, features of examination results and physical examination data. Morphological and biochemical signs of liver damage. The concept of the index of histological activity and Child-Pugh criteria. Syndromes of portal hypertension, liver failure and encephalopathy in liver disorders. The main complications of liver cirrhosis. The study of this topic involves working in the classroom. There is a need to use the following methods: multimedia presentation, training practical skills, interviewing, testing, role-playing with interpretation of the results of additional investigation methods. If it is possible, work with the patient in a specialized department of a healthcare institution (according to the agreement on cooperation between the medical institution and the university).

Topic 15. Chronic kidney disease. Renal failure. Urine examination.

lect.5 "Chronic kidney disease. Renal failure. Urine examination."

The concept of chronic kidney disease, definition, and classification. Modern classification of chronic renal failure: Urinary, nephrotic, nephritic syndromes in kidney disease. Edema syndrome and hypertension syndrome in kidney disease. Possibilities of instrumental diagnosis of renal pathology. Laboratory study of urine, analysis, and interpretation of the results of general clinical analysis of urine and quantitative tests. The results of biochemical blood tests in renal pathology. Methods for determining the glomerular filtration rate. Teaching is conducted in the form of multimedia lectures.

pr.tr.15 "Chronic kidney disease. Renal failure. Urine examination." (full-time course)

The concept of chronic kidney disease, definition, and classification. Modern classification of chronic renal failure: Urinary, nephrotic, nephritic syndromes in kidney disease. Edema syndrome and hypertension syndrome in kidney disease. Possibilities of instrumental diagnosis of renal pathology. Laboratory study of urine, analysis, and interpretation of the results of general clinical analysis of urine and quantitative tests. The results of biochemical blood tests in renal pathology. Methods for determining the glomerular filtration rate. The study of this topic involves working in the classroom. There is a need to use the following methods: multimedia presentation, training the practical skills, interviewing, testing, role-playing with interpretation of the results of additional investigation methods. If it is possible, work with the patient in a specialized department of a healthcare institution (according to the agreement on cooperation between the healthcare institution and the university).

Topic 16. The main symptoms and syndromes of kidney disease. Acute and chronic glomerulonephritis and pyelonephritis. Instrumental methods of diagnostics of urinary system.

pr.tr.16 "The main symptoms and syndromes of kidney disease. Acute and chronic glomerulonephritis and pyelonephritis. Instrumental methods of diagnostics of urinary system" (full-time course)

Definition and modern classification of glomerulonephritis and pyelonephritis. The main mechanisms of glomerulonephritis and pyelonephritis. Complaints of patients with kidney damage and the results of physical examination of patients with glomerulonephritis and pyelonephritis. Instrumental methods of research of the urinary system. The study of this topic involves working in the classroom. There is a need to use the following methods: multimedia presentation, training in practical skills, interviewing, testing, role-playing with interpretation of the results of additional investigation methods. If it is possible, work at the patient's bedside in a specialized department of a healthcare department (according to the agreement on cooperation between the medical institution and the university).

Topic 17. Physical methods of examination of the cardiovascular system. Interviewing and general examination of patients with pathology of the cardiovascular system.

lect.6 "Physical methods of examination of the cardiovascular system. Interviewing and general examination of patients with pathology of the cardiovascular system." (full-time course)

Diagnostic value of the main physical methods of examination of the circulatory system (interview, examination, palpation, percussion, auscultation). The sequence of clarification and detailing of complaints of a patient with cardiovascular pathology. Features of collecting medical history. Conducting a general examination of a cardiac patient. The concept of cardiovascular risk. Vessels available to determine the pulse (arterial, venous). Rules and sequence of pulse examination on the radial artery. Determination of the main properties of the pulse (synchronicity, rhythm, frequency, voltage, filling, height, speed, uniformity), detection of deficiency, lability, orderliness, dichroic pulse. Rules for measuring blood pressure in the upper and lower extremities. Basic methods of determining blood pressure. The concept of Korotkoff's tones. The main parameters that determine the indicators of systolic and diastolic blood pressure. The concept of pulse and mean dynamic blood pressure. Normal blood pressure values. Teaching is conducted in the form of multimedia lectures.

pr.tr.17 "Physical methods of examination of the cardiovascular system. Interviewing and general examination of patients with pathology of the cardiovascular system." (full-time course)

Diagnostic value of the main physical methods of examination of the circulatory system (interview, examination, palpation, percussion, auscultation). The sequence of clarification and detailing of complaints of a patient with cardiovascular pathology. Features of collecting medical history. Conducting a general examination of a cardiac patient. The concept of cardiovascular risk. The study of this topic involves working in the classroom. There is a need to use the following methods: watching videos with subsequent discussion, practicing practical physical examination skills in a simulation center, interviewing, testing. If it is possible, working with a patient in a specialized department of a healthcare institution (according to the agreement on cooperation between the medical institution and the university).

Topic 18. Study of pulse (arterial, venous, capillary) and blood pressure.

pr.tr.18 "Study of pulse (arterial, venous, capillary) and blood pressure." (full-time course)

Vessels available to determine the pulse (arterial, venous). Rules and sequence of pulse examination on the radial artery. Determination of the main properties of the pulse (synchronicity, rhythm, frequency, voltage, filling, height, speed, uniformity), detection of deficiency, lability, orderliness, dichroic pulse. Rules for measuring blood pressure in the upper and lower extremities. Basic methods of determining blood pressure. The concept of Korotkoff's tones. The main parameters that determine the indicators of systolic and diastolic blood pressure. The concept of pulse and mean dynamic blood pressure. Normal blood pressure values. The study of this topic involves working in the classroom. There is a need to use the following methods: watching videos with subsequent discussion, practicing practical skills using dummies, surveys, testing, and mastering the practical skills in specialized departments of the healthcare institution (according to the agreement on cooperation between the medical institution and the university).

Topic 19. Examination and palpation of the precordium. Percussion of the boundaries of relative and absolute cardiac dullness, determination of the width of the vascular bundle.

pr.tr.19 "Examination and palpation of the precordium. Percussion of the boundaries of relative and absolute cardiac dullness, determination of the width of the vascular bundle" (full-time course)

The sequence of examination of the heart. Diagnostic value of cardiac hump, pulsations in the heart and neck. Methods and techniques of palpation of the precardiac area: apical shock (localization, area, force, height, resistance, displacement, causes of negative apical shock); heartbeat, causes of its occurrence and methods of determination; pulsation of the abdominal aorta, liver, Plesch's symptom, pulsation of the ascending aorta and its arch, detection of pulsation of the pulmonary trunk. Presystolic and systolic tremor (symptom of "cat purr"), causes. The concept of relative and absolute cardiac dullness, their percussion definition (sequence: right, upper, left border) and changes in pathology. Structures forming the vascular bundle, percussion determination of its width. The study of this topic involves working in the classroom. There is a need to use the following methods: testing, watching videos with subsequent discussion, training practical skills in a simulation center, survey and master the practical skills of examination and palpation of the atrial region and percussive determination of the limits of partial and absolute cardiac dullness in patients in specialized departments of the healthcare institution (according to the agreement on cooperation between the medical institution and the university).

Topic 20. Auscultation of the heart. Normal heart sounds, splitting and reduplication of sounds, additional sounds (quail rhythm, gallop rhythm). Organic and functional heart murmurs.

lect.7 "Auscultation of the heart. Normal heart sounds, splitting and reduplication of sounds, additional sounds (quail rhythm, gallop rhythm). Organic and functional heart murmurs." (full-time course)

Methods and techniques of auscultation of the heart. Main and additional points of auscultation. Places of projection and the best listening of heart valves. The mechanism of formation of heart sounds. Causes of strengthening and weakening of sounds. Sound accent. Sound changes in sound (clapping, muffled, velvet, metallic, cannon tones). The concept of splitting and reduplication of heart sounds, the reasons for their occurrence and temporal characteristics. Additional sounds - mitral valve opening sound, gallop rhythms (protodiastolic, mesodiastolic and presystolic gallop rhythm). Methodological features of auscultation of the heart - directly by the ear, stethoscope, phonendoscope: in the position of the patient standing, lying down, at rest and after exercise. Causes and classification of cardiac noises (intracardiac and extracardiac, organic and functional, systolic and diastolic, noise of expulsion, filling, regurgitation). Teaching is conducted in the form of multimedia lectures.

pr.tr.20 "Auscultation of the heart. Normal heart sounds, splitting and reduplication of sounds, additional sounds (quail rhythm, gallop rhythm). Organic and functional heart murmurs." (full-time course)

Methods and techniques of auscultation of the heart. Main and additional points of auscultation. Places of projection and the best listening of heart valves. The mechanism of formation of heart sounds. Causes of strengthening and weakening of sounds. Sound accent. Sound changes in sound (clapping, muffled, velvet, metallic, cannon tones). The concept of splitting and reduplication of heart sounds, the reasons for their occurrence and temporal characteristics. Additional sounds - mitral valve opening sound, gallop rhythms (protodiastolic, mesodiastolic and presystolic gallop rhythm). Methodological features of auscultation of the heart - directly by the ear, stethoscope, phonendoscope: in the position of the patient standing, lying down, at rest and after exercise. Causes and classification of cardiac noises (intracardiac and extracardiac, organic and functional, systolic and diastolic, noise of expulsion, filling, regurgitation). The study of this topic involves working in the classroom. There is a need to use the following methods: testing, video demonstration, to master the practical skills of auscultation of the heart in specialized departments of the healthcare institution (according to the agreement on cooperation between the medical institution and the university) with further discussion.

Topic 21. Electrocardiographic method of studying heart function. Methods of ECG recording and decoding.

lect.8 "Electrocardiographic method of studying heart function. Methods of ECG recording and decoding." (full-time course)

Clinical and diagnostic value of the method of electrocardiography. Biophysical and physiological bases of an ECG. The structure and function of the drivers of heart rhythm and the conduction system. The main and additional ways of conducting the pulse. Methods and techniques of ECG recording: standard leads, unipolar leads from the extremities, chest leads. The main elements of the ECG: the value of the duration and amplitude of the waves, the duration of the intervals, and the segments are normal. Algorithm and technique of ECG decoding. Teaching is conducted in the form of multimedia lectures.

pr.tr.21 "Electrocardiographic method of studying heart function. Methods of ECG recording and decoding." (full-time course)

Clinical and diagnostic value of the method of electrocardiography. Biophysical and physiological bases of an ECG. The structure and function of drivers of heart rhythm and the conduction system. The main and additional ways of conducting the pulse. Methods and techniques of ECG recording: standard leads, unipolar leads from the extremities, chest leads. The main elements of the ECG: the value of the duration and amplitude of the waves, the duration of the intervals, and the segments are normal. Algorithm and technique of ECG decoding. The study of this topic involves working and practice in ECG decoding skills in the classroom, and testing. If it is possible, work in the office of functional diagnostics.

Topic 22. Electrocardiographic examination of patients with nonarrhythmic heart disease.

pr.tr.22 "Electrocardiographic examination of patients with nonarrhythmic heart disease." (full-time course)

Electrocardiographic signs of atrial and ventricular hypertrophy. Amplitude indices in the diagnosis of left ventricular hypertrophy. Romhilt-Estes score system. Pathological changes on the ECG in electrolyte metabolism dysfunction. The concept of channelopathy. The role of long-term ECG recording and stress tests in the diagnosis of cardiovascular pathology. ECG diagnosis of complex pathology. The study of this topic involves working in the classroom and the interpretation of ECG results.

Topic 23. Electrocardiographic examination of patients with disorders of automatism and excitability.

lect.9 "Electrocardiographic examination of patients with disorders of automatism, excitability and conduction." (full-time course)

The main structures that provide the function of automaticity of the heart. ECG signs of automatic disorders: sinus tachycardia, sinus bradycardia, sinus arrhythmia, sick sinus node syndrome. Premature contractions. ECG signs of sinus, atrial, atrioventricular, and ventricular extrasystoles (PAC and PVC). Differentiation of right and left premature ventricular contractions. Classification of PVCs. Types of allorhythmia. Pulse conduction time in different parts of the conduction system of the heart. ECG signs of sino-auricular and interatrial block. Classification and ECG signs of atrioventricular block. Morgan-Adams-Stokes attacks, their cause, and clinical manifestations. Intraventricular blockade, differentiation of blockade of the left and right branches of the His bundle. Acquaintance with indications for carrying out and rules of performance of electroimpulse therapy. ECG and clinical signs of atrial fibrillation and flutter. Clinical manifestations and ECG signs in ventricular fibrillation, paroxysmal ventricular tachycardia, ventricular fibrillation. Teaching is conducted in the form of multimedia lectures.

pr.tr.23 "Electrocardiographic examination of patients with disorders of automatism and excitability." (full-time course)

The main structures that provide the function of automaticity of the heart. ECG signs of automatic disorders: sinus tachycardia, sinus bradycardia, sinus arrhythmia, sick sinus node syndrome. Premature contractions. ECG signs of sinus, atrial, atrioventricular and ventricular extrasystoles (PAC and PVC). Differentiation of right and left premature ventricular contractions. Classification of PVCs. Types of allorhythmia. Teaching is conducted in the form of multimedia lectures. The study of this topic involves working and practice in ECG decoding skills in the classroom, testing.

Topic 24. Electrocardiographic examination of patients with conduction disorders. ECG signs of combined heart rhythm disorders.

pr.tr.24 "Electrocardiographic examination of patients with conduction disorders. ECG signs of combined heart rhythm disorders." (full-time course)

Pulse conduction time in different parts of the conduction system of the heart. ECG signs of sino-auricular and interatrial block. Classification and ECG signs of atrioventricular block. Morgan-Adams-Stokes attacks, their cause, and clinical manifestations. Intraventricular blockade, differentiation of the blockade of the left and right branches of the His bundle. Acquaintance with indications for carrying out and rules of performance of electroimpulse therapy. ECG and clinical signs of atrial fibrillation and flutter. Clinical manifestations and ECG signs in ventricular fibrillation, paroxysmal ventricular tachycardia, ventricular fibrillation. The study of this topic involves working in the classroom. There is a need to use the following methods: interpretation of ECG results, working in the simulation center (training the practical skills of using a defibrillator, performing cardiopulmonary resuscitation).

Topic 25. Instrumental methods of examination of the cardiovascular system.

pr.tr.25 "Instrumental methods of examination of the cardiovascular system." (full-time course)

Phonocardiography: diagnostic value of the method, method of registration and principles of FCG decoding. Polycardiography. Echocardiography: diagnostic value of the method, technique and technique of echocardiographic examination. The most important echocardiographic parameters are the volumes of the heart cavities, the ejection fraction, the thickness of the interventricular septum and the posterior wall of the left ventricle. Dopplerography of the heart and blood vessels. Phlebography, rheovasography: diagnostic value of methods. Research methods and techniques. The role of coronary angiography, computed tomography, magnetic resonance imaging in the modern diagnosis of cardiovascular pathology. The study of this topic involves working in the classroom. There is a need to use the following methods: solving situational tasks, applying of virtual simulation (watching films with methods of instrumental investigation (echocardiography, dopplerography, rheovasography, coronary angiography), with discussion.

Topic 26. Heart failure syndrome: basic clinical and instrumental methods of examination. Acute and chronic vascular insufficiency.

pr.tr.26 "Heart failure syndrome: basic clinical and instrumental methods of examination. Acute and chronic vascular insufficiency." (full-time course)

Determination of heart failure and the main pathogenetic pathways of its development. Modern classification of heart failure (stages of heart failure, hemodynamic variants, functional classes of patients). The main clinical manifestations of heart failure and data on instrumental and laboratory methods of research confirming its presence. Vascular insufficiency and its main types: fainting, collapse, and shock. The concept of syncopal states, the mechanism of their occurrence, and the main clinical manifestations. The study of this topic involves working in a training room. There is a need to use the following methods: survey, role-playing, interpretation of the results of additional methods of investigation, testing, training in practical skills of physical examination, and skills of providing emergency care for syncopal conditions in a simulation center. If it is possible, working at the patient's bedside in specialized departments of the healthcare institution (according to the agreement on cooperation between the medical institution and the university).

Topic 27. Mitral valve diseases: main symptoms and syndromes based on clinical and instrumental methods of examination.

pr.tr.27 "Mitral valve diseases: main symptoms and syndromes based on clinical and instrumental methods of examination." (full-time course)

Definition of valve disorders. Rheumatic fever, modern classification and main clinical manifestations. The main causes and mechanisms of mitral regurgitation and mitral stenosis. Changes in hemodynamics in mitral heart disease. The main complaints of patients with mitral stenosis and mitral valve insufficiency. Examination data, palpation of the precordium, and percussion in mitral valve diseases. Auscultatory picture of mitral stenosis and mitral regurgitation. ECG and FCG signs of mitral heart disease. Radiological signs of mitral regurgitation. The concept of mitral valve prolapse. The study of this topic involves working in the classroom. There is a need to use the following methods: survey, testing, interpretation of the results of additional investigation methods, and solving situational tasks. If it is possible, working at the patient's bedside in specialized departments of the healthcare institution (according to the agreement on cooperation between the medical institution and the university).

Topic 28. Aortic valve disorders: main symptoms and syndromes based on clinical and instrumental methods of examination.

pr.tr.28 "Aortic valve disorders: main symptoms and syndromes based on clinical and instrumental methods of examination." (full-time course)

Etiological factors and mechanisms of aortic regurgitation and aortic stenosis. Changes in hemodynamics in aortic valve diseases. The main complaints of patients with aortic stenosis and aortic regurgitation. Examination data, palpation of the precordium, and percussion in aortic valve disease. Auscultatory picture of aortic stenosis and aortic regurgitation. ECG and FCG signs of aortic valve disorders. Radiological signs of aortic valve disorders. The study of this topic involves working in the classroom. There is a need to use the following methods: survey, testing, interpretation of the results of additional investigation methods, solving situational tasks. If it is possible, working at the patient's bedside in specialized departments of the healthcare institution (according to the cooperation agreement between the medical institution and the university).

Topic 29. Main symptoms and syndromes of essential arterial hypertension.

pr.tr.29 "Main symptoms and syndromes of essential arterial hypertension." (full-time course)

WHO / MTG determination for arterial hypertension, essential hypertension (hypertension), and symptomatic hypertension. The main risk factors for hypertension and the mechanisms of its development. Classification of hypertension by blood pressure level and target organ damage. The main complaints of the patient with hypertension, examination data, palpation of the precordium, percussion of the boundaries of cardiac dullness, and auscultation of the heart. ECG signs of myocardial changes in hypertension. The study of this topic involves working in the classroom. There is a need to use the following methods: survey, testing, interpretation of the results of additional investigation methods, and solving situational tasks. If it is possible, working at the patient's bedside in specialized departments of the healthcare institution (according to the cooperation agreement between the medical institution and the university).

Topic 30. Symptomatic arterial hypertension. Hypertensive crises.

pr.tr.30 "Symptomatic arterial hypertension. Hypertensive crises." (full-time course)

Symptomatic arterial hypertension. Classification. Features of the course. The concept of complicated and uncomplicated hypertensive crises. Basic principles of the treatment of patients with arterial hypertension. The study of this topic involves working in the classroom. There is a need to use the following methods: survey, testing, interpretation of the results of additional investigation methods, and solving situational tasks. If it is possible, working at the patient's bedside in specialized departments of the healthcare institution (according to the cooperation agreement between the medical institution and the university).

Topic 31. Chronic coronary heart disease: main symptoms and syndromes.

pr.tr.31 "Chronic coronary heart disease: main symptoms and syndromes." (full-time course)

Definition of "coronary heart disease" (CHD). The main pathogenetic mechanisms and risk factors for coronary heart disease. Dyslipidemia. Atherosclerosis. Modern classification of coronary heart disease. Definition and main clinical manifestations of angina. Functional classes of stable angina. Methods of objective diagnosis of angina (ECG, daily ECG monitoring, stress tests, coronary angiography, heart scintigraphy). The study of this topic involves working in the classroom. There is a need to use the following methods: survey, testing, interpretation of the results of additional investigation methods, solving situational tasks. If it is possible, working at the patient's bedside in specialized departments of the healthcare institution (according to the cooperation agreement between the medical institution and the university).

Topic 32. Ischemic heart disease: main symptoms and syndromes in acute coronary syndrome.

pr.tr.32 "Ischemic heart disease: main symptoms and syndromes in acute coronary syndrome." (full-time course)

Unstable angina, the concept of acute coronary syndrome. Definition and main clinical manifestations of acute myocardial infarction. Data on physical methods of examination of patients with acute myocardial infarction. Periodization of myocardial infarction. ECG changes in different forms of myocardial infarction in different periods of its course. Modern laboratory markers of myocardial necrosis. The study of this topic involves working in the classroom. There is a need to use the following methods: survey, testing, interpretation of the results of additional investigation methods, role-playing games, and solving situational tasks. If it is possible, working at the patient's bedside in specialized departments of the healthcare institution (according to the cooperation agreement between the medical institution and the university).

Topic 33. Complete blood count. The main symptoms and syndromes of anemia.

pr.tr.33 "Complete blood count. The main symptoms and syndromes of anemia." (full-time course)

Definition and modern classification of anemias. Basic laboratory criteria for anemia. The mechanism of development of iron deficiency in the body and the occurrence of iron deficiency anemia. The main clinical manifestations of sideropenic and general hypoxic syndromes in iron deficiency anemia. Laboratory criteria for iron deficiency anemia. Causes and pathogenesis of B12-folate deficiency anemia. Manifestations of general anemic syndrome, syndromes of digestive tract lesions, funicular myelosis and peripheral blood lesions in B12-folate deficiency anemia. The main laboratory signs of B12-folate deficiency anemia. Congenital and acquired hemolytic anemias: manifestations of general anemia, jaundice syndromes, splenomegaly and hemosiderosis of internal organs. The main laboratory criteria of hemolytic anemia and features of bilirubin metabolism disorders. Analysis and interpretation of complete blood count. The study of this topic involves working in the classroom. There is a need to use the following methods: survey, testing, interpretation of the results of additional investigation methods, role-playing games, solving situational tasks. If it is possible, working at the patient's bedside in specialized departments of the healthcare institution (according to the cooperation agreement between the medical institution and the university).

Topic 34. The main syndromes in leukemia.

pr.tr.34 "The main syndromes in leukemia." (full-time course)

The concept of leukemia. The main syndromes of leukemia: leukemic, anemic, hemorrhagic, lymphadenopathy. Interpretation of hemogram and myelogram results in leukemia. The study of this topic involves theoretical work in the classroom. The study of this topic involves working in the classroom. There is a need to use the following methods: survey, testing, interpretation of the results of additional investigation methods, and solving situational tasks. If it is possible, working at the patient's bedside in specialized departments of the healthcare institution (according to the cooperation agreement between the medical institution and the university).

Topic 35. Final control of mastering practical skills in patient examination methods and their use for diagnosing the main syndromes of diseases of internal organs.

pr.tr.35 "Final control of mastering practical skills in patient examination methods and their use for diagnosing the main syndromes of diseases of internal organs." (full-time course)

Final control of practical and theoretical training in the discipline, assessment of students' knowledge and skills to identify basic symptoms and syndromes in analyzing the results of instrumental and laboratory methods of examination.

Topic 36. Final control of mastering practical skills in patient examination methods and their use for diagnosing the main syndromes of diseases of internal organs.

pr.tr.36 "Final control of mastering practical skills in patient examination methods and their use for diagnosing the main syndromes of diseases of internal organs." (full-time course)

Final control of practical and theoretical training in the discipline, assessment of students' knowledge and skills to identify basic symptoms and syndromes in analyzing the results of instrumental and laboratory methods of examination.

9. Teaching methods

9.1 Teaching methods

Course involves learning through:

TM1	Lecture teaching
TM2	Case-based learning
TM3	Team Based Learning
TM4	Research Based Learning
TM5	Practical training
TM6	Self-study
TM7	Electronic learning

The discipline is taught using modern teaching methods (CBL, TBL, RBL), which contribute not only to the development of professional abilities, but also encourage creative thinking.

9.2 Learning activities

LA1	Interpretation of laboratory (clinical blood analysis, urine, biochemical blood analysis, immunological studies, etc.) and instrumental (ECG, Echocardiogram, EFGDS, ultrasound, CT, X-ray, spirometry, etc.) methods of examination.
LA2	Preparation for practical classes.
LA3	Analysis of situational tasks.
LA4	Practical work with the patient in specialized departments of the hospital.
LA5	Electronic learning in systems (MIX.sumdu.edu.ua).
LA6	Individual research project (student research paper, article, theses, etc.)
LA7	Performance of group practical task.
LA8	Interactive lectures.
LA9	Work with textbooks and relevant information sources.
LA10	Practicing practical skills in the simulation center.
LA11	Preparation for differential assessment.

10. Methods and criteria for assessment

10.1. Assessment criteria

Definition	National scale	Rating scale
Outstanding performance without errors	5 (Excellent)	$170 \leq RD \leq 200$
Above the average standard but with minor errors	4 (Good)	$164 \leq RD < 169$
	4 (Good)	$140 \leq RD < 163$
Fair but with significant shortcomings	3 (Satisfactory)	$127 \leq RD < 139$
	3 (Satisfactory)	$120 \leq RD < 126$
Fail – some more work required before the credit can be awarded	2 (Fail)	$70 \leq RD < 119$
	2 (Fail)	$0 \leq RD < 69$

10.2 Formative assessment

	Description	Deadline, weeks	Feedback
FA1 Survey and teacher's oral comments based on his results	It provides an opportunity to identify the state of educational experience acquired by students in accordance with the set goals, to find out the prerequisites for the state of formation of the obtained results, the causes of difficulties, to adjust the learning process, to track the dynamics of the formation of learning results and to forecast their development.	During the entire period of studying the discipline	According to the obtained data on the results of training, based on their analysis, it is proposed to determine the evaluation as an indicator of the achievements of the educational activities of the applicants.
FA2 Instructions of the teacher in the process of performing practical tasks.	The guidelines reveal the methods of pedagogical control over the professional activities of applicants. Efficiency is determined by compliance with all stages of practical tasks. The effectiveness of the formation of the necessary practical skills and abilities depends on the level of formation of practical competence.	During the entire period of studying the discipline.	Counseling of students in working with a standardized patient, direct and indirect observation of the work of applicants "at the patient's bedside" with subsequent determination of the level of practical training.
FA3 Solving clinical cases.	The case method allows you to reveal and shape the quality and abilities of medical students in the further work, develops clinical thinking, analytical abilities, independence in decision-making, communication skills, and the ability to work with a sufficiently large amount of information.	During the entire period of studying the discipline.	Assessment of the student's ability to think clinically, justify their decisions, clearly express their opinions, determine the level of theoretical training, which is reflected in the corresponding assessment.

FA4 Peer assessment	Partnership interaction aimed at improving the results of educational activities by comparing one's own current level of success with previous indicators. Provides an opportunity to analyze one's own educational activities.	During the entire period of studying the discipline.	Adjustment together with students of approaches to learning, taking into account the results of the assessment.
FA5 Tests (automated tests) to control the educational achievements of applicants.	The method of effective verification of the level of assimilation of knowledge, abilities and skills in each subject of the academic discipline. Testing allows you to check the assimilation of educational material from each topic.	During the entire period of studying the discipline.	According to the received data on the test results, based on their analysis, it is proposed to determine the overall grade for the lesson as an indicator of the achievements of the students' educational activities.
FA6 Discussions in focus groups.	The method makes it possible to involve all participants in the process of discussion and justification of one's own opinion through multilateral communication, to develop the ability to conduct a professional discussion, to cultivate respect for colleagues and the ability to generate alternative ideas and proposals.	During the entire period of studying the discipline.	Assessment of the student's ability to work in a team, ability to justify their decisions, determination of the level of theoretical training, which is reflected in the corresponding assessment.
FA7 Counseling of the teacher during the preparation of an individual research project (speech at a conference, competition of scientific works).	An important factor in the formation of professional qualities of future specialists is the research work of students. Involvement of the latter in research activities contributes to the formation of their scientific worldview, industriousness, work capacity, initiative, etc.	During the entire period of studying the discipline.	Teacher's oral comments. The student is given additional incentive points (from 5 to 10), depending on the type of research project.

FA8 The task of assessing the level of theoretical training.	Assessment of acquired theoretical knowledge on the subject of the discipline. It is conducted at each practical lesson in accordance with the specific goals of each topic based on a comprehensive assessment of the student's activity, which includes monitoring the level of theoretical training, performing independent work according to the thematic plan.	During the entire period of studying the discipline.	Feedback is aimed at supporting students' independent work, identifying shortcomings and assessing the level of acquired theoretical knowledge
FA9 Practical skills test.	Practicing practical skills on various mannequins and simulators.	During the entire period of study.	Advising students while working on various mannequins and simulators, direct and indirect observation of the work of applicants with further determination of the level of practical training.
FA10 The task of assessing the level of theoretical training	Assessment of acquired theoretical knowledge on the subject of the discipline. It is conducted at each practical lesson in accordance with the specific goals of each topic based on a comprehensive assessment of the student's activity, which includes monitoring the level of theoretical training, performing independent work according to the thematic plan.	During the entire period of studying the discipline.	Feedback is aimed at supporting students' independent work, identifying shortcomings and assessing the level of acquired theoretical knowledge.

10.3 Summative assessment

	Description	Deadline, weeks	Feedback
--	-------------	-----------------	----------

SA1 Current evaluation of the level of theoretical and practical training	It includes an oral interview, assessment of situational tasks and clinical cases, interpretation of laboratory and instrumental methods of examination, objective structured clinical examination of the patient, testing. Students who are involved in research activities have the opportunity to present the results of their own research at conferences, student research competitions, etc. (incentive activities, additional points).	During the entire period of studying the discipline.	It is held at every lesson. A student can get a maximum of 120 points, a minimum of 72 points. Additional incentive points for the preparation of a research project (from 5 to 10), depending on the type of project.
SA2 Final control: differential assessment.	Compilation of differential assessment. Applicants who have fulfilled the requirements of the educational program and successfully mastered the material from the discipline are allowed to take the test.	According to the schedule at the end of the semester.	The applicant can receive 80 points for the credit. The minimum number of points a student must receive is 48 points.

Form of assessment:

	Points	Можливість перескладання з метою підвищення оцінки
The first semester of teaching	200 scores	
SA1. Current evaluation of the level of theoretical and practical training	120	
Oral interview, assessment of situational tasks and clinical cases, interpretation of laboratory and instrumental examination methods, objective structured clinical examination of the patient, testing.	120	No
SA2. Final control: differential assessment.	80	
Answers to theoretical questions	50	No
The answer to the question of practical training	20	No
Demonstration of practical skills.	10	No

When mastering the materials of the subjects of the discipline, the student is awarded a maximum of 5 points for each practical lesson (the grade is given in the traditional 4-point grading system). At the end of the academic year, the student's arithmetic average is calculated. The maximum number of points that a student can receive in practical classes during the academic year is 120.

Differentiated assessment (final module control) is conducted according to the schedule at the end of the semester. The grade for the final module is given in the traditional 4-point grading system with further conversion into points, while, in general, the grade "5" corresponds to 80 points, "4" - 64 points, "3" - 48 points, "2" - 0 points. Among these points, the assessment for practical and theoretical training is 50% of the total control points. The final control is credited to the student if he scored at least 48 points out of 80. The overall grade for the discipline consists of the sum of the points scored for the current success rate and the completion of the final module control. Some points are added to the grade in the discipline for the implementation of an individual research project (defense of a student's scientific work - 10 points, speech at a conference, poster presentation at a conference, theses of reports - 5 points). The total score for the discipline cannot exceed 200 points. The possibility of re-crediting the points obtained under the system of non-formal education is provided in accordance with the Regulations.

11. Learning resources

11.1 Material and technical support

MTS1	Information and communication systems
MTS2	Library funds, archive of radiographs, spirograms, electrocardiograms, results of laboratory examination methods.
MTS3	Multimedia, video and sound reproduction, projection equipment (video cameras, projectors, laptop screens).
MTS4	Computers, computer systems and networks.
MTS5	Medical equipment (tonometers, phonendoscopes, etc.)
MTS6	Simulation center equipment.
MTS7	CNO "Sumy Regional Clinical Hospital", MNO "Children's clinical hospital named after Saint Zinaida of Sumy city"

11.2 Information and methodical support

Essential Reading	
1	Case History in Internal Medicine [Текст] : tutotial / I. M. Skrypnyk, G. S. Maslova, T. V. Lymanets etc. ; ed. : I. M. Skrypnyk. — 2nd ed. — Lviv : Marchenko T.V., 2024. — 202 p.
2	Harrison's Principles of Internal Medicine [Електронний ресурс]. Vol.1. — 21st ed. — New York : McGraw Hill, 2022. — 3855 p.
Supplemental Reading	
1	Propedeutics of internal medicine [Текст] : textbook. P.1 : Diagnostics / O. M. Kovalyova, T. V. Ashcheulova. — 5-th ed. — Vinnytsya : Nova Knyha, 2020. — 424 p.
2	Propedeutics of internal medicine [Текст] : textbook. P.2 : Syndromes and diseases / O. M. Kovalyova, T. V. Ashcheulova, O. O. Nizhegorodtseva. — 5-th ed. — Vinnytsya : Nova Knyha, 2020. — 264 p.

3	A Laboratory Guide to Clinical Hematology [Електронний ресурс] / V. Villatoro, M. To. — Alberta : University of Alberta, 2019. — CC BY-NC 4.0.
4	Koteliukh M.Y., Bokova S.I., Demikhova N.V., Lantukhova N.D. A PREDICTION MODEL FOR CHRONIC HEART FAILURE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS. Clinical and Preventive Medicine. 2025. 2025 (2). С. 105-111 DOI:10.31612/2616-4868.2.2025.13
5	Ataman, Y. Tests collection for the control of the individual work on the subject "Propedeutics of Internal Medicine" [Електронний ресурс] : for the students of speciality "Medicine" / Y. Ataman, A. Zharkova. — Електронне видання каф. Сімейної медицини з курсом дерматовенер. — Sumy : Sumy State University, 2017. — 66 p.
Web-based and electronic resources	
1	https://ecg.utah.edu/
2	https://www.skillstat.com/tools/ecg-simulator/
3	https://www.youtube.com/@geekymedics
4	https://mix.sumdu.edu.ua/info/nmk/8be4ccdc-d9c0-4e39-b166-24a351af80d0
5	https://www.cardiologysite.com
6	https://www.msmanuals.com/professional/cardiovascular-disorders/approach-to-the-cardiac-patient/cardiac-auscultation
7	https://www.medicinenet.com/spirometry_test/article.htm
8	https://www.mayoclinic.org/tests-procedures/complete-blood-count/about/pac-20384919

COURSE DESCRIPTOR

№	Course Descriptor	Total hours	Classroom work, hours				Independent work of students, hours									
			Total hours	Lectures	Workshops (seminars)	Labs	Total hours	Self-study of the material	Preparation for workshops (seminars)	Preparation for labs	Preparation for assesment	Independent extracurricular tasks				
1	2				3	4	5	6	7	8	9	10	11	12	13	
full-time course																
1	The role and place of Propaedeutics in Internal Medicine as a clinical discipline.				5	4	2	2	0	1	0.5	0.5	0	0	0	
2	Inquiring the patient. General examination of the patient. Examination of individual parts of the body: head, neck, torso and limbs. Diagnostic value of symptoms detected during the examination of the patient.				2.5	2	0	2	0	0.5	0	0.5	0	0	0	
3	The main complaints of patients with respiratory diseases. Static and dynamic inspection of the chest. Palpation of the chest.				5	4	2	2	0	1	0.5	0.5	0	0	0	
4	Percussion as a method of physical examination of the lungs. Methods of comparative lung percussion. Methods of topographic percussion of the lungs. The main symptoms and syndromes based on lung percussion.				2.5	2	0	2	0	0.5	0	0.5	0	0	0	
5	Auscultation as a method of physical examination of the lungs. Method of lung auscultation. Basic respiratory noises. Additional respiratory noises (rales, crepitation, pleural friction noise).				2.5	2	0	2	0	0.5	0	0.5	0	0	0	
6	Instrumental and laboratory methods of examination of patients with diseases of the respiratory system.				2.5	2	0	2	0	0.5	0	0.5	0	0	0	
7	Pneumonia and pleurisy: symptoms and syndromes based on clinical-instrumental and laboratory research methods,				2.5	2	0	2	0	0.5	0	0.5	0	0	0	
8	Bronchial obstruction syndrome. Chronic obstructive pulmonary disease. Asthma.				2.5	2	0	2	0	0.5	0	0.5	0	0	0	

1	2	3	4	5	6	7	8	9	10	11	12	13
9	Interviewing and examination of patients with diseases of the digestive system. Examination and superficial palpation of the abdomen. Deep sliding penetrative palpation of the intestines and stomach, liver, spleen, kidneys.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
10	Instrumental and laboratory methods of examination of the digestive system.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
11	Clinical and instrumental and laboratory studies of patients with chronic gastritis, peptic ulcer in stomach and duodenum. The main symptoms and syndromes.	5	4	2	2	0	1	0.5	0.5	0	0	0
12	Intestinal diseases. Chronic pancreatitis. The main symptoms and syndromes.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
13	The main symptoms and syndromes in diseases of the biliary tract	2.5	2	0	2	0	0.5	0	0.5	0	0	0
14	Main symptoms and syndromes in liver disease.	5	4	2	2	0	1	0.5	0.5	0	0	0
15	Chronic kidney disease. Renal failure. Urine examination.	5	4	2	2	0	1	0.5	0.5	0	0	0
16	The main symptoms and syndromes of kidney disease. Acute and chronic glomerulonephritis and pyelonephritis. Instrumental methods of diagnostics of urinary system.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
17	Physical methods of examination of the cardiovascular system. Interviewing and general examination of patients with pathology of the cardiovascular system.	5	4	2	2	0	1	0.5	0.5	0	0	0
18	Study of pulse (arterial, venous, capillary) and blood pressure.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
19	Examination and palpation of the precordium. Percussion of the boundaries of relative and absolute cardiac dullness, determination of the width of the vascular bundle.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
20	Auscultation of the heart. Normal heart sounds, splitting and reduplication of sounds, additional sounds (quail rhythm, gallop rhythm). Organic and functional heart murmurs.	5	4	2	2	0	1	0.5	0.5	0	0	0
21	Electrocardiographic method of studying heart function. Methods of ECG recording and decoding.	5	4	2	2	0	1	0.5	0.5	0	0	0
22	Electrocardiographic examination of patients with nonarrhythmic heart disease.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
23	Electrocardiographic examination of patients with disorders of automatism and excitability.	5	4	2	2	0	1	0.5	0.5	0	0	0

1	2	3	4	5	6	7	8	9	10	11	12	13
24	Electrocardiographic examination of patients with conduction disorders. ECG signs of combined heart rhythm disorders.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
25	Instrumental methods of examination of the cardiovascular system.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
26	Heart failure syndrome: basic clinical and instrumental methods of examination. Acute and chronic vascular insufficiency.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
27	Mitral valve diseases: main symptoms and syndromes based on clinical and instrumental methods of examination.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
28	Aortic valve disorders: main symptoms and syndromes based on clinical and instrumental methods of examination.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
29	Main symptoms and syndromes of essential arterial hypertension.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
30	Symptomatic arterial hypertension. Hypertensive crises.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
31	Chronic coronary heart disease: main symptoms and syndromes.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
32	Ischemic heart disease: main symptoms and syndromes in acute coronary syndrome.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
33	Complete blood count. The main symptoms and syndromes of anemia.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
34	The main syndromes in leukemia.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
35	Final control of mastering practical skills in patient examination methods and their use for diagnosing the main syndromes of diseases of internal organs.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
36	Final control of mastering practical skills in patient examination methods and their use for diagnosing the main syndromes of diseases of internal organs.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
Assesment												
1	Graded Credit	6	0	0	0	0	6	0	0	0	6	0
Independent extracurricular tasks												
1	extracurricular tasks	1.5	0	0	0	0	1.5	0	0	0	0	1.5
<i>Total (full-time course)</i>		<i>120</i>	<i>90</i>	<i>18</i>	<i>72</i>	<i>0</i>	<i>30</i>	<i>4.5</i>	<i>18</i>	<i>0</i>	<i>6</i>	<i>1.5</i>

	UNIVERSITY POLICIES FOR THE COURSE «Propaedeutics of Internal Medicine» Higher education level The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle Major: Educational programme 222 Medicine: Medicine Form of study full-time course Language of instruction English
Teacher(s)	Bokova Svitlana , Dudchenko Yevhenii Serhiiovych
Contact	s.bokova@med.sumdu.edu.ua es.dudchenko@med.sumdu.edu.ua
Time and room for giving consultations	City Children's Clinical Hospital No. 2, classroom No. 3 (4th floor) (Sumy, 3 Ivana Sirka St.), http://meet.google.com/yfn-pwuh-cxv . Consultations are held according to the approved schedule.
Links to online educational platforms	https://mix.sumdu.edu.ua/info/nmk/8be4ccdc-d9c0-4e39-b166-24a351af80d0 http://meet.google.com/yfn-pwuh-cxv
Link to the syllabus in the course catalogue	https://pg.cabinet.sumdu.edu.ua/report/course/2a9414f7c9ab4e742fa9b39aac36215c6065560
Communication tools	s.bokova@med.sumdu.edu.ua, es.dudchenko@med.sumdu.edu.ua, Viber, Telegram, WhatsApp

POLICIES

Academic integrity policy

All assignments specified in the syllabus must be completed by the student independently. Cheating during any type of assessment is prohibited. The work of a higher education student must not contain plagiarism, fabrication, falsification, or cheating. All written assignments are subject to a plagiarism check, followed by the instructor's analysis of the results in order to determine the correctness of references to textual and illustrative sources.

During the study of the course, other manifestations of academic dishonesty, as defined by the University Code of Academic Integrity, are also unacceptable.

In case of violations of academic integrity by a higher education student during the study of the course, the instructor has the right to take one of the following actions:

- reduce by up to 40% the number of points earned for a practical assignment;
- provide recommendations for revising a compulsory homework assignment with a reduction of the final score by up to 25%;
- not accept a compulsory homework assignment without granting the right to resubmit it;
- assign a retake of a written module or final assessment with a reduction of the final score by up to 15%;
- refuse to grant a retake of a written module or final assessment.

Policy on the use of artificial intelligence tools

The policy on the use of artificial intelligence tools is announced by the instructor at the beginning of the course.

Artificial intelligence tools is permitted to use to prepare assignments specified in the curriculum of the academic discipline, to search for information resources. The fact of using artificial intelligence tools must be noted in the assignment.

Несанкціоноване використання інструментів штучного інтелекту є порушенням академічної доброчесності.

Policy on the use of open access resources

When utilizing materials from open-access sources in the preparation of assignments specified in the syllabus, students must strictly adhere to the terms of the applicable Creative Commons licenses and ensure proper attribution in accordance with copyright regulations.

Attendance policy

Class attendance is mandatory. Under justified circumstances (e.g., illness, participation in academic mobility programs), studies may be conducted according to an individual schedule.

Policy on deadlines and retakes

Attendance at classes is mandatory. If during the semester control the applicant received an "unsatisfactory" grade with a score of 70-119 inclusive, he has the right to a two-time retake of the final grade for the academic discipline: the first retake by the teacher, the second retake by the commission created by the director of the institute. If during the semester control the applicant received an "unsatisfactory" grade with a score of up to 69 inclusive, he has the right to a one-time retake of the final grade for the academic discipline - by the commission created by the director of the institute.

If the total number of points obtained as a result of all assessments corresponds to a passing grade (subject to the mandatory requirement of fulfilling all conditions specified in the syllabus and regulations), it is considered final; a passing grade may not be retaken for the purpose of improvement.

The elimination of academic debt is carried out in accordance with the Regulations on the Organization of the Educational Process of Sumy State University, taking into account the established deadlines, forms of assessment, and procedures for retaking assessment activities.

Policy on appealing assessment results

Appeals and consideration of applications from higher education students regarding the assessment of learning outcomes are carried out in accordance with the Regulations on the Organization of the Educational Process of Sumy State University.

Assessment criteria

The first semester of teaching

SA1. Current evaluation of the level of theoretical and practical training, 120 scores	
5 (Excellent) <i>Outstanding performance without errors</i>	$170 \leq RD \leq 200$ 102-120 points
4 (Good) <i>Above the average standard but with minor errors</i>	$140 \leq RD < 169$ 84-101 points
3 (Satisfactory) <i>Fair but with significant shortcomings</i>	$120 \leq RD < 139$ 72-83 points
2 (Fail) <i>Fail – some more work required before the credit can be awarded</i>	$0 \leq RD < 119$ 0-71 points
SA2. Final control: differential assessment., 80 scores	
5 (Excellent) <i>Outstanding performance without errors</i>	$170 \leq RD \leq 200$ 68-80 points
4 (Good) <i>Above the average standard but with minor errors</i>	$140 \leq RD < 169$ 56-67 points
3 (Satisfactory) <i>Fair but with significant shortcomings</i>	$120 \leq RD < 139$ 48-55 points

2 (Fail) <i>Fail – some more work required before the credit can be awarded</i>	$0 \leq RD < 119$ 0-47 points
---	---