**EUROPEAN MEDICAL UNIVERSITY**

# SYLLABUS OF THE EDUCATIONAL DISCIPLINE "INTERNAL MEDICINE"

| | |
|---|---|
| **Cycle of Higher Education:** | **second cycle of higher education (Master's degree)** |
| **Field of Study:** | **22 «Healthcare»** |
| **Specialty:** | **222 «Medicine»** |
| **Educational qualification:** | **Master of Medicine** |
| **Professional qualification:** | **doctor** |

Dnipro

**Teachers stuff:**
**Chief of the Department of Internal Medicine with a Course of Preventive Disciplines, MD, PhD, DrMedSc, professor Dmytro DYUDYUN**
**Associate professor of Department of Internal Medicine with a Course of Preventive Disciplines, PhD Olha BOYKO**
**Ass. professor of Department of Internal Medicine with a Course of Preventive Disciplines, Irina ZAYATS**

## 1. Name, Code of the discipline and number of credits

**SYLLABUS OF THE EDUCATIONAL DISCIPLINE "INTERNAL MEDICINE"**

Cycle of Higher Education: second cycle of higher education (Master's degree)
Field of Study: 22 «Healthcare»
Specialty: 222 «Medicine» (5 course)
Educational qualification: Master of Medicine
Professional qualification: doctor
Semester: 8th.
Number of credits ECTS (number of hours): 8 ECTS credits (240 hours).
Distribution by types of trainings and hours of study – Lectures 30 hours, Practical (clinical) lessons – 140 hours, Independent work – 70 hours.
**Prerequisition:** Propaedeutics of Internal Medicine, Propaedeutics of other clinical disciplines (Pediatrics, General Surgery), other basic disciplines (Medical Biology, Medical and Biological Physics, Bioorganic and Biological Chemistry, Histology, Cytology and Embryology, Human Anatomy, Pathomorphology, Physiology and Pathophysiology, Microbiology, Virology and Immunology, Radiology.

**Postrequisition:** the acquired knowledge, skills, abilities and competences are the basis for continuing the study of internal medicine in the 6th year, as well as emergency medicine, surgery, pediatrics and infectious diseases, and are the basis for further postgraduate education**.**

## 4. Characteristic of the educational discipline

### 4.1. Purpose and definition of the educational discipline:

The purpose of teaching the academic discipline "Internal medicine" is the provision of academic training in internal medicine and the preparation of graduates for the professional activity of a doctor in the relevant primary position by acquiring general and special competencies, the scope of which is at least described by defined lists of syndromes and symptoms of diseases, emergency conditions, physiological conditions and diseases that require special patient management tactics; laboratory and instrumental research, medical manipulations; issues of labor and forensic examination.

### 4.2. Tasks of educational "Internal Medicine" discipline

- to conduct surveys and physical examinations of patients and analyze their results in the clinic of internal medicine;

- to determine the etiological and pathogenetic factors of the most common diseases in the clinic of internal medicine;
- to classify and analyze the typical clinical picture of the most common diseases in the clinic of internal medicine;
- identify different clinical variants and complications of the most common diseases in the clinic of internal medicine;
- to determine leading syndromes and symptoms in the clinic of internal medicine.
- to justify and formulate a preliminary diagnosis of the most common diseases in the clinic of internal medicine;
- to draw up a patient examination plan, interpret the results of laboratory and instrumental studies for the most common diseases in the internal medicine clinic and their complications;
- to carry out differential diagnosis, substantiate and formulate a clinical diagnosis of the main diseases in the clinic of internal medicine;
- to determine the management tactics (recommendations regarding the regime, diet, treatment, rehabilitation measures) of the patient with the most common diseases in the clinic of internal medicine;
- to prescribe non-drug and drug treatment, including prognosis-modifying, the most common diseases in the clinic of internal medicine;
- carry out non-medicated and medicated primary and secondary prevention of major diseases in the clinic of internal medicine;
- to determine the prognosis and working capacity of patients with major diseases in the clinic of internal medicine;
- to diagnose and provide medical assistance in case of emergency conditions in the clinic of internal medicine;
- to apply the basic algorithms of intensive therapy of emergency conditions in the clinic of internal medicine;
- perform medical manipulations;
- to keep medical documentation in the clinic of internal medicine
- to demonstrate mastery of the moral and deontological principles of a medical specialist and the principles of professional subordination.

**4.3. Appointment of the discipline**
**Competencies.**
*Integral competence:*
Ability to solve complex problems and problems in a certain field of professional activity or in the learning process, which involves research and / or innovation and is characterized by uncertainty of conditions and requirements.
*General competencies*:
- Ability to abstract thinking, analysis and synthesis.
- Ability to learn and master modern knowledge.
- Ability to apply knowledge in practical situations.
- Knowledge and understanding of the subject area and understanding of professional activity.
- Ability to adapt and act in a new situation.

- Ability to make informed decisions.
- Ability to work in a team.
- Ability to choose a communication strategy; to show skills of interpersonal interaction.
- Ability to communicate in the state language both orally and in writing.
- Have the skills to use information and communication technologies.
- Definiteness and persistence in relation to the set tasks and responsibilities.
- Ability to act socially responsibly and consciously.
- Ability to act on the basis of ethical considerations (motives).

*Special (professional) competencies:*

- - Skills of interviewing and clinical examination of the patient.
- - Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results.
- - Ability to establish a preliminary and clinical diagnosis of the disease.
- - Ability to determine the principles and nature of treatment of diseases.
- - Ability to determine the required mode of work and rest in the treatment of diseases.
- - Ability to diagnose emergencies.
- - Ability to determine the tactics of emergency medical care.
- - Skills in providing emergency medical care.
- - Skills to perform medical manipulations.
- - Ability to determine the tactics of management of persons subject to dispensary supervision.
- - Ability to keep medical records.

*Program learning outcomes:*

- Collect data on patient complaints, medical history, life history, conduct and evaluate the results of physical examination.
- Evaluate information about the diagnosis using a standard procedure based on the results of laboratory and instrumental studies.
- Highlight the leading clinical symptom or syndrome. Establish the most probable or syndromic diagnosis of the disease. Assign laboratory and / or instrumental examination of the patient. Carry out differential diagnosis of diseases. Establish a preliminary and clinical diagnosis.
- Determine the necessary mode of work and rest in the treatment of the disease.
- Determine the necessary therapeutic nutrition in the treatment of the disease.
- Determine the principles and nature of treatment (conservative, operative) of the disease.
- Determine the tactics of emergency medical care based on the diagnosis of emergency.
- Provide emergency medical care based on an emergency diagnosis.
- Perform medical manipulations.
- Determine the tactics of examination and secondary prevention of patients subject to dispensary supervision; tactics of examination and primary prevention of healthy persons subject to dispensary supervision; calculate and prescribe the necessary food products for children of the first year of life.

- Determine the presence and degree of life restrictions, type, degree and duration of incapacity with the preparation of relevant documents.
- Be able to keep medical records.
- Organize the work of medical staff; to form rational medical routes of patients; organize interaction with colleagues, organizations and institutions; apply tools to promote medical services.
- Form goals and determine the structure of personal activity.
- Adhere to the requirements of ethics, bioethics and deontology in their professional activities.
- Organize the necessary level of individual safety (own and those cared for) in case of typical dangerous situations in the individual field of activity.

**4.4 Content of the discipline**

**Lectures plan (L)**
**Semester: 9**

1. Ischemic heart disease: acute coronary syndrome (unstable angina, acute myocardial infarction)
2. Congenital and acquired heart defects
3. Pericarditis. Myocarditis, cardiomyopathy.
4. Thromboembolism of the pulmonary artery
5. Heart failure
6. Systemic lupus erythematosus
7. Rheumatoid arthritis
8. Osteoarthritis
9. Gout
10. Seronegative spondyloarthropathies
11. Glomerulonephritis. Kidney amyloidosis. Pyelonephritis
12. Chronic kidney disease
13. Chronic hepatitis and liver cirrhosis
14. Gallstone disease, chronic cholecystitis, functional biliary disorders.
15. Chronic pancreatitis

**Clinical lessons plan (CL)**
**Semester: 9**

1. Chronic forms of coronary heart disease.
2. Acute coronary syndrome.
3. Congenital heart defects in adults
4. Acquired heart defects
5. Infectious endocarditis.
6. Pericarditis.
7. Myocarditis, cardiomyopathy.
8. Pulmonary heart. Thromboembolism of the pulmonary artery
9. Disorders of heart rhythm.
10. Disorders of heart conduction.

11. Acute heart failure.
12. Chronic heart failure.
13. Acute rheumatic fever. Systemic connective tissue diseases (systemic lupus erythematosus).
14. Systemic connective tissue diseases (systemic scleroderma, polymyositis, dermatomyositis).
15. Systemic vasculitis.
16. Rheumatoid arthritis.
17. Osteoarthritis.
18. Gout.
19. Seronegative spondyloarthropathies (ankylosing spondylitis, reactive arthritis)
20. Glomerulonephritis. Kidney amyloidosis.
21. Pyelonephritis. Tubulointerstitial nephritis.
22. Acute kidney injury.
23. Chronic kidney disease.
24. Chronic hepatitis and liver cirrhosis.
25. Gallstone disease, chronic cholecystitis, functional biliary disorders.
26. Chronic pancreatitis.
27. The subject and tasks of clinical pharmacology. Basic provisions of pharmacokinetics and pharmacodynamics of medicinal products. Side effect, drug interactions.
28. Clinical pharmacology of drugs for the treatment of bronchial obstruction syndrome. Clinical pharmacology of anti-inflammatory drugs (non-steroidal and steroidal).
29. Clinical pharmacology of antibacterial, antiviral and other drugs (antibiotics, fluoroquinolones, nitroimidazoles, nitrofurans, sulfonamides, etc.).
30. Clinical pharmacology of antihypertensive, hypertensive, diuretic drugs.
31. Clinical pharmacology of antianginal, antiischemic and hypolipidemic drugs.
32. Clinical pharmacology of drugs affecting blood clotting.
33. Clinical pharmacology of drugs for the treatment of diseases of the gastrointestinal tract, diseases of the hepatobiliary system.
34. Final control of knowledge.

**Independent work topics (IW)**

**Semester: 9**

1. Essential arterial hypertension. Neurocirculatory dystonia. Secondary arterial hypertension.
2. Curation of the patient with the writing of the medical history
3. Mastery of blood pressure measurement skills.
4. Chronic forms of coronary artery disease. Heart failure.
5. CHD: acute myocardial infarction.
6. Heart rhythm and conduction disorders.
7. Congenital heart defects.
8. Acquired heart defects.
9. Infectious endocarditis.
10. Pulmonary heart and pulmonary embolism

11. Main symptoms of rheumatological pathology and examination methods in rheumatology.
12. Rheumatic fever.
13. Pulmonary heart and pulmonary embolism.
14. Systemic diseases of connective tissue. Osteoarthritis.
15. Chronic kidney disease.
16. Pharmacokinetics of drugs and its main stages
17. Basic provisions of clinical pharmacodynamics.
18. Side effects of medicines. Bioethical and legal aspects of testing new drugs. Modern approach to the production of medicinal products (GMP). Pharmacovigilance.

**Semester: 9**

**Credit structure of "Internal Medicine" discipline.**

**5 course**

| **Content section 1 "Internal Medicine"** | | | | | |
|---|---|---|---|---|---|
| **Lecture** | **hours** | **Clinical lessons** | **hours** | **Independent work** | **hours** |
| - | - | - | - | Essential arterial hypertension. Neurocirculatory dystonia. Secondary arterial hypertension. | 4 |
| - | - | - | - | Curation of the patient with the writing of the medical history | 6 |
| - | - | - | - | Mastery of blood pressure measurement skills. | 4 |
| Ischemic heart disease: acute coronary syndrome (unstable angina, acute myocardial infarction) | 2 | Chronic forms of coronary heart disease. | 4 | Chronic forms of coronary artery disease. Heart failure. | 4 |
| | | Acute coronary syndrome.. | 5 | CHD: acute myocardial infarction. | 4 |
| Congenital and acquired heart defects | 2 | Congenital heart defects in adults. | 4 | Congenital heart defects. | 4 |
| | | Acquired heart defects. | 5 | Acquired heart defects. | 4 |
| - | - | Infectious endocarditis. | 5 | Infectious endocarditis.. | 4 |
| | 2 | Pericarditis. | 4 | - | - |

| | | | | | |
|---|---|---|---|---|---|
| Pericarditis. Myocarditis, cardiomyopathy. | | Myocarditis, cardiomyopathy. | 6 | - | - |
| Thromboembolism of the pulmonary artery | 2 | Pulmonary heart. Thromboembolism of the pulmonary artery. | 4 | Pulmonary heart and pulmonary embolism. | 7 |
| - | - | Disorders of heart rhythm. | 6 | Heart rhythm and conduction disorders. | 4 |
| - | - | Disorders of heart conduction. | 6 | | |
| Heart failure | 2 | Acute heart failure. | 4 | - | - |
| | | Chronic heart failure. | 5 | - | - |
| - | - | - | - | Main symptoms of rheumatological pathology and examination methods in rheumatology. | 3 |
| Systemic lupus erythematosus | 2 | Acute rheumatic fever. Systemic connective tissue diseases (systemic lupus erythematosus). | 4 | Rheumatic fever. | 3 |
| - | - | Systemic connective tissue diseases (systemic scleroderma, polymyositis, dermatomyositis). | 6 | - | - |
| - | - | Systemic vasculitis. | 6 | - | - |
| Rheumatoid arthritis | 2 | Rheumatoid arthritis. | 4 | - | - |
| Osteoarthritis | 2 | Osteoarthritis. | 4 | Systemic diseases of connective tissue. Osteoarthritis | 6 |
| Gout | 2 | Gout. | 4 | - | - |
| Seronegative spondyloarthropathies | 2 | Seronegative spondyloarthropathies (ankylosing spondylitis, reactive arthritis). | 4 | - | - |
| Glomerulonephritis. Kidney amyloidosis. Pyelonephritis | 2 | Glomerulonephritis. Kidney amyloidosis | 4 | - | - |
| - | - | Pyelonephritis. Tubulointerstitial nephritis. | 5 | - | - |

| | | | | | |
|---|---|---|---|---|---|
| - | - | Acute kidney injury | 5 | - | - |
| Chronic kidney disease | 2 | Chronic kidney disease | 4 | Chronic kidney disease.. | 3 |
| Chronic hepatitis and liver cirrhosis. | | Chronic hepatitis and liver cirrhosis. | 4 | - | - |
| Gallstone disease, chronic cholecystitis, functional biliary disorders. | 2 | Gallstone disease, chronic cholecystitis, functional biliary disorders. | 4 | - | - |
| Chronic pancreatitis | 2 | Chronic pancreatitis. | 4 | - | - |
| **Content section 2 «**Clinical Pharmacology**»** | | | | | |
| **Lecture** | **hours** | **Clinical lessons** | **hours** | **Independent work** | **hours** |
| - | - | The subject and tasks of clinical pharmacology. Basic provisions of pharmacokinetics and pharmacodynamics of medicinal products. Side effect, drug interactions. | 2 | Pharmacokinetics of drugs and its main stages | 3 |
| | | | | Basic provisions of clinical pharmacodynamics.. | 3 |
| - | - | Clinical pharmacology of drugs for the treatment of bronchial obstruction syndrome. Clinical pharmacology of anti-inflammatory drugs (non-steroidal and steroidal). | 2 | | |
| - | - | Clinical pharmacology of antibacterial, antiviral and other drugs (antibiotics, fluoroquinolones, nitroimidazoles, nitrofurans, sulfonamides, etc.). | 2 | | |
| - | - | Clinical pharmacology of antihypertensive, hypertensive, diuretic drugs. | 3 | | |
| - | - | Clinical pharmacology of antianginal, | 2 | | |

| | | | | | |
|---|---|---|---|---|---|
| | | antiischemic and hypolipidemic drugs. | | | |
| - | - | Clinical pharmacology of drugs affecting blood clotting. | 2 | | |
| - | - | Clinical pharmacology of drugs for the treatment of diseases of the gastrointestinal tract, diseases of the hepatobiliary system.. | 2 | | |
| - | - | - | - | Side effects of medicines. Bioethical and legal aspects of testing new drugs. Modern approach to the production of medicinal products (GMP). Pharmacovigilance. | 4 |
| - | - | Final control of knowledge.. | 5 | - | - |
| **Hours:** | **30** | | **140** | | **70** |
| **All hours of discipline:** | **240** | | | | |

**Topics of the lecture course:** reveal problematic issues in the relevant sections "Internal Medicine" V course.

**Clinical classes** provide theoretical justification of the main issues of the topic and acquiring **the following practical skills**:

## List of practical skills:

***Work with the patient***

- Collect complaints, medical history, life history.
- Collect information about the general condition of the patient about the general condition of the patient about the general condition of the patient (consciousness, constitution) and evaluate the appearance (inspection of the skin, subcutaneous fat layer, palpation of lymph nodes, thyroid and mammary glands), examine the state of the musculoskeletal system , joints
- Examine the respiratory organs (examination of the chest, palpation of the chest, percussion and auscultation of the lungs). - Examine the cardiovascular system (examination and palpation of the area of the heart and blood vessels, percussion of the borders of the heart and auscultation of the heart and blood vessels).
- Examine the digestive organs (examination, percussion, superficial and deep palpation). - Examine the urinary system (examination of the lumbar region, palpation of the kidneys).
• Make a probable (preliminary) diagnosis of the disease (List 1).
•Prescribe and justify laboratory and/or instrumental examination of a patient with diseases (List 1).
• Interpret the results of laboratory and instrumental studies (List 2)

• Carry out differential diagnosis of diseases (List 1).
• Make a clinical diagnosis of diseases (List 1).
• Determine the necessary regime and diet of a patient with diseases (List 1).
• Determine the principles and nature of treatment (conservative, operative) of diseases (List 1).
• Diagnose and treat emergencies (List 3)
• Perform medical manipulations (List 4)
• Determine tactics of secondary prevention of patients who are subject to dispensary supervision.
• Maintain medical documentation regarding the patient.

***List 1 (diseases)***

Diseases of the cardiovascular system

1. Essential arterial hypertension (hypertensive disease)
2. Secondary (symptomatic) hypertension:
- renal (renovascular, renoparenchymatous);
- endocrine (itsenko-Cushing's syndrome and disease, pheochromocytoma, primary hyperaldosteronism, thyrotoxicosis);
- coarctation of the aorta;
- isolated systolic arterial hypertension;
- arterial hypertension during pregnancy;
3. Neurocirculatory dystonia
4. Atherosclerosis
5. Stable ischemic heart disease
6. Unstable angina. Acute myocardial infarction
7. Pericarditis
8. Pulmonary heart
9. Acquired heart defects: mitral, aortic and tricuspid valves, combined mitral and aortic defects
10. Congenital heart defects: atrial and ventricular septal defects, open ductus arteriosus, coarctation of the aorta
11. Infectious endocarditis
12. Myocarditis and cardiomyopathies
13. Thromboembolism of the pulmonary artery
14. Violation of heart rhythm
15. Violation of heart conduction
16. Heart failure

***Diseases of the musculoskeletal system and connective tissue***

1. Osteoarthritis
2. Systemic lupus erythematosus
3. Systemic scleroderma
4. Gout
5. Reactive arthritis
6. Acute rheumatic fever
7. Rheumatoid arthritis
8. Dermatomyositis/poliomyositis
9. Ankylosing spondylitis
10. Systemic vasculitis (hypersensitive and hemorrhagic vasculitis, nodular polyarteritis)

***Diseases of the urinary system***

1.Пієлонефрити
2. Тубулоінтерстиціальний нефрит
3. Гострі та хронічні гломерулонефрити
4. Амілоїдоз нирок
5. Гостре порушення функції нирок
6. Хронічна ниркова недостатність

***List 2 (laboratory and instrumental research methods)***

1. Analysis of ascitic fluid
2. Synovial fluid analysis
3. Urine analysis according to Nechiporenko
4. Analysis of urine according to Zimnytskyi
5. Biochemical markers of myocardial necrosis, D-dimer
6. Acute phase indicators of blood, total blood protein and its fractions, ASL-O
7. General blood analysis
8. General urinalysis, microalbuminuria test, urine albumin/creatinine level
9. Blood electrolytes
10. Immunoenzymatic, immunochemical, molecular biological blood analysis
11. Coagulogram
12. Creatinine and blood urea, glomerular filtration rate
13. Lipid spectrum of blood
14. Analysis of sternal punctate with radiation damage
15. Metanephrines in urine
16. Microbiological research of biological fluids and secretions
17. Indicators of the acid-base state of the blood
18. Rheumatoid factor, anti-CCP, ANA, dsDNA, Sm-antigen, SCL-70, Jo-1, pANCA, cANCA, HbsAg, IgG and IgM chlamydia trachomatis, shigella, salmonella, yersinia
19. The level of ACTH, cortisol, aldosterone and renin in the blood
20. Blood uric acid
21. Blood transaminases, total bilirubin and its fractions
22. Electrocardiographic study
23. Echocardiography
24. Tests with dosed physical activity
25. Sonography, scanning, computer and magnetic resonance imaging of the adrenal glands
26. X-ray contrast angiography
27. X-ray examination of abdominal organs
28. X-ray examination of the organs of the chest cavity
29. X-ray examination of the urinary system
30. X-ray examination of the skull, bones and joints

***List 3 (EMERGENCIES)***

● Hypertensive crisis
● Acute heart failure
● Acute kidney injury
● Acute coronary syndrome
● Stoppage of blood circulation and breathing
● Paroxysmal heart rhythm disorders (paroxysmal tachycardia and atrial fibrillation/flutter) and heart conduction disorders (high-grade atrioventricular blocks, Morganhi-Edems-Stokes syndrome)
● Thromboembolism of the pulmonary artery

***List 4 (MEDICAL MANIPULATIONS)***

● Measure blood pressure
● Register ECG in 12 leads
● Perform artificial lung ventilation and perform indirect heart massage
● Perform bladder catheterization with a soft catheter.

**Independent work of a student** provides for preparation for practical classes and final control, studying topics for independent out-of-class work, preparing abstract reports, presentations, tables. Control of learning results of topics of independent out-of-class work is carried out during the class and during final control in the discipline.

**Individual work** includes the study of scientific literature, preparation of reviews on the submitted topics for presentation, implementation of scientific and practical research, participation in specialized competitions, scientific and practical conferences, competitions of student scientific papers.

*Calendar plans of practical classes, thematic plan of independent extracurricular work, scope and directions of individual work are published on the website of the Department.*

**Way for receiving materials:** Website of EMU /Student/Department of Internal Medicine / Educational and methodological support of the Department/ Internal Medicine / or follow the link Department of Internal Medicine, discipline " Internal Medicine". Materials are accessed from the student's Office 365-based corporate account.

## 5. Forms and methods of monitoring learning success

| | |
|---|---|
| Current control in practical classes | Methods: individual oral survey, structured written works, test tasks with the choice of correct answers. |
| Control of mastering the thematic section of the discipline in intermediate control classes | Methods: oral or written survey, electronic testing, *methods of self-control and self-assessment*. |
| Final semester control | According to the regulation on control measures in EMU (regulation of EMU) |
| Final control of the discipline - *exam* | Methods: by exam cards in the form of an oral exam, monitoring of acquiring of practical skills (According to the Regulation on control measures in EMU (Regulation of EMU). |
| Tools for diagnosing learning success | Theoretical questions, tests, clinically oriented situational tasks, practical tasks, demonstration of practical skills. |

## 6. Evaluation criteria

Knowledge assessment is carried out according to regulation on control measures in EMU (regulation of EMU).

| | |
|---|---|
| Current control | According to the four-point system of traditional grades: 5 "Excellent", 4 "Good", 3 "Satisfactory", 2 "Unsatisfactory" |
| Control of practical skills | According to the four-point system of traditional grades |

| | |
|---|---|
| Exam | Based on a 200-point scale (the sum of points for the current academic activity of the student, the result of passing the exam and for successful completion of an individual task, if any)<br>Credited: 120 to 200 points<br>Not credited: less than 120 points (see Rating scale) |
| Final control for the discipline | The final control of students' academic performance is carried out after completing the study of the discipline and is implemented in the form of an exam. |
| Discipline assessment: | The score on the discipline is determined based on the results of assessment of current activities and is expressed using a **fourpoint scale**: ("Excellent", "Good", "Satisfactory", "Unsatisfactory"), multi-point scale and ECTS. The assessment in the discipline consists of an assessment of the current academic performance and the result of passing the exam (in points), which is set when evaluating theoretical knowledge and practical skills in accordance with the list defined by the discipline program. The number of points that the applicant scored for current academic.<br>performance in the discipline is defined as the arithmetic mean of the number of points that the applicant received during the study of the discipline (practical, seminar, laboratory classes, etc.). The resulting value of the average traditional rating is converted to points according to the scale of conversion of traditional ratings to rating points. The maximum number of points is 200. |

Matching grades on a 200-point scale, a 4-point (traditional) scale, and ECTS scale

| **On a 200-point scale** | **Rating on a 4-point scale** |
|---|---|
| 180–200 | Excellent |
| 140–179 | Good |
| 120–139 | Satisfactory |
| 0–119 | Unsatisfactory |

| **On a 200-point scale** | **ECTS evaluation** |
|---|---|
| 192–200 | A |
| 172–191 | B |
| 148–171 | C |

| | |
|---|---|
| 128–147 | D |
| 120–127 | E |
| 0–119 | F |

**Discipline/course policy**

The student has the right to receive high-quality educational services, access to up-to-date scientific and educational information, qualified advice during the study of the discipline and mastering practical skills. The policy of the department in the provision of Educational Services is student-centered, based on the regulatory documents of the Ministry of Education and the Ministry of Health of Ukraine, the Charter of the EMU and the procedure for providing educational services regulated by the regulation on the organization of the educational process in the EMU and the principles of academic integrity.

**Compliance with the EMU schedule, safety precautions in the classroom. Requirements for preparing for practical classes.**

Students should arrive at classes on time, without being late. A student who is more than 10 minutes late for classes is not allowed in and must work it out in accordance with the established procedure. During practical classes, the student must wear a work uniform (medical gown, cap). Students who do not have a work uniform are not allowed to attend classes. The student must follow the safety rules during practical classes and while staying in the Department's premises. When discussing theoretical issues, students should demonstrate tolerance, politeness and respect for their colleagues and the teacher; when performing practical tasks, the workplace should be kept in order and cleaned after completing practical work.

**Use of mobile phones and other electronic devices.** The use of mobile phones and other electronic devices in the classroom is not allowed, only during Distance Learning, provided that it is technically necessary.

**Academic integrity.** When studying the discipline, the student should be guided by the following regulations: on academic integrity of EMU (regulation of EMU). In case of violation of the regulations of academic integrity during the current and final controls, the student receives a grade of "2" and must work it out to the teacher in accordance with the established procedure.

Regulation on control measures in EMU (Regulation of EMU).

**Missed classes** should be reworked in accordance with the procedure established in the regulations on control measures in the EMU (regulation of EMU) during the time determined by the work schedule (Department of Internal Medicine) to the teacher on duty. To work out a missed lesson the student must pass a test and answer in writing or verbally the question on the topic of the lesson.

**Procedure for admission to the final control** in the discipline is given in the regulations on control measures and regulations on the organization of the educational process in the EMU (regulation of EMU) and regulations on control measures in the TNM DMI

(regulation of EMU). Students who do not have missed not worked out practical classes and lectures and have received an average traditional grade of at least "3" are allowed to participate in the final control.

**Additional individual points.** Points are awarded subject to the mandatory participation of the head, head teacher and teacher. These points are encouraging and are added once to the total score of the current academic performance and the result of passing the comprehensive exam. Their total number for one student should not exceed 10, and the final amount of points for an academic discipline should not exceed 200 points.

**Individual tasks include:**

1) writing essays and creating multimedia presentations with reports at meetings of the student scientific group of the department – 3 points;
2) participation in the creation of tables, graphological structure, posters on the topics of practical classes – 2 points;
3) participation in the student competition in the discipline at the First Stage – 1 point;
4) participation/prize-winner of the All-Ukrainian student competition in the discipline - 7/10 points;
5) author or co-author of abstracts/article – 2/5 points;
6) author or co-author of an oral/information stand report at a scientific conference – 6/3 points;
7) author of a student scientific paper accepted for participation or awarded by a diploma of I-III degree in the All – Ukrainian competition of student scientific papers at Stage II - 8 (participation) or 10 (diploma) points.

**Resolving conflict issues.** If there are misunderstandings and complaints against the teacher due to quality of educational services provided, knowledge assessment, and other conflict situations, the student must first report his/her claims to the teacher. If the conflict issue is not resolved, the student has the right to submit an appeal to the head of the department in accordance with the regulations on consideration of applications from applicants for higher education inEMU (regulation of EMU), Regulations on consideration of applications, complaints, and proposals of students in EMU (regulation of EMU), Regulations on meeting the requirements of the organization of the educational process (regulation of EMU), Regulation on the appeal of the results of the final control of knowledge of applicants for higher education in EMU (regulation of EMU), Regulations on safe educational environment in EMU (regulation of EMU).

**Policy in the context of distance learning.** The procedure for distance learning is regulated by regulation of EMU. The main training platforms for conducting training sessions are Microsoft Teams, Zoom. The procedure for conducting practical classes and lectures, working out and consultations during Distance Learning is published on the Department's Web page Department of Internal Medicine.
Feedback from the teacher is provided directly during the lesson and/or consultation, and is also possible via email (in case of force majeure) during working hours.

1. **Training resources**
   Educational and methodological support of the discipline is published on the website of the Department (Department of Internal Medicine). Consultations are held according to the consultation schedule.
2. **Schedule and distribution of groups by teacher** are published on the Department's Web page (Department of Internal Medicine).
3. **Questions for intermediate and final control of the discipline** are published on the Department's Web page (Department of Internal Medicine).

**Questions for summary control:**

1. Essential arterial hypertension. Neurocirculatory dystonia. Definition. The role of disorders of the central and renal mechanisms of blood pressure regulation, endothelial function and other factors. Classification. Clinical manifestations and data of additional research methods. Damage to target organs. Differential diagnosis. Risk stratification. Complication. Non-drug and drug treatment. Complicated and uncomplicated hypertensive crises, peculiarities of treatment tactics. Primary and secondary prevention. Forecast and performance.

2. Neurocirculatory dystonia. Definition. Etiology and pathogenesis. Classification. Features of clinical syndromes. Diagnosis criteria. Differential diagnosis. Differentiated therapy. Primary and secondary prevention. Forecast and performance.

3. Secondary (symptomatic) hypertension. Definition. The main reasons. Features of the clinic, diagnosis of renal (renovascular, renoparenchymal), endocrine (Itsenko-Cushing syndrome and disease, pheochromocytoma, Kon syndrome, diffuse toxic goiter) and hemodynamic (isolated systolic arterial hypertension, coarctation of the aorta) arterial hypertension. Arterial hypertension during pregnancy. Value of laboratory and instrumental methods for differential diagnosis and diagnosis verification. Treatment, including surgical treatment. Primary and secondary prevention. Forecast and performance.

4. Atherosclerosis. Definition. The role of hyperlipidemia, general and local inflammation, damage to the vascular wall and platelets in the development of atherosclerosis. Risk factors. Peculiarities of clinical manifestations depending on the predominant localization (aorta, coronary, mesenteric and renal arteries, arteries of the lower extremities). The importance of laboratory, radiation and other instrumental research methods. Differential diagnosis. Complication. Principles of treatment. Treatment tactics for different variants of the course. Primary and secondary prevention. Forecast and performance.

5. Stable coronary heart disease (CHD). Definition of CHD. Etiology. Classification of CHD. Features of the clinical course and diagnosis of various variants of stable angina pectoris. Painless form of coronary heart disease, post-infarction and diffuse cardiosclerosis. Features of clinical manifestations. Diagnosis criteria. Differentiated therapy of various forms of CAD. Prognosis-modifying therapy. Primary and secondary prevention. Forecast and performance.

6. Acute coronary syndrome (unstable angina and acute myocardial infarction). Definition. Classification. Features of the clinical course and diagnosis of acute myocardial infarction. Diagnosis criteria. Complications of acute myocardial infarction (acute left ventricular failure, heart rhythm and conduction disturbances, myocardial rupture, acute heart aneurysm, Dressler's post-infarction syndrome, etc.). Diagnostics. Treatment tactics in different periods of acute myocardial infarction. Prognosis-modifying therapy. Indications for surgical treatment. Rehabilitation. Primary and secondary prevention. Forecast and performance.

7. Violation of heart rhythm. Definition. Etiology. Classification. Electrophysiological mechanisms of arrhythmias (extrasystole, atrial fibrillation and flutter, supraventricular and ventricular tachycardia, ventricular fibrillation). Clinic, ECG diagnosis and differential diagnosis. Complication. Medicinal and non-medicinal methods of treatment. The role of electroimpulse therapy. Emergency therapy for paroxysmal rhythm disturbances and sudden cardiac death. Primary and secondary prevention. Forecast and performance.

8. Violation of heart conduction. Definition. Etiology. Classification. Clinic and ECG diagnostics of sinoatrial, atrioventricular blockades and blockades of the legs of the bundle of His. Tactics for acute and chronic conduction disorders. Emergency care for a Morganhi-Adams-Stokes attack. Indications and principles of electrocardiostimulation (temporary, permanent). Primary and secondary prevention. Forecast and performance.

9. Thromboembolism of the pulmonary artery (PE). Definition of BODY. Risk factors. Classification. Pathogenesis of hemodynamic disorders. Clinical course. Diagnostic criteria, differential diagnosis. The diagnostic value of changes in the data of laboratory and instrumental research methods. Treatment tactics. Indications for surgical treatment. Primary and secondary prevention. Forecast and performance.

10. Pulmonary heart. Definition of pulmonary heart. Etiology, pathogenesis. Classification. Clinical manifestations, changes in the data of additional research methods depending on the etiological factor. Differential diagnosis. Principles of differentiated treatment. Primary and secondary prevention. Forecast and performance.

11. Congenital heart defects in adults. Definition. Atrial and interventricular septal defect, open ductus arteriosus, coarctation of the aorta. Mechanisms of hemodynamic disorders, significance of pulmonary hypertension. Value of non-invasive and invasive methods for diagnosis and differential diagnosis. Complication. Eisenmenger syndrome. Treatment. Indications for surgical treatment. Prevention of complications. Forecast and performance.

12. Infectious endocarditis. Definition. Etiology, pathogenesis. Clinical picture. Features of the course depending on the causative agent. Diagnostic criteria. The value of laboratory methods and echocardiographic research in diagnostics. Differential diagnosis. Complications (heart failure, embolism, abscesses, etc.). Treatment. Modes of antibacterial therapy. Indications for surgical treatment. Primary and secondary prevention. Forecast and performance.

13. Acquired heart defects. Definition. Defects of mitral, aortic, tricuspid valves. Etiology, mechanisms of hemodynamic disorders. Classification. Combined mitral and aortic defects. Clinical manifestations. Value of non-invasive and invasive research methods. Differential diagnosis. Complication. Treatment. Indications for surgical treatment. Primary and secondary prevention. Forecast and performance.

14. Myocarditis and cardiomyopathy. Definition. Classification. Etiology and pathogenesis of the main types of cardiomyopathies (hypertrophic, dilated, etc.). Clinical manifestations. The importance of laboratory and instrumental research methods in diagnostics. Diagnostic criteria and differential diagnosis. Complication. Features of treatment of various types of cardiomyopathies. Primary and secondary prevention. Forecast and performance.

15. Pericarditis. Definition. Etiology and pathogenesis. Classification. Features of the clinic, course and diagnosis of various forms of pericarditis. Diagnosis verification methods. Differential diagnosis. Heart tamponade. Indications for pericardial puncture, its diagnostic and therapeutic value. Differentiated therapy of various forms taking into account etiological factors. Primary and secondary prevention. Forecast and performance.

16. Acute heart failure. Definition. The main reasons. Pathogenesis of central and peripheral hemodynamic disorders in various forms (left and right heart failure). Classification. Clinical manifestations. Diagnostics. Emergency care for cardiogenic pulmonary edema and cardiogenic shock.

17. Chronic heart failure. Definition. The main reasons. Pathogenesis of central and peripheral hemodynamic disorders in various forms (left and right heart failure). The role of neurohumoral activation and cardiac remodeling. Classification. Clinical manifestations and their features depending on the variant (with preserved and reduced left ventricular ejection fraction), stage and functional class. Diagnostics. The importance of laboratory and instrumental research methods. Prognosis-modifying therapy. Primary and secondary prevention. Forecast and performance.

18. Acute rheumatic fever. Definition. The role of streptococcal infection and immunological reactivity in the development of acute rheumatic fever. Classification. Clinical picture (carditis, polyarthritis, chorea, skin lesions). The importance of laboratory and instrumental research methods. Diagnosis criteria. Differential diagnosis Complications. Treatment taking into account the degree of activity. Primary and secondary prevention. Forecast and performance. • Systemic lupus erythematosus.

Definition. Etiological factors and pathogenesis. Classification. Clinical manifestations depend on the damage to organs and systems and the activity of the disease. The importance of laboratory, including immunological, research methods. Diagnostic criteria. Differential diagnosis. Complication. Principles of treatment taking into account the degree of activity. Pulse therapy. Prevention. Forecast and performance.

19. Systemic connective tissue diseases (systemic scleroderma, dermatomyositis). Definition. Etiological factors, pathogenesis. Classification. The clinical picture depends on the damage to organs and systems. Diagnostic criteria, Differential diagnosis. Complication. Principles of treatment. Prevention. Forecast and performance.

20. Systemic vasculitis. Hemorrhagic vasculitis (Schenlein-Henoch vasculitis), hypersensitivity vasculitis, nodular polyarteritis. Definition. Etiology, pathogenesis. Clinical manifestations, diagnostic criteria. Differential diagnosis. Treatment. Prevention. Forecast and performance.

21. Rheumatoid arthritis. Definition. Etiology, pathogenesis. The role of immune status disorders in the development of the disease. Classification. Clinical picture taking into account the activity of the pathological process, stage of the disease, systemic manifestations. The importance of laboratory and instrumental methods for diagnosing the disease, its stage and activity. Diagnostic criteria, significance of synovial fluid research. Differential diagnosis. Complication. Treatment strategy. Basic therapy. Tactics of treatment with glucocorticoids and nonsteroidal anti-inflammatory drugs. Prevention. Forecast and performance.

22. Osteoarthritis. Definition. Etiology, pathogenesis. Classification. The clinical picture depends on the predominant localization of the lesions. Diagnostics. Differential diagnosis. Drug and non-drug treatment. Primary and secondary prevention. Forecast and performance.

23. Gout. Definition. Etiology, pathogenesis. Classification. Features of joint syndrome and damage to internal organs. Diagnosis criteria. Differential diagnosis. Complication. Drug and non-drug treatment. Prevention. Forecast and performance.

24. Seronegative spondyloarthritis (ankylosing spondylitis, reactive arthritis). Ankylosing spondylitis. Definition. Etiology, pathogenesis. Classification. Clinical picture. The value of instrumental and laboratory methods. Diagnosis criteria. Differential diagnosis. Drug and non-drug treatment. Prevention. Forecast and performance.

25. Reactive arthritis. Definition. Etiology, pathogenesis. Classification. Clinical manifestations of reactive arthritis of various etiologies. Reiter's syndrome, the importance of laboratory and instrumental diagnostic methods. Diagnostic criteria, Differential diagnosis. Treatment, the role of antibacterial therapy. Primary and secondary prevention. Forecast and performance.

26. Chronic kidney disease. Definition. Classification. Glomerulonephritis. Definition. Etiology and pathogenesis. Pathological anatomy. Classification. Clinical manifestations and features of individual morphological forms. Diagnostics. Differential diagnosis. Complication. Treatment taking into account the morphological form and clinical course. Primary and secondary prevention. Forecast and performance.

27. Amyloidosis. Definition. Etiology. Pathogenesis. Classification. Clinical manifestations of kidney amyloidosis. Diagnostic criteria. Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and performance.

28. Pyelonephritis. Definition. The role of infection in inflammatory diseases of the kidneys and urinary tract. Classification. Clinical manifestations. Instrumental and laboratory methods of diagnosis. Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and performance.

29. Tubulointerstitial nephritis. Definition. Etiology. Pathogenesis. Clinical manifestations. Diagnostic criteria and differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and performance.

30. Acute kidney damage. Chronic kidney failure. Definition. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Classification. Clinical manifestations and changes in laboratory parameters depending on the stage. Diagnostic criteria. Differential diagnosis. Complication. Treatment depending on the stage and renoprotection. Renal replacement therapy:

hemodialysis, kidney transplantation. Indications and contraindications for renal replacement therapy, complications. Primary and secondary prevention. Forecast and performance.

**Recommended Literature**

**Basic:**

1. Perederii V. G., Tkach S. M. Basics of internal medicine. T.1. Textbook for III-IV г.: Recommended by the Ministry of Health: 2018/ 640 p.
2. Perederii V. G., Tkach S. M. Fundamentals of internal medicine. T.2. Textbook for VMNH IV yr.a.: Recommended by the Ministry of Health: 2018/ 784 p.
3. Perederii V. G., Tkach S. M. Fundamentals of internal medicine. T.3. Textbook for VMNH IV yr.a.: Recommended by the Ministry of Health: 2018/ 1006 p.
4. Steuara G. Ralston, Ian D. Penman and others. Medicine according to Davidson: principles and practice: trans. 23rd Eng. ed.: in 3 vol. — vol. 1: Education. manual for students honey. ZVO, intern doctors, masters — K., 2020. — XXII, 258 p.
5. Stuart G. Ralston, Ian D. Penman. Medicine according to Davidson: principles and practice: trans. 23rd Eng. ed.: in 3 vol. — vol. 2: Education. manual for students honey. ZVO, intern doctors, masters. — K., 2021. — XXII, 778 p.
6. Medicine according to Davidson: principles and practice: 23rd edition: in 3 volumes. Volume 3 / edited by By Stuart G. Ralston, Ian D. Penman, Mark W.J. Stracken, Richard P. Hobson: Education. manual for students honey. ZVO, intern doctors, masters. – K.: VSV "Medicine", 2021. — XXII, 642 p.
7. Perederii V.G. Practicum in internal medicine. Module 1. Gastroenterology. Study guide for VMNH III-IV yr.a.: Recommended by the Ministry of Health: 2009/ 240 p.
8. Kovalova O.M., Lisovyi V.M. Patient care: Practice: Textbook for med. University of the III-IV year — 3rd ed., ed. Approved by the Ministry of Health, Recommended by the Ministry of Health - K., 2015. - 488 p.
9. Bazhora Y.I. Clinical Immunology and Allergology=Clinical immunology and allergology. — 3rd edition. Textbook for VMNH IV yr.a.: Approved by the Ministry of Education and Culture: 2020/ 272 p.
10. John R. Hampton. Basics of ECG = The ECG Made Easy: trans. 9th Eng. ed.: Education manual for students honey. ZVO, doctors, cardiologists / John Hampton and Joana Hamp — K., 2020. — XIV, 234 p., bilingual. kind. (Ukrainian, English), paperback
11. Kapustnyk V.A. Occupational diseases: Textbook for med. University of the IV R.A. — 5th type. processing and additional Approved by MES — K., 2017. — 536 p. + 4 s. color incl., TV fell
12. Kapustnyk V.A., Kostyuk I. F. Occupational Diseases: Textbook for Med. universities, institutes, acad. — 2nd edition. Approved by the Ministry of Education, Culture, Sports, Science and Technology of K., 2018.— 496 p.
13. Lapovets L.E. Clinical laboratory diagnostics: Textbook for students. honey. ZVO, intern doctors, laboratory specialists. diagnostics. — 2nd ed., pp. Recommended by the academic council of LNMU named after Danyla Halytskyi — K., 2021. — 472 p.

**Additional:**

1. Anemia is a comorbid condition: monograph / [G. V. Dzyak, T. O. Pertseva, V. A. Potabashniy and others]. - Dnipropetrovsk: IMA-press, 2013. - 268 p.
2. Algorithms of diagnostic and treatment skills and abilities in internal diseases for a general (family) practitioner: manual / [V. I. Kryvenko, S. P. Pakhomova, V. G. Yeremeev, and others]. – Zaporizhzhia: ZDMU, 2012. – 359 p.
3. Clinical nephrology / under the editorship. Acad. Pyrig L.A., Romanenko A.M., Dyadyk O.I. et al.: K: Health, 2004. - 528 p.

**Information resources:**

http://www.moz.gov.ua/
http://ginasthma.org/2017-gina-report-global-strategy-for-asthma-management-and-prevention
http://emedecine.medscape.com
http://meded.ucsd.edu/clinicalmed
http://www.gastro.org/
http://www.escardio.org
http://goldcopd.org/gold-reports-2017/