

DANYLO HALYTSKY LVIV NATIONAL MEDICAL UNIVERSITY

Department of Internal Medicine N 1

Department of Internal Medicine N 2



Approved

First Vice-Rector for scientific and pedagogical work

Assoc. prof. Iryna SOLONYNKO

“ 30 ” 08 2023

WORK PROGRAMME OF THE DISCIPLINE

“Medical Practice in Therapeutic Department”

(SC 2.7.)

4 year

training of specialists

of the second level of higher education “Master of Medicine”

field of knowledge 22 “HEALTH CARE”

specialty 222 “MEDICINE”

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

Approved
by the Profile Methodical Council
on the therapeutic disciplines
protocol N 3 dated 04.05.2023

Head of the Profile Methodical Council
prof. Olena RADCHENKO

Head of the Department
of Internal Medicine N 1

prof. Orest ABRAHAMOVYCH

Head of the Department
of Internal Medicine N 2

assoc. prof. Orest KOMARYTSYA

Lviv – 2023

The work programme of the discipline “Medical Practice in Therapeutic Department” (SC 2.7.) 4 year training of specialists of the second level of higher education (Master of medicine) the field of knowledge 22 “Health Care” specialty 222 “Medicine” was composed by the staff of the Department of Internal Medicine No 2 Danylo Halytsky Lviv National Medical University: the Head of the department, Associate Professor Orest Komarytsya; Professor Olena Radchenko, Associate Professor Olga Korolyuk, Associate Professor Anzhelika Filipyuk, Associate Professor Olena Sorokopud, and Assistant professor Oksana Slaba

Editors: Associate Professor Orest Komarytsya; Professor Olena Radchenko; Associate Professor Olga Korolyuk

Reviewers: Head of Department Propaedeutic of Internal Diseases Professor Roman Dutka

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

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

№	Contents of changes (additions)	Date and protocol number of the meeting	Notes
1.	The form of differential credit has been changed	May 3, 2023 Protocol No 10	

Head of the Department of Internal Medicine No 2

assoc. prof. Orest Komarytsya



INTRODUCTION

The work programme of the discipline “Medical Practice in Therapeutic Department” (SC 2.7.) 4 year training of specialists of the second level of higher education Master of medicine the field of knowledge 22 “Health Care” specialty 222 “Medicine” specialization "Internal Medicine" was composed basing on the Law of Ukraine “About Higher Education”, “The procedure for training applicants for higher education Magister of Medicine in higher primary institutions”, Standard of high education – Magister of Medicine branch of knowledge 22 “Health Care”, Specialty 222 “Medicine” (the Order of the Ministry of Education and Science of Ukraine dated November, 8, 2021); the Order of the Ministry of Education and Science of Ukraine No 1254 dated 01.10.2019 “On amendments to the Guidelines for the development of standards of higher education”; the Order of Danylo Halytsky Lviv National Medical University dated March, 15, 2022 “On the introduction of the curriculum for the preparation of applicants for the second (master's) level of higher education in the specialty 222 Medicine”.

Description of the discipline (abstract).

According to the curriculum, the medical practice in therapeutic department of a hospital is conducted in the VIII semester after successful completion of the discipline "Internal Medicine" during the 4th year of study, when students have appropriate knowledge in the main disciplines (i.e., internal medicine, surgery, paediatrics, and obstetrics). During the practice, students work as doctor assistants in the appropriate departments in a hospital and perform doctor's duties. The duration of practice - 4 weeks on the specialty chosen by a student.

In accordance with the requirements of educational professional program, the medical practice in the in-patient department of a hospital ensures acquiring by students the following competencies: integral, general, and special.

The structure of the discipline The discipline is the part of the educational program for the preparation of masters of medicine and is designed for 7.5 ECTS credits (224 hours)

The structure of educational discipline	Number of credits, hours, particularly				Year of study, semester	Type of control
	Totally	Classroom		IWS		
		Lectures	Practical classes			
«Internal medicine»	7.5 credits/ 224 hours	14	100 hours	110 hours	5 year (IX-X semesters)	Examination
During semesters						
Section 1. Cardiovascular diseases	3.0 credits/ 143 hours	10	64	44+25	IX semester	
Section 2. Rheumatic diseases	1.5 credits/ 56 hours	2	24	30	X semester	
Section 3. Renal diseases	1.0 credit/ 25 hours	2	12	11	X semester	Examination

The subject of study of the discipline is diagnosis, treatment and prevention of internal diseases

Interdisciplinary links: normal anatomy, normal physiology, pathology, pathophysiology, histology, biochemistry, pharmacology, clinical pharmacology, propaedeutic of internal medicine, patient care, infectious diseases, phthisiology, oncology, general surgery, radiology and radiation medicine, microbiology, virology and immunology, internal medicine.

1. The purpose and objectives of the discipline

1.1. The purpose is to consolidate the practical skills within the goals defined in the educational-professional programs for the preparing of the specialist of the second (Master) level of higher education in the branch of knowledge 22 "Health Care", specialty 222 "Medicine".

1.2. The main objectives: a student should be a doctor's assistant in a hospital to improve the following skills in a real practice:

- conduct an interviewing about complaints, history taking, and clinical examination of patients with the main diseases of internal organs;
- determine the leading symptoms, syndromes, and peculiarities of clinical course; to interpret the obtained results of additional tests, and to formulate preliminary diagnosis with rationale.
- choose adequate methods of additional laboratory and instrumental examinations for each case, to analyse and to summarize the results, to find abnormalities in their results and to use them for rationale of clinical diagnosis.
- separate the symptoms that are not characteristic for the main diagnosis and to analyse the probable causes of their occurrence; to admit the features of the patient's disease; compare and analyse the signs of functional insufficiency (e.g., hepatic failure, respiratory failure or heart failure).
- plan of diagnostic tests for the most common internal diseases;
- make differential diagnosis of the most common diseases
- plan general principles of treatment, rehabilitation and prevention of the most common diseases
- provide emergency care for upper or lower gastrointestinal bleeding, variceal bleeding in liver cirrhosis, acute hepatic failure and hepatic encephalopathy, biliary colic, asthma attack, life-threatening asthma, acute respiratory distress syndrome, acute respiratory failure, septic shock, acute bleeding in thrombocytopenia, acute bleeding in haemophilia. To participate in emergency care.
- perform necessary medical manipulations (e.g., thoracentesis and paracentesis, indications and contraindications to these procedures).

- master the knowledge of ethical and deontological principles during doctor's work and principles of professional subordination in the clinic.

Thus, the main tasks of the practice is to consolidate knowledge and skills in the study of basic clinical and theoretical subjects (examination of the patient, making clinical diagnosis, administration of treatment) with further improvement of practical skills, acquaintance with organization of medical affairs doctor's work in secondary and tertiary healthcare institutions and consolidation of skills sanitary and educational work.

1.3. Competences and learning outcomes, the formation of which is facilitated by the discipline (relationships with the normative content of the training of higher education applicants, formulated in terms of learning outcomes in the EPP and in the Higher Education Standard).

General competencies (GC):

1. Ability to abstract thinking, analysis and synthesis.
2. Ability to learn and master modern knowledge.
3. Ability to apply knowledge in practical situations.
4. Knowledge and understanding of the subject area and understanding of professional activity.
5. Ability to adapt and act in a new situation.
6. Ability to make reasoned decisions.
7. Ability to work in a team.
8. Ability to interpersonal interaction.
9. Ability to use information and communication technologies.
10. Ability to search and analyse information from various sources.
11. Definiteness and perseverance in terms of tasks and responsibilities
12. Awareness of equal opportunities and gender issues.
13. Ability to realize rights and responsibilities as a society member, realize the values of free democratic civil society and the need for its sustainable development, the supremacy of law, the rights and freedoms of people and citizens.
14. Ability to preserve and multiply the moral, cultural, scientific valuables and acquisitions of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and the development of society, techniques and technologies, to use various types and forms of motor activity for active rest and leading a healthy lifestyle.

Professional competencies (PC):

1. Ability to collect medical information about a patient and analyse clinical data.
2. Ability to determine the necessary list of laboratory and instrumental studies and to evaluate obtained results.
3. Ability to make preliminary and clinical diagnoses
4. Ability to determine the necessary regimen of rest and activity in the treatment and prevention of internal diseases.
5. Ability to determine type of diet and nutrition in the treatment and prevention of internal diseases.
6. Ability to determine the principles of treatment and prevention of internal diseases.
7. Ability to diagnose medical urgencies and emergencies.
8. Ability to determine emergency management and to provide emergency medical aid.
9. Ability to perform medical evacuation measures.
10. Ability to perform medical manipulations.
11. Ability to solve medical problems in a new or unfamiliar environment, in case of incomplete or limited information, considering aspects of social and ethical responsibility.
12. Ability to perform medical record documentation, including electronic forms.
13. Ability to convey own knowledge, conclusions and arguments about health care problems and related issues to specialists and non-specialists, in particular to people who are studying, clear and unambiguous
14. Adherence to ethical principles during work with patients or laboratory animals.
15. Adherence to professional and academic integrity, responsibility for the reliability of the obtained scientific results.

Program learning outcomes (PLO)

1. Thorough knowledge about the structure of professional activity and ability to perform professional activities requiring updating and integration of knowledge, realization of responsibility for professional development and further professional training with a high level of autonomy.
2. Knowledge and understanding of fundamental and clinical biomedical sciences at a level sufficient for solving professional tasks in the field of health care.
3. Specialized conceptual knowledge including scientific achievements in the field of health care, ability to conduct researches, critical understanding of problems in the field of medicine and related interdisciplinary problems.
4. Highlighting and identifying leading clinical symptoms and syndromes mentioned in the EQC list 1; formulation of preliminary diagnoses of common internal disease mentioned in the EQC list 2, using data from the patient's history, physical examination, and knowledge about human organs and systems.
5. Diagnoses formulation of internal diseases mentioned in the EQC list 4, taking into account the age and gender, patient's complaints, history of life and disease, evaluation of psychomotor and physical development, vital signs, physical examination of internal organs and systems, and results of additional tests.
6. Reasonable formulation of final clinical diagnosis EQC list 2 with differential diagnosis after analysis of the received subjective and objective data of physical examination and additional tests; implementation of relevant ethical and legal norms, working under the supervision of a managing physician in the conditions of a health care facility.
7. Planning and interpretation of the results of additional tests (laboratory, functional, imaging etc.) mentioned in the EQC list 4 for patients with internal diseases mentioned in the EQC list 2.

8. Determination the leading clinical syndrome and establishment of factors determining severity of victim's / patient's condition with a reasonable decision and assessing the person's condition in any situation mentioned in EQC list 3 and in any case (i.e., in out- or in-patient setting, out of health care facility, including situations of emergencies, lack of information or limited time).
9. Determination way and principles of treatment for patients with diseases listed in the EQC list 2, taking into account age and gender, in- or out-patient setting or extremal situations (including stages of medical evacuation) depending on previously established clinical diagnosis and according to existing algorithms, standards, ethical and legal norms. Substantiation of personalized recommendations under the control of the head physician of a medical institution.
10. Determination of rest and activity regimens, diet, nutrition, patient's ability to work, basing on the preliminary and/or final clinical diagnosis, following existing algorithms and standards and relevant ethical and legal norms
11. Determination tactics and providing urgent medical care in emergencies listed in the EQS list 3, including situations with limited time, in accordance with existing clinical standards and protocols.
12. Creation of rational medical routes for patients; organization of interaction with colleagues (including those in other hospitals, institutions or organizations), applying tools for the promotion of medical services in the market based on the analysis of the needs of the population.
13. Performing medical manipulations mentioned in the EQS list 5 in the inpatient or outpatient setting depending on previously established diagnosis and/or specific indications with reasoned decision following existing clinical standards and protocols, relevant ethical and legal norms.
14. Determination patient's functioning state or professional suitability, disability, duration of incapacity with the preparation of relevant medical documents basing on clinical diagnosis and course of the disease.
15. Development and implementation of anti-epidemic or preventive measures for different diseases at individual or population level.
16. Purposeful search for information in the professional literature and databases, analysis, evaluation and adequate use of the obtained information.
17. Use of modern digital technologies, specialized software, statistical methods of data analysis to solve complex problems of health care and research work.
18. Clear and unambiguous transfer of own knowledge, conclusions and arguments about health care problems and related issues to specialists and non-specialists.
19. Management of healthcare work problems that can be complex, unpredictable and require new strategic approaches; organization of work and professional development of personnel taking into account the acquired skills of effective team work with adherence to leadership positions, appropriate quality, accessibility and fairness, ensuring the provision of integrated medical care.
20. Free communication using native language or English (in oral or writing form) to discuss professional activities, research and projects.
21. Effective decisions on health care issues, assessing the necessary resources and taking into account social, economic and ethical consequences.

Matrix of competencies

No	Competency	Kn ^a	Sk ^b	Co ^c	AR ^d
1	2	3	4	5	6
General competencies (GC)					
GC1	Ability to abstract thinking, analysis and synthesis.	Kn-1	Sk-1	Co-1	AR-1
GC2	Ability to learn and master modern knowledge.	Kn-1	Sk-3	Co-2	AR-3
GC3	Ability to apply knowledge in practical situations.	Kn-1	Sk-2	Co-1	AR-1
GC4	Knowledge and understanding of the subject area and professional activity.	Kn-2	Sk-2	Co-2	AR-2
GC5	Ability to adapt and act in a new situation.		Sk-3		AR-2
GC6	Ability to make reasoned decisions.	Kn-1	Sk-3	Co-1	AR-1
GC7	Ability to work in a team.	Kn-2	Sk-3	Co-1	AR-2
GC8	Ability to interpersonal interaction.	Kn-1	Sk-3	Co-1	AR-2
GC10	Ability to use information and communication technologies.	Kn-2	Sk-3	Co2	AR-3
GC11	Ability to search and analyse information from various sources.	Kn-2	Sk-2	Co2	AR-2
GC12	Definiteness and perseverance in terms of tasks and responsibilities	Kn-2	Sk-3		AR-3
GC13	Awareness of equal opportunities and gender issues.	Kn-2	Sk-1	Co-1	AR-1
GC14	Ability to realize rights and responsibilities as a member of society, realize the values of civil free democratic society and the need for its sustain development, the supremacy of law, the rights and freedoms of people and citizens.	Kn-1	Sk-2	Co-1	AR-3
GC15	Ability to preserve and multiply the moral, cultural, scientific valuables and acquisitions of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society, the development of society, techniques and technologies; usage various types and forms of motor activity for active rest and healthy lifestyle	Kn-2	Sk-3		AR-3

Professional competencies (PC)					
1	2	3	4	5	6
PC1	Ability to collect medical information about a patient and analyse clinical data.	Kn-2	Sk-3	Co-2	AR-3
PC2	Ability to determine the necessary list of laboratory and instrumental studies and to evaluate obtained results	Kn-2	Sk-3		AR-1
PC3	Ability to make preliminary and clinical diagnoses	Kn-2	Sk-3		AR-2
PC4	Ability to determine the necessary regimen of rest and physical activity in the treatment and prevention of internal diseases	Kn-2	Sk-2	Co-1	AR-1
PC5	Ability to determine type of diet and nutrition in the treatment and prevention of internal diseases.	Kn-2	Sk-1	Co-1	AR-1
PC6	Ability to determine the principles of treatment and prevention of internal diseases.	Kn-2	Sk-3	Co-1	AR-1
PC7	Ability to diagnose medical urgencies and emergencies	Kn-2	Sk-3	Co-1	AR-2
PC8	Ability to determine emergency management and to provide emergency medical aid.	Kn-2	Sk-3	Co-1	AR-2
PC9	Ability to perform medical evacuation measures	Kn-2	Sk-2	Co-1	AR-2
PC10	Ability to perform medical manipulations.	Kn-1	Sk-3	Co-1	AR-1
PC11	Ability to solve medical problems in a new or unfamiliar environment, incomplete or limited information, considering aspects of social and ethical responsibility	Kn-2	Sk-3	Co-1	AR-2
PC16	Ability to perform medical record documentation, including electronic forms	Kn-2	Sk-3	Co-1	AR-1
PC21	Ability to convey own knowledge, conclusions and arguments about health care problems and related issues to specialists and non-specialists, in particular to people who are studying, clear and unambiguous	Kn-2	Sk-3	Co-2	AR-2
PC24	Adherence to ethical principles during work with patients or laboratory animals.	Kn-1	Sk-2	Co-1	AR-1
PC25	Adherence to professional and academic integrity, responsibility for the reliability of the obtained scientific results.	Kn-2	Sk-2	Co-2	AR-3
Integral competency					
The ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or during learning process that involves research conduction and/or implementation of innovations, and is characterized by the complexity and uncertainty of conditions and requirements.		Kn-2	Sk-2	Co-2	AR-3

Notes: ^aKn = Knowledge; ^bSk = Skill; ^cCo = Communication; ^dAR = Autonomy and responsibility

Program learning outcomes

Learning outcome code	The content of the learning outcome	Reference to the competencies matrix code
1	2	3
Kn-1	To know anatomy, physiology of internal organs and systems, skin, skeleton, connective tissue, and blood	PLO-1-3
Kn-2	To know pathomorphology and pathophysiology of common internal diseases	PLO-1-3
Kn-3	To know the biochemistry of major metabolic processes, mechanisms of action of the main classes of medications	PLO-1-3
Kn-4	To know characteristics of the pathogens that may cause internal diseases and the basics of epidemiology	PLO-1-3
Kn-5	To know the methods of evaluation of integrated health indicators; environmental factors; system of preventive measures; socioeconomic and biological determinants of health, methods for doctor's activity assessment	PLO-15-19
Sk-1	To interview complaints and medical history, to perform physical examination	PLO-4-5
Sk-2	To evaluate obtained results of additional tests	PLO-5,7
Sk-3	To perform basic medical manipulations	PLO-13
Co-1	To highlight the leading symptoms and syndromes. To diagnose the disease. To plan necessary additional tests. To make differential diagnosis.	PLO-6-8
Co-2	To determine diet / plan of nutrition, to plan preventive strategies and tactics.	PLO-9-12
Co-3	To administer treatment and to determine its duration.	PLO-9-12
Co-4	To diagnose emergencies and to determine the tactics of emergency care.	PLO-11
Co-5	To determine health indicators; environmental factors; preventive measures; determinants of health, efficiency of doctor's activity and quality of medical care	PLO-15-19
AR-1	To organize the work of medical staff; to form rational medical routes of patients; to interact with colleagues, organizations and institutions.	PLO-18-21
AR-2	To guide by rights, freedoms and responsibilities. To improve professional level. To adhere to the requirements of ethics, bioethics and deontology.	PLO-18-21
AR-3	To form the purposes and structure of personal activity. To adhere to a healthy lifestyle and self-control.	PLO-18-21

Notes: Kn = Knowledge; Sk = Skill; Co = Communication; AR = Autonomy and responsibility; PLO = Program learning outcomes

2. The format and scope of the discipline

The format of the course (full-time or distance learning)	Full-time	
Type of training sessions	Number of hours	Number of groups
lectures		
practical classes (practice)	90	
seminars		
individual work of students (IWS)	90	

3. Structure of the discipline

Thematic plan	Practices	IWS
Studying the structure of the work of a medical institution, organizing the work of a hospital, performing the work of a doctor's assistant	5	4
Familiarization with the scope and forms of work of a resident doctor, perform the work of a doctor's assistant	5	4
Familiarization with the principles of providing planned and emergency medical care to therapeutic patients, perform the work of a physician's assistant	5	4
Learn to keep medical records, familiarize yourself with regulatory documents necessary for the work of a therapist, perform the work of a physician's assistant	4	5
Get familiar with the use of modern patient counseling techniques in the practice of a therapist, learn to apply the principles of ethics and deontology, perform the work of a physician's assistant	4	4
Total number of hours for the first week	23	21
Participation in the rounds of the head of the department and the ward doctor, morning medical conferences, clinical conferences in the department and clinical and pathological conferences of the hospital, to perform the work of a doctor's assistant	5	4
Conduction of curation of thematic patients (interviewing complaints and medical history, conduct an objective examination of patients, substantiate the diagnosis, examination and treatment plan, fill out medical histories and extracts from them, write prescriptions, keep temperature sheets and appointment sheets), perform work physician's assistant	5	4
Diagnosis and emergency management in case of severe exacerbation of bronchial asthma, life threatening asthma and bronchial asthma attack; determination of the blood group, perform the work of a doctor's assistant	4	5
Learn to make intravenous, intramuscular, subcutaneous injections and intravenous infusions, perform the work of a physician's assistant	5	4
To be able to diagnose and provide assistance for hepatic encephalopathy, complicated peptic ulcer, biliary colic, perform the work of a physician's assistant	4	5
Total number of hours for the second week	23	22
To be able to conduct a test for compatibility, to be able to diagnose and provide assistance in case of complications of vaccination (hives, angioedema, anaphylactic shock), to perform the work of a physician's assistant	4	5
Learn how to make transfusion of blood or blood products, perform the work of a doctor's assistant	4	5
Learn to interpret the indicators of blood, urine, feces, sputum, gastric and duodenal contents, pleural fluid, to perform the work of a physician's assistant	5	4
Learn to record electrocardiogram and interpret the results, perform the work of a doctor's assistant	5	4
Learn the principles of conducting and interpreting the results of Echocardiography, ultrasound of internal organs (size, location, structure), perform the work of a physician's assistant	5	4
Total number of hours for the third week	23	22
Participation in upper gastrointestinal endoscopy, colonoscopy, interpret the results of endoscopic examination methods, perform the work of a physician's assistant	4	5
Participation in conduction of lung function tests, interpretation of the results, perform the work of a doctor's assistant	4	5
Participation in conduction of radiographic testing and other imaging methods, interpretation of the results, perform the work of a doctor's assistant	4	5
Participation in conduction of CT or invasive coronary angiography, interpretation of the results, , perform the work of a physician's assistant	5	5
Participation during thoracentesis, paracentesis, and other medical manipulations, perform the work of a doctor's assistant	4	5
Total number of hours for the fourth week	21	25
Total number of hours _180 / _6.0 ECTS credits	90	90

4. Thematic plan of lectures

According to the Order 881-z dated 15.03.2022 "On the implementation of the training plan for applicants of the second (master's) level of higher education in the specialty 222 "Medicine" lectures are not provided.

5. Thematic plan of practice

Thematic plan	Practices
Studying the structure of the work of a medical institution, organizing the work of a hospital, performing the work of a doctor's assistant	5
Familiarization with the scope and forms of work of a resident doctor, perform the work of a doctor's assistant	5
Familiarization with the principles of providing planned and emergency medical care to therapeutic patients, perform the work of a physician's assistant	5
Learn to keep medical records, familiarize yourself with regulatory documents necessary for the work of a therapist, perform the work of a physician's assistant	4
Get familiar with the use of modern patient counseling techniques in the practice of a therapist, learn to apply the principles of ethics and deontology, perform the work of a physician's assistant	4
Total number of hours for the first week	23
Participation in the rounds of the head of the department and the ward doctor, morning medical conferences, clinical conferences in the department and clinical and pathological conferences of the hospital, to perform the work of a doctor's assistant	5
Conduction of curation of thematic patients (interviewing complaints and medical history, conduct an objective examination of patients, substantiate the diagnosis, examination and treatment plan, fill out medical histories and extracts from them, write prescriptions, keep temperature sheets and appointment sheets), perform work physician's assistant	5
Diagnosis and emergency management in case of severe exacerbation of bronchial asthma, life threatening asthma and bronchial asthma attack; determination of the blood group, perform the work of a doctor's assistant	4
Learn to make intravenous, intramuscular, subcutaneous injections and intravenous infusions, perform the work of a physician's assistant	5
To be able to diagnose and provide assistance for hepatic encephalopathy, complicated peptic ulcer, biliary colic, perform the work of a physician's assistant	4
Total number of hours for the second week	23
To be able to conduct a test for compatibility, to be able to diagnose and provide assistance in case of complications of vaccination (hives, angioedema, anaphylactic shock), to perform the work of a physician's assistant	4
Learn how to make transfusion of blood or blood products, perform the work of a doctor's assistant	4
Learn to interpret the indicators of blood, urine, feces, sputum, gastric and duodenal contents, pleural fluid, to perform the work of a physician's assistant	5
Learn to record electrocardiogram and interpret the results, perform the work of a doctor's assistant	5
Learn the principles of conducting and interpreting the results of Echocardiography, ultrasound of internal organs (size, location, structure), perform the work of a physician's assistant	5
Total number of hours for the third week	23
Participation in upper gastrointestinal endoscopy, colonoscopy, interpret the results of endoscopic examination methods, perform the work of a physician's assistant	4
Participation in conduction of lung function tests, interpretation of the results, perform the work of a doctor's assistant	4
Participation in conduction of radiographic testing and other imaging methods, interpretation of the results, perform the work of a doctor's assistant	4
Participation in conduction of CT or invasive coronary angiography, interpretation of the results, , perform the work of a physician's assistant	5
Participation during thoracentesis, paracentesis, and other medical manipulations, perform the work of a doctor's assistant	4
Total number of hours for the fourth week	21

6. Thematic plan of individual work of students

No	Subject	Hours
1	2	3
Week 1		21
1.	The structure and organisation of the work in a hospital; scope and form of the work of a doctor in therapeutic department of a hospital: the structure of the medical institution and organization of the work in a hospital; aspects and forms of doctor's work; keeping medical records and regulatory documents necessary for an internist; principles of ethics and deontology; patients counselling; contents of doctor's assistant work.	8
2	Curation of patients with internal diseases.	13

Week 2-4		69
1	2	3
1	Examination of patients with internal diseases - Interviewing about complaints, history taking, physical examination - Formulation and verifications of the diagnosis - Examination plan and interpretation of obtained results - Plan of treatment - Keeping of medical records and other documents	15
2	Diagnosis and assistance in emergencies: upper or lower gastrointestinal bleeding, variceal bleeding in liver cirrhosis, acute hepatic failure and hepatic encephalopathy, biliary colic, asthma attack, life-threatening asthma, acute respiratory distress syndrome, acute respiratory failure, septic shock, acute bleeding in thrombocytopenia, acute bleeding in haemophilia, acute coronary syndrome (unstable angina, STEMI and non-STEMI), cardiac arrhythmias and blocks, acute left ventricular failure, pulmonary embolism.	12
3	Medical manipulations: intravenous, intramuscular, subcutaneous injections and intravenous infusions; determination of the blood group, and Rh-factor; test for blood compatibility; blood transfusion; paracentesis; thoracentesis; vaccination (indications, contraindications, technique, regulatory documents on vaccination, possible complications).	12
4	Lung function tests, ECG, echocardiography, ultrasonography and endoscopy of the internal organs: - recording and interpretation of ECG; - conduction and interpretation results of lung function tests - interpretation results of echocardiography - conduction and interpretation results of ultrasound of the internal organs - interpretation results of endoscopic examination,	15
5	Laboratory and imaging diagnostic methods in the therapeutic department: - interpretation the results of laboratory tests: CBC, blood biochemistry, blood serology, urinalysis and other urine tests, stool tests, investigations of sputum, gastric and duodenal contents, pleural fluid) - interpretation the results of imaging tests (X-ray, CT scan, MRI)	15
Total number of hours		90

7. Individual work

1. Report at clinical conferences of the department.
2. Mastering practical skills.
3. Presentation of a clinical case, writing theses or scientific articles, review of scientific literature by a subject of study.

8. Teaching methods

Practical, visual, verbal, work with a book, video method, interactive methods (business games, role-playing games, clinical cases), etc.

Real life practice in therapeutic department of a hospital

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

9. Control methods: oral, written, test, programmable, practical control, self-control.

Types of control: current and final.

The form of final control of study success: examination.

10. Current control

Current control is conducted on the basis of monitoring the performance of practical skills performed by the student. Forms of assessment of current educational activities are standardized and include control of theoretical and practical training. The final grade for the current educational activity is given on a 4-point national scale.

The list of skills that a student must acquire during practice and their assessment

No	The list of skills and abilities	Minimum number	Points
1	2	3	4
1-6	Methods of physical examination of patients and the evaluation of: - cardiovascular system - respiratory system - gastrointestinal system - genitourinary system - musculoskeletal system - endocrine system	5-8 each	3-5
7	Measuring the blood pressure on the upper and lower extremities	15-30	3-5
1	2	3	4

8	Assessment of CBC and biochemical analysis, blood troponin test	10-15	3-5
9	The interpretation of urinalysis and other urine tests	10-15	3-5
10	Interpreting the results of blood coagulation tests and lipid profile	8-10	3-5
11	Interpreting the results of tests for viral hepatitis (serology, PCR)	3-5	3-5
12	Interpreting the results gastric and duodenal probing	3-5	3-5
13	Methods of recording and description of ECG, interpretation of the results and making conclusion for standard 12-leads ECGs, exercise tests, and continuous ambulatory ECG monitoring	10-15	3-5
14	Interpreting the results of echocardiography	10-15	3-5
15	Interpreting the results of lung function tests	10-15	3-5
16	Interpreting the results of radiography and fluoroscopy	10-15	3-5
17	Interpreting the results of computed tomography and nuclear magnetic imaging	4-5	3-5
18	Interpreting the results of endoscopic studies and data of pH-measuring	3-5	3-5
19	The clinical interpretation of ultrasound examination	5-8	3-5
20	Interpreting tests for diagnosis of diabetes and thyroid diseases	3-5	3-5
21	Technique of thoracentesis / paracentesis	1-2	3-5
22	Technique of gastric/bowel lavage	1-2	3-5
23	Allergic testing (intradermal, scarification) before administration of drugs.	10-15	3-5
24	Injection of medications (IV, IM, SC), blood grouping, and Rh factor determining.	5-8	3-5
25	Treatment of internal diseases under existing protocols of medical care, including emergency management	10-15	3-5
Totally 72-120 points			

Assessment criteria

Points	Description
0	the student makes significant mistakes in answering and performing practical skills
3	the student has mastered the theoretical material, has a satisfactory practical training, but mistakes are made in the performance of manipulation, interpretation of the results of additional research methods
4	the student has mastered the theoretical material, is able to methodically examine the patient, perform diagnostic and therapeutic manipulations, but assumes some inaccuracies in the answer and practical skills
5	the student has mastered the theoretical material, methodically correctly examines the patient, performs diagnostic and therapeutic manipulations

11. The form of final control of study success

General rating system	Participation in the work during practice 100% on a 200-point scale	
Rating scales	Traditional 4-point scale, multi-point (200-point) scale, ECTS rating scale	
Admission criteria for final control	Attendance of all days of practice and implementation of all kinds of mandatory activity during the practice with a minimum rating 72 points, maximum 120 points	
Type of final control	Methods of final control	Passing criteria
Differential credit	<p>Differential credit on Medical Practice in Therapeutic Department includes:</p> <p>Task 1: clinical case about an emergency with 2 questions (each question is evaluated 0-10-20-30 points). Emergencies are the following: attack of bronchial asthma, a severe exacerbation of bronchial asthma, life threatening asthma, respiratory arrest, acute respiratory distress syndrome, septic shock due to pneumonia, hepatic, complicated peptic ulcer, biliary, upper gastrointestinal bleeding, including bleeding from varicose veins, life-threatening anaemia, bleeding associated with coagulopathy or thrombocytopenia. Note: 0 points: significant mistake (fatal or causing life-threatening consequences or worsening of patient's condition); 10 points: mistakes that will not cause worsening of patient's state; 20 – clear answer with all options to achieve improvement; 30 – clear correct and reasonable answer resulting in patient's improvement that is based on evidence-based approach</p> <p>Task 2: interpretation of laboratory test (CBC or blood biochemistry), radiograph or lung function test. Task 2 is evaluated as 0-10-15-20 points; note: 0 – wrong description; 10 – partially correct conclusion with very general description; 15 – correct conclusion with some inaccuracy in description or interpretation; clear description, using specific terminology, clear, correct, and well-formulated conclusion.</p>	<p>Minimum rating for the exam is 50 points (level below is a criterion of failure that is not added to the rating for current control); Maximum rating 80 points</p>

12. The scheme of calculation and distribution of points received by students

Assessment is one of the final stages of educational activity and determination of educational success. Total rating for the discipline is a sum of rating for 2 semesters (table below on the left) and rating for the exam (described above).

Scale (T = traditional, 200 = 200-point scale)							
T	200	T	200	T	200	T	200
5	120	4.45	107	3.91	94	3.37	81
4.95	119	4.41	106	3.87	93	3.33	80
4.91	118	4.37	105	3.83	92	3.29	79
4.87	117	4.33	104	3.79	91	3.25	78
4.83	116	4.29	103	3.74	90	3.2	77
4.79	115	4.25	102	3.7	89	3.16	76
4.75	114	4.2	101	3.66	88	3.12	75
4.7	113	4.16	100	3.62	87	3.08	74
4.66	112	4.12	99	3.58	86	3.04	73
4.62	111	4.08	98	3.54	85	3	72
4.58	110	4.04	97	3.49	84	Less than 3	not enough
4.54	109	3.99	96	3.45	83		
4.5	108	3.95	95	3.41	82		

A multi-point (200) scale scoring		A 4-point scale scoring	
170-200 points		"5"	
140-169 points		"4"	
139 -120 points		"3"	
Below 120 points		"2"	

The points of students studying in one specialty are ranked into the ECTS scale	
ECTS assessment	Statistical parameter
"A"	Best 10 % of students
"B"	Next 25 % of students
"C"	Next 30 % students
"D"	Next 25 % students
"E"	The remaining 10% of students

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

13. Material, technical and methodological support of the discipline

1. Work programme and syllabus of the discipline.
2. Recommendations and guides for Medical Practice in Therapeutic Department.
3. Algorithms for treatment and emergency care according to the standards of evidence-based medicine
4. Algorithms for performing skills practices and medical manipulations
5. Results of laboratory tests; electrocardiograms, radiographs, lung function test results, etc.
6. Clinical cases for final control

14. Recommended literature

1. eMPendium – electronic compendium "Internal diseases" in open access [Electronic resource]. Access mode: <https://empendium.com/mcmtextbook/> .
2. Davidson's Principles and Practice of Medicine 23rd Edition. Editors: Stuart Ralston, Ian Penman, Mark Strachan Richard Hobson. Elsevier. - 2018. - 1440 p.
3. USMLE Step 2 CK Lecture Notes 2017: Internal Medicine (Kaplan Test Prep). - 2016. - Published by Kaplan Medical. – 474 p.
4. Kasper, Dennis L., Anthony S. Fauci, Stephen L. Hauser, Dan L. Longo, J. Larry Jameson, and Joseph Loscalzo. Harrison's Principles of Internal Medicine. 19th edition. New York: McGraw Hill Education, 2015.
5. Goldberger's clinical electrocardiography: a simplified approach / Ary L. Goldberger, Zachary D. Goldberger, Alexei Shvilkin.—8th ed. Elsevier Saunders -2013, Philadelphia, -231 p.
6. Ramanayake R.P., Ranasingha S., Lakmini S. Management of emergencies in general practice: role of general practitioners. / Journal of family medicine and primary care. – 2014. – Vol. 3 (4). – P. 305–308. <https://doi.org/10.4103/2249-4863.148089>
7. Cheifetz A., Brown A., Curry M.; 2012, Oxford American Handbook of Gastroenterology and Hepatology; Oxford University Press; 488 p.
8. Fauci A., Dennis A., L. Dan K, LLongo L., HARRISON'S Gastroenterology and Hepatology McGraw-Hill 17-thy edition 2650 p.
9. Flynn J. AMC handbook of clinical assessment. 2007: Australian Medical Council: 894 p.
10. Hayes P. 2016: Guidelines for preventive activities in general practice, 9th edition 10. The Royal Australian College of General Practitioners, 173 p.
11. Hoffman R., Edward J., Benz Jr. et al 2017 7th edition. Hematology. Basic principles and practice. ELSEVIER, 2650 p.
12. Lynn S. Bickley. I2016: Bates' Guide to Physical Examination and History Taking, 10th Edition. 1010p.
13. Murtagh J., Rosenblatt J., Coleman J., Murtagh C. General Practice, 2019: 7th edition, McGraw-Hill Education (Australia) Pty Ltd, 6541 p.
14. Wearne S. 2016: Clinical cases for general practice exams / Susan Wearne. Edition: 3rd ed. 374 p.
15. Yan BM, Lee SS. Emergency management of bleeding esophageal varices: drugs, bands or sleep?. *Can J Gastroenterol.* 2006;20(3):165-170. <https://doi.org/10.1155/2006/743783>
16. Lee A. Emergency management of patients with bleeding disorders: Practical points for the emergency physician. *Transfus Apher Sci.* 2019 Oct;58(5):553-562. doi: 10.1016/j.transci.2019.08.003. Epub 2019 Aug 6. PMID: 31416711.
17. Gavelli, F., Castello, L.M. & Avanzi, G.C. Management of sepsis and septic shock in the emergency department. *Intern Emerg Med* **16**, 1649–1661 (2021). <https://doi.org/10.1007/s11739-021-02735-7>
18. Kumar R, Bhatia V. Structured approach to treat patients with acute liver failure: A hepatic emergency. *Indian J Crit*

Care Med. 2012 Jan;16(1):1-7. DOI: [10.4103/0972-5229.94409](https://doi.org/10.4103/0972-5229.94409)

19. Bernstein JA, Cremonesi P, Hoffmann TK, Hollingsworth J. Angioedema in the emergency department: a practical guide to differential diagnosis and management. *Int J Emerg Med.* 2017;10(1):15. <https://doi.org/10.1186/s12245-017-0141-z>

15. Information resources

Useful Websites:

1. <http://www.worldgastroenterology.org/>
2. <http://www.ginasthma.org>
3. <http://www.goldcopd.com>
4. <http://www.medscape.com/pulmonarymedicine>
5. <http://health-ua.com/>
6. <https://doi.org/10.1093/eurheartj/ehab368>
7. <https://doi.org/10.1093/eurheartj/ehaa612>
8. <https://doi.org/10.1093/eurheartj/ehz405>
9. <https://doi.org/10.1093/eurheartj/ehaa575>
10. <https://doi.org/10.1093/eurheartj/ehz467>
11. <https://doi.org/10.1093/eurheartj/ehz425>
12. <https://doi.org/10.1093/eurheartj/ehy339>
13. <https://doi.org/10.1093/eurheartj/ehy462>
14. <https://doi.org/10.1093/eurheartj/ehy037>
15. <https://doi.org/10.1093/eurheartj/ehy394>
16. <https://doi.org/10.1093/eurheartj/ehx393>
17. <https://www.reliasmedia.com/articles/79831-presentation-and-management-of-acute-biliary-tract-disorders-in-the-emergency-department-8212-optimizing-assessment-and-treatment-of-cholelithiasis-and-cholecystitis>
18. <https://www.uptodate.com/contents/approach-to-acute-upper-gastrointestinal-bleeding-in-adults>
19. <https://www.hemophilia.org/healthcare-professionals/guidelines-on-care/masac-documents/masac-document-257-guidelines-for-emergency-department-management-of-individuals-with-hemophilia-and-other-bleeding-disorders>
20. <https://www.uptodate.com/contents/anaphylaxis-emergency-treatment>
21. <https://www.unitekemt.com/blog/respiratory-distress-emergencies/>
22. <https://emergencymedicinecases.com/liver-emergencies-acute-liver-failure-hepatic-encephalopathy-hepatorenal-syndrome-liver-test-interpretation/>

Website: <https://new.meduniv.lviv.ua/kafedry/kafedra-vnutrishnoyi-medytsyny-2/>

Phone of the Department: 0322601490

E-mail: kaf_internalmed_2@meduniv.lviv.ua