MINISTRY OF HEALTH OF UKRAINE
«BUKOVINIAN STATE MEDICAL UNIVERSITY»

"APPROVED"
Vice rector of Higher Educational Establishment BSMU
for scientific and pedagogical work
Associate professor _____ Volodymyr KHODOROVSKYY
«_30_» _____08_____ 2024

STUDENT GUIDE
(SYLLABUS)
to study the academic discipline

"INTERNAL MEDICINE"

Field of knowledge (code and name of the field of knowledge)	22 Healthcare .
Specialty (code and name of the specialty)	222 Medicine
Level of educational degree	Second (Master) degree
Year of study	6
Faculty	Medical, Medical-Pharmaceutical

Department of Internal Medicine, Clinical Pharmacology and Occupational Diseases
Department of Internal Medicine
Department of Propedeutics of Internal Diseases
Department of Internal Medicine, Physical Rehabilitation and Sports Medicine
Department of Clinical Immunology, Allergology and Endocrinology

Chernivtsi – 2024

Syllabus is approved at the methodical meeting of the Department of Internal Medicine, Clinical Pharmacology and Occupational Diseases
Protocol №5 dated August 30, 2024
Head of the Department of
Internal Medicine, Clinical Pharmacology
and Occupational Diseases,
professor Oksana KHUKHLINA

Syllabus is approved at the methodical meeting of the Department of Internal Medicine
Protocol №1 dated August 30, 2024
Head of the Department of Internal Medicine,
professor Oleksandr FEDIV

Syllabus is approved at the methodical meeting of the Department of Propedeutics of Internal Diseases
Protocol №2 dated August 30, 2024
Head of the Department of
Propedeutics of Internal Diseases,
professor Tetiana ILASHCHUK

Syllabus is approved at the methodical meeting of the Department of Internal Medicine, Physical Rehabilitation and Sports Medicine
Protocol №1 dated August 30, 2024
Head of the Department of
Propedeutic of Internal Medicine, Physical
Rehabilitation and Sports Medicine
professor Viktor TASHCHUK

Syllabus is approved at the methodical meeting of the Department of Clinical Immunology, Allergology and Endocrinology
Protocol №2 dated August 30, 2024
Head of the Department of
Clinical Immunology, Allergology and Endocrinology,
professor Nataliia PASHKOVSKA

Syllabus is approved at the Subject Methodological Commission for therapeutic disciplines
Protocol №9 dated August 30, 2024
Head of the Subject Methodological Commission
for therapeutic disciplines
professor Viktor TASHCHUK

1. GENERAL INFORMATION ABOUT SCIENTIFIC AND PEDAGOGICAL EMPLOYEES OF THE DEPARTMENT, WHO TEACH THE COURSE

Department	Internal Medicine, Clinical Pharmacology and Occupational Diseases
Surname, name, patronymic of scientific and pedagogical workers, position, scientific degree, academic title, e-mail	Khukhlina Oksana – Head of the department, MD, PhD, professor, oksanakhukhlina@bsmu.edu.ua; Pavliukovych Nataliia - Associate Professor, MD, PhD., natasha.pavlyukovich@gmail.com Antofiychuk Tetyana – Assistant Professor, MD, PhD, taniantof@bsmu.edu.ua
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Website of the department	http:// vmed.bsmu.edu.ua//
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Department	Cinical Immunology, Allergology and Endocrinology
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Department	Propedeutics of Internal Diseases
Surname, name, patronymic of scientific and pedagogical workers, position, scientific degree, academic title, e-mail	Ilaschuk Tetiana – Head of the Department, MD, PhD, professor, tetianailashchuk@gmail.com Vasiuk Valentyna – professor, MD, PhD, helenium@ukr.net Lukashevych Inna – Associate Professor, MD, PhD, lukashevych.inna@gmail.com
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2. GENERAL INFORMATION ABOUT THE COURSE

Discipline status	normative
Number of credits	14,5
Total number of hours	435
Lectures	0
Practical training	274
Independent work	161
Type of final control	final modular control

3. DESCRIPTION OF THE COURSE (ABSTRACT)

The teaching of the academic discipline "Internal Medicine" is carried out for 6th-year students in accordance with the Higher Education Standard of Ukraine, the educational-professional program (EPP) for the preparation of Master's degree students in the specialty 222 "Medicine," and the curriculum of Bukovinian State Medical University. The program for the discipline is designed in compliance with the regulations for the training of second-level (Master's) degree students in higher medical educational institutions of Ukraine and adheres to the requirements of the European Credit Transfer and Accumulation System (ECTS).

The curriculum allocates 435 hours, including 274 hours of practical classes and 161 hours of independent extracurricular work. The ratio of auditorial hours to independent and individual work is as follows: auditorial hours – 63%, independent and individual student work – 37%.

During practical classes and lectures it is essential to integrate achievements of modern medical science, problem-solving approaches, graphological structures, role-playing, technical teaching aids, and contemporary assessment methods. Classes are conducted by qualified instructors in therapeutic inpatient facilities that meet modern standards for the educational process.

The assessment of theoretical knowledge and practical skills acquired by students in the study of "Internal Medicine" (modules 4 and 5) is conducted during the final session of the respective module in the form of a summative modular assessment.

The subject of the academic discipline "Internal Medicine" is structured into a program comprising modules, which, in turn, consist of blocks of thematic modules. The scope of students'

academic workload is described in ECTS credits, which are awarded upon the successful completion of the respective module (credit).

4. POLICY OF THE EDUCATIONAL DISCIPLINE

4.1. List of normative documents:

- Regulations on the organization of the educational process (https://www.bsmu.edu.ua/wp-content/uploads/2020/03/polozhennya-pro-organizacziyu-osvitnogo-proczesu-u-vdnzu-bukovinskij-derzhavnij-medichnij-universitet.pdf);
- Instruction on assessment of educational activity of BSMU students in the conditions of introduction of the European credit-transfer system of the organization of educational process (https://www.bsmu.edu.ua/wp-content/uploads/2020/03/bdmu-instrukcziya-shhodo-oczinyuvannya-%D1%94kts-2014-3.pdf);
- Regulations on the procedure for reworking off missed and unpassed classes (https://www.bsmu.edu.ua/wp-content/uploads/2019/12/reworks.pdf);
- Regulations on the appeal of the results of the final knowledge control of applicants for higher education (https://www.bsmu.edu.ua/wp-content/uploads/2020/07/polozhennya-pro-apelyacziyu-rezultativ-pidsumkovogo-kontrolyu-znan.pdf);
- Code of Academic Integrity (https://www.bsmu.edu.ua/wp-content/uploads/2019/12/kodeks_academic_faith.pdf);
- Moral and ethical code of students (https://www.bsmu.edu.ua/wp-content/uploads/2019/12/ethics_code.docx);
- Regulations on the prevention and detection of academic plagiarism (https://www.bsmu.edu.ua/wp-content/uploads/2019/12/antiplagiat-1.pdf);
- Regulations on the procedure and conditions for students to choose elective courses (https://www.bsmu.edu.ua/wp-content/uploads/2020/04/nakaz_polozhennyz_vybirkovi_dyscypliny_2020.pdf);
- Rules of internal labor regulations of the Higher State Educational Institution of Ukraine "Bukovynian State Medical University" (https://www.bsmu.edu.ua/wp-content/uploads/2020/03/17.1-bdmu-kolektivnij-dogovir-dodatok.doc).

4.2. Policy on adherence to the principles of academic integrity of higher education students:

- independent performance of educational tasks of current and final controls without the use of external sources of information;
- write-offs during knowledge control are prohibited;
- independent performance of individual tasks and correct registration of references to sources of information in case of borrowing of ideas, statements, information.

4.3. Policy on adherence to the principles and norms of ethics and deontology by higher education students:

- actions in professional and educational situations from the standpoint of academic integrity and professional ethics and deontology;
- compliance with the rules of internal regulations of the university, tolerance, friendliness and balance in communication with students and teachers, medical staff of health care institutions;
- awareness of the importance of examples of human behavior in accordance with the norms of academic integrity and medical ethics.

4.4. Attendance policy for higher education students:

- Attendance at all training sessions (lectures, practical (seminar) classes, final modular control) is mandatory for the purpose of current and final assessment of knowledge (except for valid reasons).

4.5. Policy of deadline and rework of missed or unpassed classes by higher education students:

- Reworks of missed classes are completed according to the schedule of missed or unpassed classes and consultations.

5. PRE-REQUIREMENTS AND POST-REQUIREMENTS OF THE EDUCATIONAL DISCIPLINE (INTERDISCIPLINARY RELATIONS)

List of disciplines, on which the study of academic discipline is based	List of disciplines, for which the basis is laid as a result of studying the academic discipline
Latin language and Medical Terminology	Internship
Medical biology	Secondary specialization
Medical and biological Physics	
Medical chemistry	
Human anatomy	
Histology, cytology and embryology	
Physiology	
Pathomorphology	
Pathophysiology	
Pharmacology, Clinical Pharmacology	
Patient care	
Medical Psychology	
Anesthesiology and Intensive Care Therapy	
General Surgery	
Propaedeutics of Internal Medicine	
Obstetrics and Gynecology	

6. PURPOSE AND TASKS OF THE COURSE:

6.1. The purpose of studying the discipline "Internal Medicine" is to train a doctor in the specialty on the basis of the provisions of the OKH and OPP skills. The description of goals is formulated through skills in the form of target tasks (actions). On the basis of the ultimate goals for each module or content module, tasks are formulated in the form of certain skills (actions), target tasks that ensure the achievement of the ultimate goal of studying the discipline.

Task:

- To identify the etiological and pathogenetic factors of the most common therapeutic diseases in accordance with List 1 of the General Classification of Diseases
- To analyze the clinical manifestations of the most common diseases of internal organs
- To identify various clinical variants and complications of the most common diseases of internal organs
- To perform differential diagnosis, substantiate, and formulate a preliminary diagnosis
- To determine the management strategy (recommendations on regimen, diet, pharmacological treatment, and rehabilitation measures) for therapeutic patients
- To develop a patient examination plan and analyze the results of laboratory and instrumental investigations
- To assess the prognosis of life and work capacity for therapeutic patients
- To diagnose and provide medical care for emergency conditions in the internal medicine clinic
- To implement primary and secondary prevention of the most common diseases of internal organs
- To perform medical procedures in accordance with List 5 of the General Classification of Diseases
- To demonstrate adherence to the moral and deontological principles of a medical professional and the principles of professional subordination in therapy

Competencies and Learning Outcomes fostered by the Discipline (correlation with the regulatory content of Higher Education Training, formulated in terms of learning outcomes in the Standard)

According to the requirements of the Standard, the discipline ensures the acquisition of the following competencies by students:

integral competencies:

The ability to solve complex problems, including research and innovative tasks in the field of medicine. The ability to continue learning with a high degree of autonomy.

general competencies:

GC1	The ability for abstract thinking, analysis, and synthesis
GC2	The ability to learn and acquire modern knowledge
GC4	Knowledge and understanding of the subject area and comprehension of professional activities
GC6	The ability to make well-founded decisions
GC7	The ability to work in a team
GC8	The ability for interpersonal interaction
GC11	The ability to search for, process, and analyze information from various sources
GC12	Determination and persistence in fulfilling assigned tasks and responsibilities

special (professional, subject-specific) competencies:

PC1	The ability to collect medical information about the patient and analyze clinical data
PC2	The ability to determine the necessary range of laboratory and instrumental studies and evaluate their results
PC3	The ability to establish preliminary and clinical diagnoses of diseases
PC6	The ability to determine the principles and nature of treatment and prevention of diseases
PC7	The ability to diagnose emergency conditions
PC8	The ability to determine the tactics and provide emergency medical care
PC11	The ability to solve medical problems in new or unfamiliar environments with incomplete or limited information, taking into account aspects of social and ethical responsibility, including early intervention systems
PC15	The ability to conduct assessments of work capacity
PC16	The ability to maintain medical documentation, including electronic forms
PC21	The ability to clearly and unambiguously convey one's knowledge, conclusions, and reasoning on healthcare issues and related matters to both professionals and non-professionals, including learners
PC22	The ability to manage workflows in the healthcare sector, which are complex, unpredictable, and require new strategic approaches
PC23	The ability to develop and implement scientific and applied projects in the field of healthcare
PC24	Adherence to ethical principles when working with patients and laboratory animals
PC25	Adherence to professional and academic integrity and taking responsibility for the reliability of obtained scientific results

LEARNING OUTCOMES

Integrative final program learning outcomes facilitated by the academic discipline:

- to plan patient examinations and interpret the results for the most common diseases
- to conduct comprehensive, integrative, and step-by-step patient assessments considering age-related characteristics
- to perform differential diagnostics and establish preliminary clinical diagnoses for the most common pathological conditions
- to determine patient management strategies for the most common pathological conditions and predict potential complications
- to diagnose emergency conditions and provide urgent care for primary emergency states

- to acquire practical skills and competencies required for future physicians to ensure an effective diagnostic and treatment process.

Program learning outcomes of the discipline

Learning outcome	Special (professional, subject-specific) learning outcomes
PLO1	To have profound knowledge of the structure of professional activities. To be capable of performing professional activities requiring the integration and updating of knowledge. To take responsibility for professional development and possess the ability for further professional learning with a high level of autonomy
PLO 4	Identify and recognize the leading clinical symptoms and syndromes (as per List 1) using standard methodologies, based on patient history, physical examination findings, and knowledge of human anatomy and physiology, to establish a preliminary clinical diagnosis (as per List 2)
PLO 5	Collect patient complaints, life and disease histories; assess psychomotor and physical development; evaluate the condition of organs and systems based on laboratory and instrumental study results; and interpret the information concerning the diagnosis (as per List 4), considering the patient's age
PLO 6	Establish a final clinical diagnosis by making an informed decision and analyzing subjective and objective data from clinical and additional examinations, conducting differential diagnostics while adhering to appropriate ethical and legal standards, under the supervision of a senior physician in a healthcare setting (as per List 2)
PLO 7	Prescribe and analyze additional (mandatory and optional) diagnostic methods (laboratory, functional, and/or instrumental) (as per List 4) for patients with diseases of the body's organs and systems to conduct differential diagnostics (as per List 2)
PLO 8	dentify the primary clinical syndrome or the severity of the patient's condition (as per List 3) by making an informed decision and assessing the person's condition under any circumstances (within or outside healthcare settings), including emergencies, combat conditions, field environments, or situations with limited information and time constraints
PLO 9	Determine the nature and principles of treatment (conservative or surgical) for patients with diseases (as per List 2), considering the patient's age, in healthcare settings, outside of them, or at stages of medical evacuation, including field conditions. This should be based on a preliminary clinical diagnosis, adhering to ethical and legal standards, by making informed decisions following established algorithms and standard schemes. In cases requiring extended schemes, justify personalized recommendations under the supervision of a senior physician in a healthcare facility
PLO 10	Establish appropriate work, rest, and dietary regimens based on the final clinical diagnosis, adhering to ethical and legal standards, by making informed decisions following established algorithms and standard schemes. Identify factors hindering the improvement of healthcare quality and safety
PLO 14	Determine the tactics and provide emergency medical care in acute conditions (as per List 3) within limited timeframes following existing clinical protocols and treatment standards
PLO 15	Organize the provision of medical care and medical evacuation measures for civilians and military personnel in emergencies, combat situations, including field environments
PLO 17	Perform medical procedures (as per List 5) in healthcare settings, at home, or in the workplace based on a preliminary clinical diagnosis and/or patient status indicators by making informed decisions, adhering to ethical and legal standards
PLO 18	Assess the state of functioning and limitations of an individual's life activity and determine the duration of temporary disability, preparing relevant documents within

	healthcare settings based on disease data, course, and occupational characteristics. Maintain medical documentation regarding patients and population groups following regulatory documents
PLO 21	Search for the necessary information in professional literature, databases, and other sources, analyze, evaluate, and apply this information
PLO 25	Clearly and unambiguously communicate one's knowledge, conclusions, and arguments regarding healthcare issues and related matters to professionals and non-professionals
PLO 26	Manage workflows in the healthcare sector, which are complex, unpredictable, and require new strategic approaches; organize the work and professional development of personnel, considering acquired skills in effective teamwork, leadership, and ensuring proper quality, accessibility, fairness, and the provision of integrated medical care
PLO 28	Make effective decisions on healthcare issues, assess the required resources, and consider social, economic, and ethical consequences

7.THE INFORMATION SCOPE OF THE COURSE

MODULE 4

MODERN PRACTICE OF INTERNAL MEDICINE: CARDIOLOGY, REVMATOLOGY, NEPHROLOGY

(Speciality – 222 Medicine)

Total hours / credits 237/7,9 (practical classes - 148, ISW – 89 hours)

CONTENT MODULE 1
"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE CARDIOLOGICAL CLINIC"

Total hours/ credits - 158 hours / 5,26 credits **(practical classes - 101, ISW – 57 hours)**

Topic 1. Management of a patient with hypertension. Management of a patient with hypotension.

The main diseases and conditions accompanied by arterial hypertension (essential and secondary arterial hypertension, in particular renal: renovascular, renoparenchymatous; endocrine: Itsenko-Cushing's syndrome and disease, pheochromocytoma, primary hyperaldosteronism, hyperthermia, diffuse; hypertension during pregnancy). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hypertension. Primary and secondary prevention. Forecast and efficiency.

The main diseases and conditions accompanied by arterial hypotension (vasodepressor, postural orthostatic, iatrogenic hypotension, fainting in cardiovascular, endocrine and nervous diseases, metabolic disorders and hysterical neurosis). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hypotension. Primary and secondary prevention. Forecast and efficiency.

Topic 2. Management of a patient with cardiac pain.

The main diseases and conditions accompanied by chest pain (diseases of the cardiovascular system: coronary heart disease, acute pericarditis, acute myocarditis, stenosis of the aortic orifice, hypertrophic cardiomyopathy, mitral valve prolapse, coronary heart disease, aortic arrhythmia, lesions) neurocirculatory dystonia, respiratory organs, in particular, pleurisy, pneumothorax, digestive system: gastroesophageal reflux disease, cardiospasm, esophageal spasm, hernia of the esophageal orifice, peptic ulcer and other ulcers of the stomach and duodenum, pancreatitis; thoracic

spine osteochondrosis, costochondritis, myositis, nervous system, in particular shingles, intercostal neuralgia and mediastinal diseases, in particular, mediastinal tumors and panic attack syndrome).

Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by chest pain. Primary and secondary prevention. Forecast and efficiency.

Topic 3. Management of a patient with cardiac arrhythmias.

Differential diagnosis of supraventricular and ventricular arrhythmias, atrial fibrillation and flutter. Tactics of patient management. The main classes of antiarrhythmic drugs, indications for their use, side effects. Electropulse therapy. Non-drug treatments for arrhythmias, including catheter procedures. Primary and secondary prevention. Forecast and efficiency.

Topic 4. Management of a patient with impaired cardiac conduction.

Violations of sino-atrial conduction, atrio-ventricular blockade of various degrees, blockade of the legs of the His bundle. Syndrome of weakness of the sinus node. Frederick's syndrome. ECG diagnostics. Tactics of patient management, additional instrumental methods of examination. Pacemaking methods. Primary and secondary prevention, prognosis and efficiency.

Topic 5. Management of a patient with chronic heart failure.

Right ventricular, left ventricular and biventricular heart failure. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management depending on the genesis, functional class and stage of heart failure. Drug and non-drug, including surgical, treatment, the impact on the prognosis of various treatments. Primary and secondary prevention. Forecast and efficiency. Basic principles of heart transplantation. Indications and contraindications to transplantation.

Topic 6. Tactics in blood circulation and respiration arrest.

Standards for emergency diagnosis and emergency care at the outpatient and inpatient stages. Algorithms of cardiopulmonary resuscitation. Medical support. Long-term support of life and tactics of further management of patients.

Topic 7. Curation of a patient with a hypertensive crisis.

Criteria for the diagnosis of uncomplicated and complicated hypertensive crisis. Standards of emergency treatment at the pre-hospital and hospital stage, depending on the type of crisis and the nature of the target organs. Crisis prevention.

Topic 8. Curation of a patient with acute coronary syndrome, acute heart failure.

Diagnostic criteria, differential diagnosis and standards for emergency treatment of acute heart failure in the prehospital and hospital stages. Treatment tactics depending on the cause and clinical variant. Primary and secondary prevention.

Diagnostic criteria, differential diagnosis and standards of emergency treatment at the prehospital and hospital stages. Management tactics depending on the variant of acute coronary syndrome. Therapy that improves the prognosis. Primary and secondary prevention.

Topic 9. Curation of a patient with pulmonary embolism.

Criteria for diagnosis, differential diagnosis and standards of emergency treatment of pulmonary embolism. Treatment tactics depending on the severity. Primary and secondary prevention.

Topic 10. Curation of a patient with paroxysmal arrhythmias.

High-grade ventricular arrhythmias, supraventricular (including WPW syndrome) and ventricular paroxysmal tachycardia, persistent atrial fibrillation and flutter. Standards of diagnosis, differential diagnosis and emergency treatment at the prehospital and hospital stages. Tactics of treatment depending on the type of cardiac arrhythmia and the state of hemodynamics. Electropulse therapy and pacing. Recommendations for prevention.

Topic 11. Instrumental research methods in cardiology.

Standard electrocardiography and stress tests. Indications, contraindications and restrictions to their implementation, possible complications, informativeness and clinical evaluation of results. Blood pressure measurement on the upper and lower extremities, blood pressure monitoring. Recording, ECG monitoring, ECG interpretation: variant of the norm, manifestations of myocardial

ischemia, myocardial damage (necrosis), various types of arrhythmias, blockades, repolarization disorders. Exercise tests (VEM, treadmill, step test), 6-minute walk. Standard echocardiography and Doppler ultrasound invetigation. Interpretation of data from selective aortocoronary angiography, ventriculography. X-ray and isotopic methods for diagnosing cardiovascular diseases. Enzyme-linked immunosorbent assays and biochemical research methods. Determination of blood content of trononin T (qualitative, quantitative), activity of aminotransferases, creatine phosphokinase, ASLO titer, content of C-reactive protein, sialic acid, seromucoids, fibrinogen A, B, D-dimer, blood lipid spectrum, glycemic profile (glycemic profile), INR).

Topic 12. Management of a patient with chest pain.

The main diseases and conditions accompanied by chest pain (diseases of the cardiovascular system, respiratory organs, in particular, pleurisy, pneumothorax; digestive system: gastroesophageal reflux disease, cardiospasm, esophageal spasm, hernia of the esophageal orifice, peptic ulcer and other ulcers of the stomach and duodenum, pancreatitis, musculoskeletal system: osteochondrosis of the thoracic spine, costochondritis, myositis, nervous system, nervous system; , intercostal neuralgia and diseases of the mediastinum, in particular, mediastinal tumors and panic attacks syndrome).

Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by chest pain. Primary and secondary prevention. Prognosis.

Topic 13. Management of a patient with shortness of breath and with edema syndrome.

The main diseases and conditions accompanied by shortness of breath (heart failure with preserved and reduced systolic function of the left ventricle, respiratory failure due to impaired bronchial patency and diseases of the lungs and pleura; pulmonary vascular pathology, in particular pulmonary embolism and chest or respiratory diseases) , anemia, hyperventilation syndrome in neurosis and neurocirculatory dystonia, lesions of the respiratory center in organic diseases of the brain). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by shortness of breath. Primary and secondary prevention. Forecast and efficiency.

The main diseases and conditions accompanied by edema syndrome: local (venous edema: chronic venous insufficiency, venous outflow disorders, deep vein thrombophlebitis; lymphatic edema: inflammatory, obstructive; in musculoskeletal disorders: arthritis, tendinous; and idiopathic and general edema (nephrotic syndrome, cardiovascular disease with development of heart failure, liver disease, in particular cirrhosis of the liver and other hypoproteinemic conditions: exudative enteropathy, malabsorption syndrome, alimentary and cachectic edema, eniocretic edema; edema due to medication). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by edematous syndrome rum. Primary and secondary prevention. Forecast and efficiency.

Topic 14. Management of a patient with cardiomegaly. Management of a patient with heart murmur.

The main diseases and conditions accompanied by cardiomegaly (acquired heart defects: mitral valve insufficiency, stenosis and aortic valve insufficiency, combined mitral and aortic heart defects; dilated cardiomyopathy, exudative pericarditis, coronary heart disease). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by cardiomegaly. Primary and secondary prevention. Forecast and efficiency.

Major diseases and conditions accompanied by systolic and / or diastolic murmurs in the heart (congenital heart defects: ventricular septal defect, atrial septal defect, open ductus arteriosus, aortic coarctation; acquired heart defects: mitral stenosis, mitral valve insufficiency) , mitral valve prolapse, aortic stenosis, aortic valve insufficiency, tricuspid valve insufficiency (organic and relative), hypertrophic cardiomyopathy, innocent systolic murmur in young people). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods.

Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by shortness of breath. Indications for surgical treatment, Primary and secondary prevention. Forecast and efficiency.

Topic 15. Management of a patient with secondary hypertension.

Major diseases and conditions accompanied by arterial hypertension (including renal: renovascular, renoparenchymal). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hypertension. Primary and secondary prevention. Prognosis and performance.

Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hypotension. Primary and secondary prevention. Prognosis.

Topic 16. Management of a patient with syncope.

Major diseases and conditions accompanied by syncopal states. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods.

Major diseases and conditions accompanied by hypotension (vasodepressor, postural orthostatic, iatrogenic hypotension, fainting in cardiovascular, endocrine and nervous diseases, metabolic disorders and hysterical neurosis).

Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by syncope. Primary and secondary prevention. Forecast and efficiency.

CONTENT MODULE 2
"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN RHEUMATOLOGICAL CLINIC"

Total hours/ credits - 32 hours / 1,07 credits **(practical classes - 20, ISW – 12 hours)**

Topic 17. Management of a patient with back and limb pain.

The main diseases and conditions accompanied by pain in the extremities and back (ankylosing spondylitis, osteoarthritis, osteochondrosis, osteoporosis, dermatomyositis / polymyositis, neuropathy, in particular, diabetes mellitus). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by pain in the extremities and back. Primary and secondary prevention. Forecast and efficiency.

The main diseases and conditions accompanied by joint syndrome (rheumatoid arthritis, ankylosing spondylitis, reactive arthritis, gout, systemic lupus erythematosus, systemic scleroderma, dermatomyositis / polymyositis, nodular polyarteritis, acute rheumatic disaster). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by joint syndrome. Primary and secondary prevention. Forecast and efficiency.

Topic 18. Management of a patient with diffuse connective tissue diseases.

Major diseases and conditions accompanied by connective tissue (rheumatoid arthritis, ankylosing spondylitis, osteoarthritis), reactive arthritis, gout, systemic lupus erythematosus, systemic sclerosis dermatomyositis / polymyositis, nodular polyarteritis, acute rheumatic fever). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by joint syndrome. Primary and secondary prevention. Prognosis.

Topic 19. Final content module control on cardiorheumatology.

CONTENT MODULE 3

“MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE NEPHROLOGICAL CLINIC”

Total hours/ credits - 41 hours / 1.37 credits (practical classes - 21, ISW – 20 hours)

Topic 20. Management of a patient with urinary syndrome, with nephrotic syndrome.

The main diseases and conditions accompanied by urinary syndrome (acute and chronic glomerulonephritis, urolithiasis, tubulointerstitial kidney disease, pyelonephritis, diabetic nephropathy, renal infarction, renal tuberculosis, hypernephroma, cystitis, urethra). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by urinary syndrome. Primary and secondary prevention. Forecast and efficiency.

The main diseases and conditions accompanied by nephrotic syndrome (acute and chronic glomerulonephritis, renal amyloidosis, diabetic nephropathy, myeloma). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by nephrotic syndrome. Primary and secondary prevention. Forecast and efficiency.

Topic 21. Management of a patient with chronic kidney disease.

The concept and classification of "chronic kidney disease". Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications, possible complications. Primary and secondary prevention, prognosis and efficiency.

Topic 22. Curation of a patient with acute kidney injury.

Patient diagnosis and management standards. Tactics of management of patients depending on the cause (prerenal, renal, postrenal). The role of instrumental and laboratory methods of examination. Conservative treatment, indications for hemodialysis. Recommendations for prevention.

MODULE 5

MODERN PRACTICE OF INTERNAL MEDICINE: GASTROENTEROLOGY, PULMONOLOGY, HEMATOLOGY, ENDOCRINOLOGY

Total hours / credits 198/6,6 (practical classes - 126, ISW – 72 hours)

CONTENT MODULE 1
“MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN GASTROENTEROLOGICAL CLINIC”

Total hours / credits 78/2,6 (practical classes - 48, ISW – 30 hours)

Topic 1. Management of a patient with dysphagia, heartburn, functional dyspepsia.

Major diseases and conditions accompanied by dysphagia (esophagitis, including gastroesophageal reflux disease, esophageal cancer, diffuse esophageal spasm, achalasia of the cardia, esophageal diverticula, systemic scleroderma, dysphagia with central and peripheral nervous system). The main diseases and conditions accompanied by heartburn (gastroesophageal reflux disease, unexamined dyspepsia, chronic gastritis, peptic ulcer disease and other ulcers of the stomach and duodenum). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by dysphagia and heartburn. Primary and secondary prevention. Forecast and efficiency.

Determination of functional dyspepsia. The main reasons for development. Epigastric pain and postprandial syndromes. Differential-diagnostic value of clinical manifestations and data of

additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment. Primary and secondary prevention.

Topic 2. Management of a patient with abdominal pain.

The main diseases and conditions accompanied by chronic abdominal pain (cholecystitis, dyskinesia of the gallbladder and sphincter of Oddi, gallstone disease, pancreatitis, chronic gastritis, peptic ulcer and other ulcers of the stomach and duodenum, other irritable bowel syndrome). Crohn's, nonspecific ulcerative colitis, "abdominal frog"). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by chronic abdominal pain. Indications for surgical treatment. Primary and secondary prevention. Prognosis.

Topic 3. Management of a patient with diarrhea, constipation. Management of a patient with weight loss.

The main diseases and conditions accompanied by prolonged diarrhea (chronic atrophic gastritis, diseases of the operated stomach, Crohn's disease, syndrome of increased bacterial growth in the small intestine, food intolerance, nonspecific ulcerative colitis, celiac disease, Whippet's disease, panditic enteroma, chronic diarrhea, chronic diarrhea), amyloidosis, acquired immunodeficiency syndrome). Secretory, exudative, dysmotor and functional diarrhea. The role of intolerance of food components, enzymopathies and immune factors. The main coprological syndromes. Malabsorption and maldigestion syndromes. Irritable bowel syndrome. Anxiety symptoms in patients with irritable bowel syndrome. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by diarrhea. Primary and secondary prevention. Forecast and efficiency.

The main diseases and conditions accompanied by constipation (irritable bowel syndrome, bowel cancer, anorectal diseases, hypothyroidism, neurogenic and psychogenic disorders, eating disorders, situational and iatrogenic constipation). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by constipation. Primary and secondary prevention. Forecast and efficiency.

Major diseases and conditions accompanied by weight loss (cancer, systemic connective tissue diseases, including systemic lupus erythematosus, dermatomyositis / polymyositis, systemic scleroderma; systemic vasculitis, including nodular polyarteritis, diseases of the digestive tract, lungs, heart, vascular system, alimentary and psychogenic weight loss, etc.). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by weight loss. Primary and secondary prevention. Prognosis.

Topic 4. Management of a patient with jaundice, hepatomegaly and hepatolienal syndrome.

Major diseases and conditions accompanied by jaundice (chronic hepatitis, cirrhosis and liver cancer, hemolytic anemia, gallstone disease, pancreatic head cancer, vater nipple cancer, benign hyperbilirubinemia). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by jaundice. Primary and secondary prevention. Prognosis

Major diseases and conditions accompanied by hepatomegaly and hepatolienal syndrome (diseases of the parenchyma and vessels of the liver, including chronic hepatitis, cirrhosis and liver cancer, hepatic venous thrombosis; diseases of the blood and blood-forming organs, including leukemia, lymphogranulomatosis, erythremia; heart failure, including constrictive pericarditis, accumulation diseases, in particular, hemachromatosis, etc.). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hepatomegaly and hepatolienal syndrome. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.

Topic 5. Management of a patient with portal hypertension, ascites and hepatic encephalopathy.

The main diseases and conditions that lead to the development of portal hypertension and ascites (cirrhosis and liver tumors, right ventricular heart failure, including constrictive pericarditis, hepatic vein thrombosis, thrombosis of the portal vein or its branches and thrombosis, stenosis, obliteration of the inferior cavity veins at or above the hepatic veins, etc.). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by portal hypertension and ascites. Indications for endoscopic and surgical treatment (shunt surgery, liver transplantation). Primary and secondary prevention. Prognosis.

Criteria for diagnosis and treatment of encephalopathy. Treatment tactics depending on the cause and stage. The role of instrumental and laboratory methods of examination. Recommendations for prevention. Prognosis.

Topic 6. Curation of a patient with gastrointestinal bleeding.

Gastrointestinal bleeding (including varicose veins of the esophagus, gastric erosions, peptic ulcer and other ulcers of the stomach and duodenum, malignant tumors, nonspecific ulcerative colitis, hemorrhagic vasculitis: hemorrhage, hemorrhage). Tactics of patients depending on the cause and severity. The role of endoscopic, instrumental and laboratory methods of examination. Conservative treatment, indications for blood transfusion. Indications for endoscopic hemostasis or urgent surgical treatment. Primary and secondary prevention.

Topic 7. Final content module control in gastroenterology.

CONTENT MODULE 2
"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN PULMONOLOGICAL CLINIC"

Total hours / credits 50/1,66 (practical classes - 28, ISW – 22 hours)

Topic 8. Management of a patient with pulmonary infiltrate, with cyanosis.

The main diseases and conditions accompanied by cyanosis (lung and heart diseases, including congenital heart defects in Eisenmenger's syndrome, acquired heart defects, in particular, mitral stenosis, heart and respiratory failure and the formation of pathological hemoglobin). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by cyanosis. Primary and secondary prevention. Forecast and efficiency.

The main diseases and conditions accompanied by pulmonary infiltrate (pneumonia, infiltrative pulmonary tuberculosis, eosinophilic pulmonary infiltrate, pulmonary infarction, lung cancer, benign lung tumors, pulmonary sarcoidosis, focal pneumosclerosis). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by pulmonary infiltrate. Primary and secondary prevention. Prognosis.

Topic 9. Management of a patient with chronic cough. with hemoptysis. Management of a patient with pleural effusion.

The main diseases and conditions accompanied by cough (chronic obstructive pulmonary disease, bronchial asthma, pulmonary tuberculosis, bronchiectasis, malignant tumors of the lungs and bronchi, pneumoconiosis, left ventricular heart failure, gastroesophageal reflux disease, post-syndrome and syndrome). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by cough. Primary and secondary prevention.

The main diseases and conditions accompanied by hemoptysis (malignant tumors of the bronchi and lungs, pulmonary tuberculosis, pneumonia, bronchiectasis, lung abscess, mitral stenosis,

pulmonary infarction, etc.). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hemoptysis. Primary and secondary prevention.

The main diseases and conditions accompanied by pleural effusion (pneumonia, pulmonary tuberculosis, malignant tumors of the lungs and pleura, heart failure, acute pancreatitis, liver cirrhosis, nephrotic syndrome, systemic connective tissue diseases, chest injuries). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by pleural effusion. Indications for pleural puncture, possible complications. Primary and secondary prevention. Prognosis.

Topic 10. Management of a patient with bronchoobstructive syndrome.

The main diseases and conditions accompanied by bronchoobstructive syndrome (chronic obstructive pulmonary disease, bronchial asthma, tumors of the trachea, bronchi and mediastinum). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by broncho-obstructive syndrome. Primary and secondary prevention. Forecast and efficiency.

Topic 11. Curation of a patient with acute respiratory failure.

Acute respiratory failure (including ARDS, severe exacerbation of asthma, severe pneumonia): criteria for diagnosis, differential diagnosis, standards of emergency treatment in prehospital and hospital stages, depending on the cause. Recommendations for prevention.

CONTENT MODULE 3
"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE HEMATOLOGICAL CLINIC"

Total hours / credits 32/1,07 (practical classes - 22, ISW – 10 hours)

Topic 12. Management of a patient with anemia.

Differential diagnosis of iron deficiency, B12-deficiency, hemolytic, aplastic, posthemorrhagic anemia. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment. Indications, contraindications, methods and possible complications of transfusion of blood components and blood substitutes. Primary and secondary prevention. Prognosis.

Topic 13. Management of a patient with lymphadenopathy and leukocytosis.

The main diseases and conditions accompanied by lymphadenopathy (Hodgkin's and non-Hodgkin's lymphomas, acute and chronic lymphoid and myeloid leukemias, infectious mononucleosis, reactive lymphadenitis, tuberculosis, sarcoidosis, metastatic lesions, systemic diseases, systemic diseases). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by lymphadenopathy. Primary and secondary prevention. Forecast and efficiency.

The main diseases and conditions accompanied by leukocytosis (lymphomas, acute and chronic lymphoid and myeloid leukemias, infectious mononucleosis, reactive lymphadenitis, sarcoidosis, metastatic lesions, sepsis). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by leukocytosis. Primary and secondary prevention. Forecast and efficiency.

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

Topic 14. Management of a patient with hemorrhagic syndrome.

The main diseases and conditions accompanied by hemorrhagic syndrome (hemophilia, idiopathic thrombocytopenic purpura, malignant diseases of the hematopoietic system, accompanied by thrombocytopenia). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hemorrhagic syndrome. Primary and secondary prevention. Forecast and efficiency.

Topic 15. Curation of a patient with shock, DIC syndrome

Criteria for diagnosis, differential diagnosis and emergency treatment at the prehospital and hospital stages depending on the cause (hypovolemic, cardiogenic, obstructive, redistributive, in particular, anaphylactic, septic). Further management of patients.

Conditions caused by immediate allergic reactions (anaphylactic shock, laryngeal edema, Quincke's edema): diagnosis criteria, standards of emergency treatment at the prehospital and hospital stages. Secondary prevention.

Topic 16. Final content module control in hematology.

CONTENT MODULE 4
"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN ENDOCRINOLOGICAL CLINIC"

Total hours / credits 32/1,07 (practical classes - 22, ISW – 10 hours)

Topic 17. Management of a patient with chronic complications of diabetes mellitus and uncompensated forms of diabetes mellitus.

Chronic complications of diabetes mellitus, diabetic angiopathy and neuropathy (diabetic nephropathy, retinopathy, neuropathy, diabetic foot). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of chronic complications of diabetes mellitus. Primary and secondary prevention. Forecast and efficiency.

Type 1 and 2 diabetes, uncompensated forms. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of diabetes mellitus. Primary and secondary prevention. Forecast and efficiency.

Topic 18. Management of a patient with goiter syndrome.

The main diseases that are accompanied by goiter syndrome (non-toxic goiter - endemic, nodular; diffuse toxic goiter; thyroiditis - acute, subacute, autoimmune). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by goiter syndrome. Primary and secondary prevention. Forecast and efficiency.

Topic 19. Management of a patient with hypertension in endocrinological practice.

The main diseases accompanied by the syndrome of arterial hypertension (diabetes mellitus, hyperthyroidism, hyperparathyroidism, hormonally active tumors of the adrenal glands, Itsenko-Cushing's disease, hypothalamic syndrome). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hypertension. Primary and secondary prevention. Forecast and efficiency.

Metabolic syndrome. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of metabolic syndrome. Primary and secondary prevention. Forecast and efficiency.

Topic 20. Curation of a patient with coma, thyrotoxic and addisonic crises. Emergencies in the context of incurable disease and imminent death.

Criteria for diagnosis, differential diagnosis and treatment. Determining the cause and tactics of treatment depending on the etiology (coma, which are caused by primary lesions of the central nervous system, in particular, cerebrovascular disorders, meningitis; primarily due to loss of

electrolytes, water; associated with gas exchange disorders, including hypoxic, toxic, in particular, uremic, hepatic, alcoholic, in respiratory failure, in endocrine diseases, in particular, in diabetes, etc.). Recommendations for prevention. Emergencies in the context of incurable disease and imminent death. Etiology and pathogenesis of diabetic (ketoacidotic) coma. Clinical features and course options. Diagnosis and differential diagnosis. Algorithm for providing medical care to patients with diabetic coma.

Hypoglycemic coma and hypoglycemia: the main causes, provoking factors. Classification of hypoglycemia by severity, diagnosis. Treatment of hypoglycemia depending on the severity.

Etiology and pathogenesis of thyrotoxic and addisonic crises. Clinical manifestations, diagnosis and differential diagnosis. Atypical forms. Algorithm for emergency care.

Topic 21. Final module control in endocrinology.

10. STRUCTURE OF THE COURSE

№	Topic	Lectures	Practical classes	Independent work of students	
				ISW	Individual work
MODULE 4. MODERN PRACTICE OF INTERNAL MEDICINE: CARDIOLOGY, REVMATOLOGY, NEPHROLOGY					
Content module 1: Management of patients with main symptoms and syndromes in a cardiac clinic					
1	*Management of a patient with arterial hypertension, with arterial hypotension (card.)*		6	3	• Report at clinical conferences of departments • Report of the abstract in a practical lesson • Report of the patient's medical history in practice •Writing abstracts, articles
2	*Management of a patient with cardiac pain (card.)*		6	3	
3	*Management of a patient with cardiac arrhythmias (card.)*		6	3	
4	*Management of a patient with impaired cardiac conduction (card.)*		6	3	
5	*Management of a patient with chronic heart failure (card.)*		6	3	
6	*Tactics in blood circulation and respiration arrest (card.)*		6	3	
7	*Curation of a patient with a hypertensive crisis(card.)*		6	3	
8	*Curation of a patient with acute coronary syndrome, acute heart failure(card.)*		6	3	
9	*Curation of a patient with pulmonary embolism(card.)*		6	3	
10	*Curation of a patient with paroxysmal arrhythmias(card.)*		6	3	
11	Instrumental research methods in cardiology.		7	5	
12	Management of a patient with chest pain.		7	5	
13	Management of a patient with shortness of breath and with edema syndrome.		7	5	
14	Management of a patient with cardiomegaly, with heart murmur		7	5	

15	Management of a patient with secondary hypertension.		7	5	
16	Management of a patient with syncope.		6	4	
	Individual work			**55**	**2**
	Total hours – 158		**101**	**57**	
	ECTS credits – 5,26				
Content module 2: Management of patients with the main symptoms and syndromes in the rheumatology clinic					
17	Management of a patient with back and limb pain. Management of a patient with joint syndrome.		7	5	• Report at clinical conferences of departments • Report of the abstract in a practical lesson • Report of the patient's medical history in practice •Writing abstracts, articles
18	Management of a patient with diffuse connective tissue diseases.		7	5	
19	Final content module control on cardiorheumatology.		6		
	Individual work			**10**	**2**
	Total hours 32		**20**	**12**	
	ECTS credits – 1,07				
Content module 3: Management of patients with the main symptoms and syndromes in the nephrology clinic					
20	Management of a patient with urinary syndrome, with nephrotic syndrome.		**7**	6	• Report at clinical conferences of departments • Report of the abstract in a practical lesson • Report of the patient's medical history in practice •Writing abstracts, articles
21	Management of a patient with chronic kidney disease.		**7**	6	
22	Curation of a patient with acute kidney injury.		**7**	6	
	Individual work			**18**	**2**
	Total hours 41		**21**	**20**	
	ECTS credits – 1,37				
	Module 4 Final module control 3 «Modern practice of internal medicine: cardiology, revmatology, nephrology»		**6**		
	Hours - 237 ECTS credits – 7,9		**148**	**89**	
MODULE 5 MODERN PRACTICE OF INTERNAL MEDICINE: GASTROENTEROLOGY, PULMONOLOGY, HEMATOLOGY, ENDOCRINOLOGY					
Content module 3. Management of patients with the main symptoms and syndromes in the gastroenterological clinic					
1	Management of a patient with dysphagia, heartburn, functional dyspepsia.		**7**	**4**	• Report at clinical conferences of departments

2	Management of a patient with abdominal pain.		**6**	**4**	• Report of the abstract in a practical lesson • Report of the patient's medical history in practice •Writing abstracts, articles
3	Management of a patient with diarrhea, constipation. Management of a patient with weight loss.		**7**	**4**	
4	Management of a patient with diarrhea, constipation. Management of a patient with weight loss.		**7**	**4**	
5	Management of a patient with portal hypertension, ascites and hepatic encephalopathy.		**7**	**4**	
6	Management of a patient with bleeding		**7**	**4**	
7	Final content module control in gastroenterology.		7	4	
	Individual work			**28**	**2**
	Total hours – 78		**48**	**30**	
	ECTS credits – 2,6				
Content module 2: Management of patients with the main symptoms and syndromes in the pulmonology clinic					
8	Management of a patient with pulmonary infiltrate, with cyanosis.		7	5	• Report at clinical conferences of departments • Report of the abstract in a practical lesson • Report of the patient's medical history in practice •Writing abstracts, articles
9	Management of a patient with a chronic cough, with hemoptysis. Management of a patient with pleural effusion.		7	5	
10	Management of a patient with bronchoobstructive syndrome.		7	5	
11	Curation of a patient with acute respiratory failure.		7	5	
	Individual work			**20**	**2**
	Total hours – 50		**28**	**22**	
	ECTS credits – 1,66				
Content module 3: Management of patients with the main symptoms and syndromes in the hematology clinic					
12	Management of a patient with anemia.		**4**	**2**	• Report at clinical conferences of departments • Report of the abstract in a practical lesson • Report of the patient's medical history in practice •Writing abstracts, articles
13	Management of a patient with lymphadenopathy and leukocytosis.		**4**	**2**	
14	Management of a patient with hemorrhagic syndrome.		**5**	**2**	
15	Curation of a patient with shock, DIC syndrome		**5**	**2**	
16	Final content module control in hematology.		**4**		
	Individual work			**8**	**2**
	Total hours – 32		**22**	**10**	
	ECTS credits – 1,07				
Content module 4. Management of patients with the main symptoms and syndromes in the endocrinology clinic					

17	Management of a patient with chronic complications of diabetes mellitus, with uncompensated forms of diabetes mellitus (ketoacidosis).		5	2	• Report at clinical conferences of departments • Report of the abstract in a practical lesson • Report of the patient's medical history in practice •Writing abstracts, articles
18	Management of a patient with goiter syndrome.		5	2	
19	Management of a patient with arterial hypertension syndrome in endocrinological practice		4	2	
20	Curation of a patient with coma, thyrotoxic and addisonic crises. Emergencies in the context of incurable disease and imminent death.		4	2	
21	Final module control in endocrinology.		4		
	Individual work			**8**	**2**
	Total hours – 32		**22**	**10**	
	ECTS credits – 1,07				
	Module 5 Final module control 5 «Modern practice of internal medicine: gastroenterology, pulmonology, hematology, endocrinology»		**6**		
	Hours - 198 ECTS credits – 6,6		**126**	**72**	
	Total hours - 435 ECTS credits – 14,5		**274**	**161**	

11. THEMATIC PLAN OF PRACTICAL (SEMINAR) CLASSES

MODULE 4. MODERN PRACTICE OF INTERNAL MEDICINE: CARDIOLOGY, REVMATOLOGY, NEPHROLOGY

№	Topic	Number of hours
1	*Management of a patient with arterial hypertension, with arterial hypotension (card.)*	6
2	*Management of a patient with cardiac pain (card.)*	6
3	*Management of a patient with cardiac arrhythmias (card.)*	6
4	*Management of a patient with impaired cardiac conduction (card.)*	6
5	*Management of a patient with chronic heart failure (card.)*	6
6	*Tactics in blood circulation and respiration arrest (card.)*	6
7	*Curation of a patient with a hypertensive crisis(card.)*	6
8	*Curation of a patient with acute coronary syndrome, acute heart failure(card.)*	6
9	*Curation of a patient with pulmonary embolism(card.)*	6
10	*Curation of a patient with paroxysmal arrhythmias(card.)*	6
11	Instrumental research methods in cardiology.	7
12	Management of a patient with chest pain.	7
13	Management of a patient with shortness of breath and with edema syndrome.	7
14	Management of a patient with cardiomegaly, with heart murmur	7
15	Management of a patient with secondary hypertension.	7
16	Management of a patient with syncope.	6
17	Management of a patient with back and limb pain. Management of a patient with joint syndrome.	7
18	Management of a patient with diffuse connective tissue diseases.	7
19	Final content module control on cardiorheumatology.	6
20	Management of a patient with urinary syndrome, with nephrotic syndrome.	7
21	Management of a patient with chronic kidney disease.	7
22	Curation of a patient with acute kidney injury.	7
23	FMC	6
	TOTAL	148

MODULE 5
MODERN PRACTICE OF INTERNAL MEDICINE: GASTROENTEROLOGY, PULMONOLOGY, HEMATOLOGY, ENDOCRINOLOGY

№	Topic	Number of hours
1	Management of a patient with dysphagia, heartburn, functional dyspepsia.	7
2	Management of a patient with abdominal pain.	6
3	Management of a patient with diarrhea, constipation. Management of a patient with weight loss.	7
4	Management of a patient with jaundince, hepatomegaly, hepatolienal syndrome.	7
5	Management of a patient with portal hypertension, ascites and hepatic encephalopathy.	7
6	Management of a patient with bleeding	7
7	Final content module control in gastroenterology.	7
8	Management of a patient with pulmonary infiltrate, with cyanosis.	7
9	Management of a patient with a chronic cough, with hemoptysis. Management of a patient with pleural effusion.	7
10	Management of a patient with bronchoobstructive syndrome.	7

11	Curation of a patient with acute respiratory failure.	7
12	*Management of a patient with anemia.*	4
13	*Management of a patient with lymphadenopathy and leukocytosis.*	4
14	*Management of a patient with hemorrhagic syndrome.*	5
15	*Curation of a patient with shock, DIC syndrome*	5
16	*Final content module control in hematology.*	4
17	*Management of a patient with chronic complications of diabetes mellitus, with uncompensated forms of diabetes mellitus (ketoacidosis) (end).*	5
18	*Management of a patient with goiter syndrome (end).*	5
19	*Management of a patient with arterial hypertension syndrome in endocrinological practice (end).*	4
20	*Curation of a patient with coma, thyrotoxic and addisonic crises. Emergencies in the context of incurable disease and imminent death (end).*	4
21	*Final module control in endocrinology (end).*	4
22	FMC	6
	TOTAL	**126**

12. THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS

MODULE 4. MODERN PRACTICE OF INTERNAL MEDICINE: CARDIOLOGY, REVMATOLOGY, NEPHROLOGY

№	Topic	Hours
1	Preparation for practical classes of the module	83
2	Individual work: • Report of the abstract in a practical lesson. • Report at clinical conferences of departments. • Report the history of the disease in a practical lesson • Preparation of abstracts or articles	6
TOTAL		89

MODULE 5. MODERN PRACTICE OF INTERNAL MEDICINE: GASTROENTEROLOGY, PULMONOLOGY, HEMATOLOGY, ENDOCRINOLOGY

№	Topic	Hours
1	Preparation for practical classes of the module	64
2	Individual work: • Report of the abstract in a practical lesson. • Report at clinical conferences of departments. • Report the history of the disease in a practical lesson • Preparetion of abstracts or articles	8
TOTAL		72

11. LIST OF INDIVIDUAL TASKS

Individual Work:

- Preparation of a report on topics related to independent study and presentation of the report during a practical class.
- Presentation at clinical conferences, meetings of the student scientific society, scientific-practical conferences for students and young scientists, the "Student-to-Student" project, and participation in student research competitions in the field of "Clinical Medicine."
- Writing abstracts, articles, and their publication in conference proceedings, professional journals of Ukraine, or international scientometric publications.

12. LIST OF THEORETICAL QUESTIONS TO THE FINAL MODULE CONTROL

MODULE 4. MODERN PRACTICE OF INTERNAL MEDICINE: CARDIOLOGY, REVMATOLOGY, NEPHROLOGY

• Management of a patient with hypertension: algorithms and standards of diagnosis and treatment.

• Management of a patient with chest pain: algorithms and standards of diagnosis and treatment.

• Management of a patient with cardiac arrhythmias: algorithms and standards of diagnosis and treatment.

• Management of a patient with impaired conduction of the heart: algorithms and standards of diagnosis and treatment.

• Management of a patient with shortness of breath: algorithms and standards of diagnosis and treatment.

• Management of a patient with edema syndrome: algorithms and standards of diagnosis and treatment.

• Management of a patient with cardiomegaly: algorithms and standards of diagnosis and treatment.

• Management of a patient with heart murmur: algorithms and standards of diagnosis and treatment.

• Management of a patient with hypotension: algorithms and standards of diagnosis and treatment.

• Management of a patient with chronic heart failure: algorithms and standards of diagnosis and treatment. Basic principles of heart transplantation.

• Management of a patient with back and limb pain: algorithms and standards of diagnosis and treatment.

• Management of a patient with joint syndrome: algorithms and standards of diagnosis and treatment.

• Management of a patient with diseases of connective tissue: algorithms and standards of diagnosis and treatment.

• Management of a patient with urinary syndrome: algorithms and standards of diagnosis and treatment.

• Management of a patient with nephrotic syndrome: algorithms and standards of diagnosis and treatment.

• Management of a patient with chronic kidney disease: algorithms and standards of diagnosis and treatment. Basic principles of kidney transplantation.

• Management of a patient with acute kidney injury.

• Standards for diagnosis and emergency treatment of patients with hypertensive crisis in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with acute coronary syndrome in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with pulmonary embolism at the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with acute heart failure in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with paroxysmal heart rhythm disorders in the prehospital and hospital stages.

• Management of a patient with syncope. The clinical algorithm and standards of diagnosis and treatment.

MODULE 5. MODERN PRACTICE OF INTERNAL MEDICINE: GASTROENTEROLOGY, PULMONOLOGY, HEMATOLOGY, ENDOCRINOLOGY

• Management of a patient with dysphagia and heartburn: algorithms and standards of diagnosis and treatment.

• Management of a patient with functional dyspepsia: algorithms and standards of diagnosis and treatment.

• Management of a patient with abdominal pain: algorithms and standards of diagnosis and treatment.

• Management of a patient with diarrhea: algorithms and standards of diagnosis and treatment.

• Management of a patient with constipation: algorithms and standards of diagnosis and treatment.

• Management of a patient with weight loss: algorithms and standards of diagnosis and treatment.

• Management of a patient with jaundice: algorithms and standards of diagnosis and treatment.

• Management of a patient with hepatomegaly and hepatolienal syndrome: algorithms and standards of diagnosis and treatment.

• Management of a patient with portal hypertension: algorithms and standards of diagnosis and treatment. Basic principles of liver transplantation.

• Management of a patient with ascites: algorithms and standards of diagnosis and treatment.

• Management of a patient with pulmonary infiltrate: algorithms and standards of diagnosis and treatment.

• Management of a patient with chronic cough: algorithms and standards of diagnosis and treatment.

• Management of a patient with bronchoobstructive syndrome: algorithms and standards of diagnosis and treatment.

• Management of a patient with cyanosis: algorithms and standards of diagnosis and treatment.

• Management of a patient with hemoptysis: algorithms and standards of diagnosis and treatment. Basic principles of lung transplantation.

• Management of a patient with pleural effusion: algorithms and standards of diagnosis and treatment.

• Management of a patient with chronic complications of diabetes mellitus and metabolic syndrome: algorithms and standards of diagnosis and treatment.

• Management of a patient with uncompensated forms of diabetes mellitus (ketoacidosis): algorithms and standards of diagnosis and treatment.

• Management of a patient with goiter syndrome: algorithms and standards of diagnosis and treatment.

• Management of a patient with hypertension in endocrinological practice: algorithms and standards of diagnosis and treatment.

• Management of a patient with anemia: algorithms and standards of treatment.

• Management of a patient with hemorrhagic syndrome: algorithms and standards of diagnosis and treatment.

• Management of a patient with lymphadenopathy and leukocytosis: algorithms and standards of diagnosis and treatment.

• Standards for diagnosis and emergency treatment of patients with shock in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with fainting in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with acute respiratory failure in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with gastrointestinal bleeding in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with acute hepatic encephalopathy in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with oligoanuria in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with coma in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with thyrotoxic crisis in the prehospital and hospital stages.

• Standards for diagnosis and emergency treatment of patients with acute adrenal insufficiency at the prehospital and hospital stages.

• Emergencies in the context of incurable disease and imminent death.

13. LIST OF PRACTICAL TASKS AND WORKS FOR THE FINAL MODULE CONTROL

The final module control of modules 4 and 5 includes control of students' ability to perform typical tasks and skills, which, according to the relevant profile should be possessed by graduates of higher medical institution.

MODULE 4. MODERN PRACTICE OF INTERNAL MEDICINE: CARDIOLOGY, REVMATOLOGY, NEPHROLOGY

The list of typical tasks of activity and skills which are checked at carrying out of the final module:

• Work with the patient

- Collect complaints, medical history, life history;
- Collect information about the general condition of the patient (consciousness, constitution, fatness) and assess the appearance (examination of the skin, subcutaneous fat, palpation of lymph nodes, thyroid and mammary glands), examine the condition of the musculoskeletal system, joints;
- Examine the state of the respiratory organs (chest examination, chest palpation, percussion and lung auscultation);
- Examine the state of the circulatory system (examination and palpation of the heart and blood vessels, percussion of the heart and auscultation of the heart and blood vessels);
- Examine the condition of the digestive organs (examination, percussion, superficial and deep palpation);
- Examine the condition of the genitourinary system (examination of the lumbar region, palpation of the kidneys).

• Highlight the leading clinical symptom or syndrome (List 1)

• Make a probable (preliminary) or syndromic diagnosis of the disease (List 2).

• Assign and justify laboratory and / or instrumental examination of the patient (List 2).

• Carry out differential diagnosis of the main symptoms and syndromes (List 1).

• Interpret the results of laboratory and instrumental research (List 4)

• Make a clinical diagnosis (List 2).

• Determine the principles and nature of treatment (conservative, operative) disease (List 2).

• Determine the required regimen and diet of the patient (List 2).

• To determine the tactics of secondary prevention of patients who are subject to dispensary supervision.

• Diagnose incurable disease, terminal condition and its phases.

• Advise incrabious patients and their relatives on medical and non-medical support during incurable disease.

• Keep medical records of the patient.

MODULE 5. MODERN PRACTICE OF INTERNAL MEDICINE: GASTROENTEROLOGY, PULMONOLOGY, HEMATOLOGY, ENDOCRINOLOGY

The list of typical tasks of activity and skills which are checked at carrying out of the final module:

• Work with the patient

- Collect complaints, medical history, life history;

- Collect information about the general condition of the patient (consciousness, constitution, fatness) and assess the appearance (examination of the skin, subcutaneous fat, palpation of lymph nodes, thyroid and mammary glands), examine the condition of the musculoskeletal system, joints;
- Examine the state of the respiratory organs (chest examination, chest palpation, percussion and lung auscultation);
- Examine the state of the circulatory system (examination and palpation of the heart and blood vessels, percussion of the heart and auscultation of the heart and blood vessels);
- Examine the condition of the digestive organs (examination, percussion, superficial and deep palpation);
- Examine the condition of the genitourinary system (examination of the lumbar region, palpation of the kidneys).

• Highlight the leading clinical symptom or syndrome (List 1)
• To set a probable (preliminary) or syndromic diagnosis of the disease (List 2).
• Assign and justify laboratory and / or instrumental examination of the patient (List 2).
• Carry out differential diagnosis of the main symptoms and syndromes (List 1).
• Interpret the results of laboratory and instrumental research (List 4)
• To set a clinical diagnosis (List 2).
• Determine the principles and nature of treatment (conservative, operative) disease (List 2).
• Determine the required regimen and diet of the patient (List 2).
• To determine the tactics of secondary prevention of patients who are subject to dispensary supervision.
• Diagnose incurable disease, terminal condition and its phases.
• Advise incrabious patients and their relatives on medical and non-medical support during incurable disease.
• Keep medical records of the patient.

LIST 1 (SYNDROMES AND SYMPTOMS)

1. ABDOMINAL PAIN (cholecystitis, gallbladder and sphincter dysfunction Oddi, gallstone disease, pancreatitis, chronic gastritis, peptic ulcer and other ulcers of the stomach and duodenum, irritable bowel syndrome, entelicitis, celiac disease, celiac disease) , "Abdominal frog", intestinal infections, enterovirus diseases).

2. ANEMIA (acute and chronic posthemorrhagic anemia, iron deficiency, B12-deficiency, folate deficiency, aplastic, hemolytic)

3. ARTERIAL HYPERTENSION (essential arterial hypertension (AH), secondary AH: renal - renovascular, renoparenchymatous; endocrine - Itsenko-Cushing's syndrome and disease, pheochromocytoma, primary isoperaldostearism, primary hyperaldosteronism; during pregnancy).

4. ARTERIAL HYPOTENSION (vasodepressor hypotension / fainting, postural orthostatic, iatrogenic hypotension, fainting in cardiovascular diseases: valvular heart disease, acute coronary heart disease, dysfunction, hypertrophy, hypertrophy, hypertrophy). atrioventricular conduction, supraventricular and ventricular tachycardia, pulmonary embolism, nervous and endocrine diseases, metabolic disorders and hysterical neurosis, typhoid fever, meningococcal infection, hemorrhagic fever).

5. ASCITIS (cirrhosis and liver tumors, right ventricular heart failure, including constrictive pericarditis, thrombosis of the hepatic veins, thrombosis of the portal vein or its branches, thrombosis, stenosis, obliteration of the inferior vena cava at or above the hepatic veins, etc.) .

6. ASPHYXIA (diphtheria, false croup with SARS, tetanus, botulism).

7. BRONCHOOBSTRUCTIVE SYNDROME (chronic obstructive pulmonary disease, bronchial asthma, tumors of the trachea, bronchi and mediastinum).

8. CARDIOMEGALY (acquired heart defects: mitral valve insufficiency, aortic stenosis and aortic valve insufficiency, combined mitral and aortic heart defects; myocarditis, dilated cardiomyopathy, coronary heart disease, exudative pericarditis).

9. CHEST PAIN (acute coronary syndrome, angina, aortic stenosis, hypertrophic cardiomyopathy, mitral valve prolapse, coronaritis, aortitis, myocarditis, acute pericarditis, aortic

dissection, aortic dissection, arthritis, pleurisy , cardiospasm, esophageal spasm, hernia of the esophageal orifice of the diaphragm, peptic ulcer and other ulcers of the stomach and duodenum, pancreatitis, osteochondrosis of the thoracic spine, shingles, myositis, costochondritis, intercostal leurostronia).

10. CONVULSIVE SYNDROME (meningococcal infection, tetanus, rabies).

11. COUGH (chronic obstructive pulmonary disease, bronchial asthma, pulmonary tuberculosis, bronchiectasis, pneumonia, pneumoconiosis, malignant tumors of the lungs and bronchi, left ventricular heart failure, postnasal drip syndrome, gastroesophageal reflux disease) .

12. DEHYDRATION (intestinal infections, cholera).

13. DIARRHEA (chronic atrophic gastritis, gastric surgery, Crohn's disease, nonspecific ulcerative colitis, celiac disease, Whipple's disease, syndrome of increased bacterial growth in the small intestine, indigestion, food intolerance acquired immunodeficiency).

14. DISSEMINATED INTRAVASCULAR COAGULATION (DIC) SYNDROME.

15. DYSPHAGIA (esophagitis, including gastroesophageal reflux disease, esophageal cancer, diffuse esophageal spasm, achalasia of the cardia, esophageal diverticula, dysphagia in central and peripheral nervous system, including diphtheria and edema, and musculoskeletal system, and muscle).

16. DIFFUSE AND LOCAL CYANOSIS (lung and heart disease, including congenital heart defects in Eisenmenger's syndrome and acquired heart defects - mitral stenosis, tricuspid valve insufficiency, heart and respiratory failure, croupous dystrophy and the formation of pathological generalized forms of infectious diseases).

17. DYSPEPSY (GERD, gastric cancer, chronic gastritis, IB and other gastric and duodenal ulcers, chronic pancreatitis, pancreatic cancer, toxic goiter, diabetes, hypo- and hyperthyroidism).

18. EDEMA (venous edema: chronic venous insufficiency, venous outflow disorders, deep vein thrombophlebitis; lymphatic edema: inflammatory, obstructive; fatty, orthostatic and idiopathic; in musculoskeletal, musculoskeletal system: vascular system with the development of heart failure, liver disease, in particular cirrhosis of the liver and other hypoproteinemic conditions: exudative enteropathy, malabsorption syndrome, alimentary and cachectic edema, edema due to medication and endocrine diseases: hypothyroidism).

19. EXTRACTION INTO THE PLEURAL CAVITY (tuberculosis, pneumonia, malignant tumors of the pleura and lungs, heart failure, acute pancreatitis, liver cirrhosis, nephrotic syndrome, chest injuries, hypothyroidism, systemic connective tissue diseases).

20. FEVER (rheumatoid arthritis, infectious endocarditis, malignant neoplasms, including leukemias, lymphomas, myeloma, lymphogranulomatosis, sepsis, tuberculosis, systemic connective tissue diseases, nodular polyarteritis, purulent chorocyngitis, ablangylangitis, ablongular cholangitis, , infectious diseases of different groups).

21. GASTROINTESTINAL BLEEDING (varicose veins of the esophagus, gastric erosions, peptic ulcer disease and other ulcers of the stomach and duodenum, malignant tumors, nonspecific ulcerative colitis, hemorrhagic vasculitis, hemorrhoids, paralysis, abdominal,

22. GENERALIZED OR LOCAL RASH (herpes infection, "childhood" infections, meningococcal infection).

23. GOITER (non-toxic goiter (endemic nodular); diffuse toxic goiter; thyroiditis - acute, subacute, autoimmune).

24. HEADACHE (meningitis and meningo-encephalitis, influenza, toxicosis syndrome in infectious diseases).

25. HEART MURMUR: congenital heart defects: ventricular septal defect, atrial septal defect, open ductus arteriosus, coarctation of the aorta, acquired heart defects: mitral stenosis, mitral valve insufficiency (organic and relative), mitral valve prolapse, anoral mitral valve prolapse aortic valve, hypertrophic cardiomyopathy, tricuspid valve insufficiency (organic and relative), innocent systolic murmur in young people).

26. HEARTBURN (GERD, chronic gastritis, dyspepsia, gastric and duodenal IH).

27. HEMOPTYSIS (pulmonary tuberculosis, malignant tumors of the bronchi and lungs, pneumonia, bronchiectasis, lung abscess, mitral stenosis, pulmonary infarction).

28. HEMORRHAGIC SYNDROME (hemorrhagic vasculitis, nodular polyarteritis, hypersensitive vasculitis, hemophilia, idiopathic thrombocytopenic purpura, disseminated intravascular coagulation syndrome, hemorrhagic fever, malignant disease, leptospirosis

29. HEPATOMEGALYA AND HEPATOLIENAL SYNDROME (acute and chronic hepatitis, cirrhosis and liver cancer, hepatic vein thrombosis, leukemia, lymphogranulomatosis, erythremia, right ventricular heart disease, in particular, constrictive pericarditis, generalized pericarditis,

30. JAUNDICE (acute and chronic hepatitis, cirrhosis and liver cancer, hemolytic anemia, gallstone disease, pancreatic cancer, vater nipple cancer, benign hyperbilirubinemia, malaria, leptospirosis, yersiniosis).

31. JOINT SYNDROME (rheumatoid arthritis, osteoarthritis, ankylosing spondylitis, reactive arthritis, gout, systemic lupus erythematosus, systemic scleroderma, acute rheumatic fever).

32. LEUKOCYTOSIS (lymphomas, acute and chronic lymphoid and myeloid leukemias, infectious mononucleosis, reactive lymphadenitis, sarcoidosis, metastases, sepsis).

33. LYMPHADENOPATHY (tuberculosis, sarcoidosis, infectious mononucleosis, systemic connective tissue diseases, metastatic lesions, acute and chronic lymphoid and myeloid leukemias, Hodgkin's disease, non-Hodgkin's malignant lymphomas, infectious septum, reactive lymphoma).

34. NEPHROTIC SYNDROME (acute and chronic glomerulonephritis, renal amyloidosis, diabetic nephropathy, myeloma).

35. OLIGOANURIA (prerenal, renal, postrenal ARF).

36. PAIN IN THE LIMBS AND BACK (ankylosing spondylitis, osteoarthritis, osteochondrosis of the spine, osteoporosis, dermatomyositis / polymyositis, neuropathy, including diabetes mellitus).

37. PARESIS AND PARALYSIS (polio, tick-borne encephalitis).

38. PORTAL HYPERTENSION (chronic viral hepatitis, cirrhosis and liver tumors, right ventricular heart failure, including constrictive pericardium, thrombosis of the hepatic veins, thrombosis of the portal vein or its branches, thrombosis, stenosis, obliteration of the lower cavity hepatic veins, etc.).

39. PULMONARY INFILTRATE (pneumonia, infiltrative pulmonary tuberculosis, eosinophilic pulmonary infiltrate, heart attack and lung cancer, benign lung tumors, pulmonary sarcoidosis, focal pneumosclerosis)

40. RHYTHM DISORDERS (extrasystole, atrial fibrillation and flutter, paroxysmal tachycardia).

41. SHOCK (hypovolemic, cardiogenic, obstructive, redistributive, in particular anaphylactic, septic).

42. SHORTNESS OF BREATH (in heart failure with preserved and reduced systolic function of the left ventricle; respiratory failure due to impaired bronchial patency and diseases of the lungs and pleura, including pneumonia, tuberculosis and pneumothorax; pulmonary vascular pathology, including pulmonary embolism and pulmonary embolism or respiratory muscles, hyperventilation syndrome in neurosis and neurocirculatory dystonia, lesions of the respiratory center in organic diseases of the brain, anemia, botulism).

43. URINARY SYNDROME (acute and chronic glomerulonephritis, urolithiasis, tubulointerstitial kidney disease, pyelonephritis, diabetic nephropathy, renal infarction, renal tuberculosis, hypernephroma, cystitis, urethritis, hepritis, hepritis)

44. WEIGHT LOSS (cancer, systemic lupus erythematosus, nodular polyarteritis, diseases of the digestive tract, lungs, including tuberculosis, cardiovascular system, alimentary and psychogenic weight loss, HIV infection).

LIST 2 (DISEASES)

Cardiovascular diseases

1. Essential hypertension (hypertension).
2. Secondary (symptomatic) hypertension:

- renal (renovascular, renoparenchymatous);
- endocrine (Itsenko-Cushing's syndrome and disease, pheochromocytoma, primary hyperaldosteronism, diffuse toxic goiter);
- coarctation of the aorta;
- isolated systolic arterial hypertension;

- hypertension during pregnancy;

3. Atherosclerosis.
4. Chronic coronary artery syndromes.
5. ACS: Acute myocardial infarction. Unstable angina.
6. Pericarditis.
7. Pulmonary hypertension.
8. Acquired heart defects: mitral, aortic and tricuspid valves, combined mitral and aortic defects.
9. Congenital heart defects: atrial, interventricular septal defect, open ductus arteriosus, aortic coarctation.
10. Infectious endocarditis.
11. Myocarditis and cardiomyopathy.
12. Pulmonary artery thromboembolism.
13. Heart rhythm disorders.
14. Impaired conduction of the heart.
15. Heart failure.

Respiratory diseases

1. Chronic obstructive pulmonary disease.
2. Bronchial asthma.
3. Pneumonia.
4. Pleuritis.
5. Infectious and destructive lung diseases.
6. Respiratory failure.

Gastrointestinal diseases

1. Chronic esophagitis and gastroesophageal reflux disease.
2. Functional disorders of the stomach, gallbladder and biliary tract, colon.
3. Chronic gastritis and duodenitis.
4. Peptic ulcer and symptomatic ulcers.
5. Chronic diseases of the small and large intestine (celiac disease and other enteropathies, nonspecific ulcerative colitis, Crohn's disease).
7. Gallstone disease; chronic cholecystitis.
8. Chronic hepatitis.
9. Cirrhosis of the liver.
10. Chronic pancreatitis.

Diseases of 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.
9. Ankylosing spondylitis.
10. Systemic vasculitis (hemorrhagic vasculitis, nodular polyarteritis).

Diseases of the urinary system

1. Pyelonephritis.
2. Tubulo-interstitial nephritis.
3. Acute and chronic glomerulonephritis.
4. Amyloidosis of the kidneys.
5. Nephrotic syndrome.
6. Chronic kidney disease (CKD).
7. Acute kidney injury (AKI).

Diseases of the hematopoietic system

1. Anemias
2. Acute and chronic leukemias.
3. Lymphomas.
4. Myeloma.
5. Hemophilia.
6. Thrombocytopenic purpura.

Diseases of the endocrine system

1. Diabetes mellitus.
2. Iodine deficiency diseases of the thyroid gland.
3. Hypothyroidism. Thyrotoxicosis.
4. Thyroiditis.
5. Thyroid cancer.
6. Diseases of the thyroid gland.
7. Acute and chronic insufficiency of the adrenal cortex.
8. Hormonally active tumors of the adrenal glands.
9. Diseases of the hypothalamic-pituitary system.
10. Obesity. Metabolic syndrome.
11. Diseases of the gonads.

LIST 3 (EMERGENCY STATES)

1. Cardiac and respiratory arrest.
2. Acute coronary syndrome.
3. Acute heart failure.
4. Shocks.
5. Acute respiratory failure.
6. Spontaneous pneumothorax.
7. Cardiac tamponade.
8. Pulmonary thromboembolism.
9. Hypertensive crisis.
10. Paroxysmal cardiac arrhythmias and cardiac conduction disorders (paroxysmal tachycardia and atrial fibrillation / flutter, high-grade atrioventricular block, Morgan-Edems-Stokes syndrome).
11. Coma.
12. Bleeding.
13. Thyrotoxic crisis.
14. Syncope.
15. Acute renal injury.
16. Quincke's edema / laryngeal edema.
17. Acute adrenal insufficiency.
18. Acute hepatic encephalopathy.

LIST 4 (LABORATORY AND INSTRUMENTAL METHODS OF INVESTIGATION)

1. Analysis of pleural fluid.
2. Analysis of ascitic fluid.
3. Analysis of synovial fluid.
4. Analysis of urine for diastase (amylase).
5. Analysis of urine by Nechiporenko.
6. Urine analysis according to Zymnytsky.
7. Acute phase blood parameters, total blood protein and its fractions.
8. Complete Blood Count (CBC).
9. Analysis of urine.
10. Glucose tolerance test, glycemic and glucosuric profile, C-peptide, HbA1c.

11. Biochemical parameters of serum iron metabolism.
12. Blood transaminases, total bilirubin and its fractions.
13. Coagulogram.
14. Biochemical markers of myocardial necrosis (Troponins).
15. D-dimer.
16. Cholesterol and fraction of lipoproteins.
17. Creatinine and blood urea, glomerular filtration rate.
18. Blood uric acid.
19. Blood electrolytes.
20. Alkaline phosphatase, alpha-amylase of blood.
21. General immunological profile of blood.
22. Serological reactions in autoimmune diseases.
23. Microbiological study of biological fluids and secretions.
24. Enzyme-linked immunosorbent assay, immunochemical, molecular biological blood tests.
25. Markers of viral hepatitis.
26. General analysis of sternal punctate.
27. General analysis of sputum.
28. Coprocytogram.
29. Fecal elastase-1.
30. Hormonal examination of the adrenal glands, pituitary gland, thyroid gland.
31. Study of the function of external respiration.
32. Electrocardiographic examination.
33. Echocardiography.
34. Physical exercise tests.
35. Ultrasonography, computed tomography and magnetic resonance imaging of the thyroid gland, adrenal glands.
36. X-ray contrast angiography.
37. X-ray examination of the abdominal cavity.
38. X-ray examination of the thoracic cavity.
39. X-ray study of the genitourinary system.
40. X-ray examination of the skull, bones and joints.
41. Examination of bile, pH-metry of the stomach.
42. Respiratory tests with 13C-urea, 13C-triglycerides, 13C-starch, 13C-lactose and respiratory hydrogen tests with glucose and lactulose.
43. Endoscopic examination of the bronchi.
44. Endoscopic examination of the digestive tract.
45. Cytological examination of a lymph node biopsy.

LIST 5 (MEDICAL MANIPULATIONS)

1) Measurement of blood pressure.
2) ECG-registration.
3) Cardiopulmonary resuscitation.
4) Catheterization the bladder with a soft catheter.
5) Injections of medical drugs.
6) Determination of blood group.

TO LEARN CLINICAL PHARMACOLOGY OF MEDICINES

1. α- and β-adrenomimetics and blockers.
2. Antianginal.
3. Antiarrhythmic.
4. Antibacterial.
5. Antihypertensive.
6. Anticoagulants.
7. Expectorants.

8. Hemostatics.
9. Glucocorticoids and cystotic immunosuppressants.
10. Diuretics.
11. Proton pump inhibitors.
12. H2-histamine blockers.
13. Nonsteroidal anti-inflammatory drugs.
14. Oral hypoglycemic drugs and insulin drugs.
15. Antiviral.
16. Solutions for detoxification therapy.
17. Solutions for rehydration therapy.

15.METHODS AND FORMS OF CONTROLS

Forms of control and assessment system are carried out in accordance with the requirements of the discipline program and the Instruction on the system of assessment of students' educational activities in the credit-module system of organization of the educational process, approved by the Ministry of Health of Ukraine (2005).

The current control of students' knowledge is carried out during practical classes and includes testing of knowledge of theoretical material and control of mastering practical skills, which are provided by methodical development of classes on relevant topics. Testing of students' knowledge is carried out with the help of oral face-to-face interviews, solving test problems of varying severity, solving typical and atypical situational problems, as well as during checking the correctness of laboratory research tasks.

Final control of students' knowledge is carried out at the last practical lesson after completion of the module in the form of final modular control. Students demonstrate the knowledge of theoretical material (according to the list of questions). In addition, students perform practical work that is attached to the quastion list and solve situational problems, which is also taken into account when assessing their knowledge.

Students who have attended all the classes provided by the curriculum of the discipline and received positive marks ("5", "4", "3"), as well as scored the number of points during the study of the module, not less than minimal, are able to pass final module control.

A student, who, for valid or not valid reasons, has missed classes, is allowed to rework the academic debt for a certain period.

Students who have completed the program of this module and received at least 70 points for their current success are admitted to the final module control.

The maximum number of points that a student can get during the module control is 80. Final control is considered credited if the student scored at least 50 points.

16. ASSESSMENT OF THE LEVEL OF STUDENT TRAINING IN THE DISCIPLINE

Assessment of current educational activities, modular control and discipline in general is carried out in accordance with the "Instructions for assessing the educational activities of students of Bukovynian State Medical University in the implementation of the European credit transfer system of educational process" (approved by the Academic Council of May 29, 2014, protocol № 9).

Assessment per module is defined as the sum of assessments of current learning activities (in points) and assessment of final module control (in points), which is set when assessing theoretical knowledge and practical skills in accordance with the lists defined by the discipline program.

The maximum number of points assigned to students when mastering each module (credit) - 200, including for current educational activities - 120 points (60%), according to the results of the modular final control - 80 points (40%).

The current control is carried out in accordance with the specific objectives of each practical lesson, the assimilation of content modules (intermediate control) - in the last lesson of each content module. For control, it is recommended to use the following tools to diagnose the level of preparation

of students: computer tests, monitoring the implementation of practical skills in the methods of examination of the patient with subsequent interpretation of the data, analysis of instrumental and laboratory tests.

Evaluation of current educational activities:

The weight of each topic within one module should be the same and is determined by the number of topics in the module.

The mark for the discipline "Internal Medicine" (module 2) is a rating and is determined taking into account the current educational activities of the student and estimation of mastering the modules provided by the program. The current assessment of students on the relevant topics is carried out according to the traditional 4-point system (excellent, good, satisfactory, unsatisfactory) with subsequent conversion into a multi-point scale.

The mark "excellent" is put in the case when the student knows the content of the lesson and lecture material in full, illustrating the answers with various examples; gives comprehensively accurate and clear answers without any leading questions; spreads the material without errors and inaccuracies; freely solves problems and performs practical tasks of varying complexity.

The mark "good" is put when the student knows the content of the lesson and understands it well, answers the questions correctly, consistently and systematically, but they are not exhaustive, although the student answers additional questions without errors; solves all problems and performs practical tasks having trouble only in the most severe cases.

The mark "satisfactory" is put to the student based on his knowledge of the whole content of the lesson and with a satisfactory level of its understanding. The student is able to solve modified (simplified) problems with the help of leading questions; solves problems and performs practical skills, having trouble in simple cases; is not able to systematically formulate the answer independently, but answers the directly asked questions correctly.

The mark "unsatisfactory" is put in cases when the student's knowledge and skills do not meet the requirements of "satisfactory" grade.

Criteria of student's estimation

Module, hours, ECTS-credits	**Theme-modules**	**Practical classes**	**Convertation in conventional marks**					**Minimal points**
			Conventional marks				**Individual work**	
			"5"	**"4"**	**"3"**	**"2"**		
Module 4 273/7,9	3	22	5,2	4,2	3,1	0	5,6	70
Module 5 198/6,6	4	21	5,5	4,4	3,2	0	4,5	70

Evaluation of the independent work:

Assessment of students' independent work, which is provided in the topic along with classroom work, is carried out during the current control of the topic in the relevant classroom. Assessment of topics that are submitted only for independent work and are not included in the topics of classroom classes, is controlled by the final module control.

The number of points awarded for different types of individual tasks depends on their volume and significance. They are added to the amount of points earned by the student for the current academic activity.

Maximum number of points for individual work:

- Module 4 – 5,6 points ("excellent"), 4,6 points ("good"), 3,6 points ("satisfactory");
- Module 5 – 7,6 points ("excellent"), 6,6 points ("good"), 5,6 points ("satisfactory").

Independent work of students, which is provided in the topic along with classroom work, is assessed during the current control of the topic in the relevant lesson. Assimilation of topics that are submitted only for independent work is controlled during the final module control.

Final module control.

Students who have completed the program of this module and received at least 70 points for the current success, as well as positively passed the admission test control on the distance learning server of BSMU are admitted to the final module control.

The final modular control of module 4 "Modern practice of internal medicine: cardiology, rhematology, nephrology" involves 2 steps:

First step includes practical skills:

1. The answer to 60 questions of test control (the answer is estimated in 5-4-3-0 points),
2. Analysis and interpretation of the ECG (5 options) (the answer is estimated in 10-7-4-0 points)
3. Situational problem №1 (the answer is estimated in 15-12-9-0 points)
4. Situational problem №2 (the answer is estimated in 15-12-9-0 points)

In total student can receive 45-35-25 points

Second step is oral answering

Oral answer to 4 questions (from the list specified at the end of the program) each answer is estimated in 7-6-5-0 points and the decision of a situational emergency problem (the answer is estimated in 7-6-5-0 points)

In total student can receive 35-25-20 points

Total amount of points is the sum of these 2 steps accordingly: In maximum number of points that a student can receive during the module control is **80, minimal number – 50.**

Incentive points may be added to the number of points in the discipline by students who have scientific publications or won prizes for participating in the Olympiad in the discipline among Ukrainian universities, etc.

The objectivity of the evaluation of student learning activities will be checked by statistical methods (correlation coefficient between current performance and the results of the final module control).

Final module control from module 5 "Modern practice of internal medicine: gastroenterology, pulmonology, hematology, endocrinology" involves 5 stages:

1. Answer to 60 test control questions,
2. Interpretation of instrumental research methods;
3. Solving two situational problems;
4. Oral answer to 4 questions (from the list at the end of the module)
5. Solving a detailed clinical problem from the emergencies mentioned in this module.

In details:

1. The answer to 60 questions of test control (the answer is estimated in 5-4-3-0 points),
2. Analysis and interpretation of instrumental research methods (the answer is estimated in 10-7-4-0 points)
3. Situational problem №1and №2 (the answer is estimated in 15-12-9-0 points both)
4. Oral answer to 4 questions (from the list specified at the end of the program). Each answer is estimated in 7-6-5-0 points.
5. Solving of a situational emergency problem (the answer is estimated in 7-6-5-0 points)

Total amount of points is the sum of these 2 steps accordingly: In maximum number of points that a student can receive during the module control is **80, minimal number – 50.**

Incentive points may be added to the number of points in the discipline by students who have scientific publications or won prizes for participating in the Olympiad in the discipline among Ukrainian universities, etc.

The objectivity of the evaluation of student learning activities will be checked by statistical methods (correlation coefficient between current performance and the results of the final module control).

Evaluation of the discipline "Internal Medicine"

The grade in internal medicine is given to students who have passed all modules in the discipline. The grade in the discipline is the average of the grades for the modules on which the discipline is structured. Incentive points by the decision of the Academic Council may be added to the number of points in the discipline for students who have scientific publications or won prizes for participation in the Olympiad in the discipline among Ukrainian universities and more.

The objectivity of the assessment of students' learning activities should be checked by statistical methods (correlation coefficient between current performance and the results of the final module control).

Determining the number of points that the student scored in the discipline. The number of points that a student scored in the discipline is defined as the arithmetic mean of the number of points in all modules of the discipline "Internal Medicine":

Module 1 (4th year) + Module 2 (5th year) + Module 3 (5th year) + Module 4 (6th year) + Module 5 (6th year)/5.

Conversion of the number of points from the discipline into grades on the ECTS scale and on a four-point (traditional) scale.

Points in the discipline are independently converted into the ECTS scale (in the relevant deans' offices) for inclusion in the Diploma supplement (supplement to the diploma of international standard) and in the four-point scale - "5", "4", "3", "2" (on departments).

Evaluation of the discipline "Internal Medicine"

The mark for the studing of academic discipline "Internal medicine" is given to students who have passed all 5 modules of the discipline, it meens in the 6th year. Discipline scores for students who have successfully completed the discipline program are converted **by the department** into a traditional four-point scale according to absolute criteria as shown in the table below.

Score on a 200-point scale	**Score on a four-point scale**
From 180 to 200 points	«5»
From 150 to 179 points	«4»
From 149 to 70 points	«3»
Below the minimum number of points that a student must score (70)	«2»

Students studying on the same faculty, course, specialty, based on the number of points scored in the discipline, are ranked on the ECTS scale as follows:

Grade ECTS	**Statistical indicator**
«A»	The best 10% of students
«B»	The next 25% of students
«C»	The next 30% of students
«D»	The next 25% of students
«E»	The last 10% of students

Ranking with the assignment of grades "A", "B", "C", "D", "E" is carried out by the **deans** for students of the relevant course and faculty who study in one specialty and have **successfully** completed the studying of the discipline.

Students who receive grades "FX" and "F" ("2") are not included in the list of ranked students, even after re-taking the module. Such students automatically receive a score of "E" after re-assembly.

Grades "FX", "F" ("2") are given to students who have not passed at least one module of the discipline after completing its study.

The grade "FX" is given to students who have scored the minimum number of points for the current academic activity, but who do not pass the final module control.

This category of students has the right to repass the final module control according to the approved schedule (but not later than the beginning of the next semester). Repass of the final module control is allowed **no more than twice**.

Grade "F" is given to students who have attended all classes in the module, but did not score the minimum number of points for the current educational activity and are not admitted to the final module control. This category of students has the right to re-study the module.

Assessment of current educational activities, modular control and discipline in general is carried out in accordance with the "Instructions for assessing the educational activities of students of Bukovinian State Medical University in the implementation of the European Credit Transfer System of educational process" (approved by the Academic Council of May 29, 2014, protocol № 9).

17. LITERATURE

17.1 Basic:

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2. Bertram G Katzung Basic & clinical pharmacology New York: McGraw-Hill, 2018:786 p.
3. CURRENT Medical Diagnosis & Treatment. FIFTY-SIXTH EDITION. Edited by Maxine A. Papadakis, Stephen J. McPhee, Michael W. Rabow, USA. University of California, San Francisco; 2017:1732 p.
4. Davidson's Principles and Practice of Medicine, 23rd Edition by: Stuart H. Ralston & Ian Penman & Mark Strachan & Richard Hobson; 2018:1230 p.
5. Early Detection of Occupational Diseases by World Health Organization, 2017:453 p.

17.2 Additional sources:

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2. Harrison's Principles of Internal Medicine, McGraw-Hill Professional 20th edition, 2018:3000 p.
3. HEROLD's Internal Medicine (Second Edition) - Vol. 1; 2014: 455 p.
4. Kumar and Clark Clinical Medicine, 9th edition; 2016:1456 p.
5. Morris J. Brown, Pankaj Sharma, Fraz A. Mir, Peter N. Bennett Clinical Pharmacology - E-Book 12th edition. Elsiever, 2018:976 p.
6. Müller, Markus Clinical Pharmacology: Current Topics and Case Studies, 2016:470 p
7. Occupational Diseases: textbook (III—IV a. l.) / V.A. Kapustnik, I.F. Kostyuk, H.O. Bondarenko et al.; edited by V.A. Kapustnik, I.F. Kostyuk. — 2nd edition, 2018, 496 p.
8. Oxford Handbook of Clinical Medicine, 10th edition, 2017:567 p.
9. Textbook of Occupational Medicine Practice: 4th Edition 4th Edition by David Soo Quee Koh (Editor), Consultant in Occupational Medicine Institute of Occupational Health Tar-Ching Aw (Editor), 2017:956 p.
10. Acute and Chronic Heart Failure Guidelines. ESC Clinical Practice Guidelines Reference EHJ (2016) 37 (27):2129-2200 - https://doi.org/10.1093/eurheartj/ehw128.
11. Guidelines for the diagnosis and treatment of chronic heart failure: executive summary (update 2017): The Task Force for the Diagnosis and Treatment of Chronic Heart Failure of the European Society of Cardiology. Eur Heart J Jun 01, 2017.
12. Guidelines for the Management of Acute Heart Failure: Part II. Treatment of Acute Heart Failure. Korean Circ J. 2019 Jan; 49(1): 22–45.
13. Guidelines for the management of acute joint bleeds and chronic synovitis in haemophilia. A United Kingdom Haemophilia Centre Doctors' Organisation (UKHCDO) guideline, 2017 https://doi.org/10.1111/hae.13201
14. Guidelines for the management of arterial hypertension: The Task Force for the Management of Arterial Hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC). Eur Heart J Jun 02, 2017; 28: 1462-1536.
15. Guidelines for the management of arterial hypertension: The Task Force for the management of arterial hypertension of the European Society of Cardiology (ESC) and the European Society of Hypertension (ESH). European Heart Journal, Volume 39, Issue 33, 01 September 2018:3021–3104.

16. Guidelines for the management of atrial fibrillation developed in collaboration with EACTS. European Heart Journal, Volume 37, Issue 38, 7 October 2016:2893–2962.
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19. Guidelines for the management of valvular heart disease. European Heart Journal. 2017. doi: 10.1093/eurheartj/ehx391
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21. Guidelines on the management of stable angina pectoris: executive summary: The Task Force on the Management of Stable Angina Pectoris of the European Society of Cardiology. Eur Heart J Jun 01, 2017; 27: 1341-1381.

17.3 Information resources:

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- http://intl-ajrccm.atsjournals.org/
- http://thorax.bmjjournals.com/
- http://ukrcardio.org/
- http://www.cardiolog.org/
- http://www.chestjournal.org/
- http://www.consilium-medicum.com/
- http://www.escardio.org/
- http://www.ginasthma.org/
- http://www.goldcopd.org/f
- http://www.medscape.com/
- http://www.ncbi.nlm.nih.gov
- http://www.niaid.nih.gov/
- http://www.phassociation.org/
- http://www.resent.org/
- http://www.thoracic.org/
  http://www.thoracic.org/

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