MINISTRY OF HEALTH OF UKRAINE
BUKOVINIAN STATE MEDICAL UNIVERSUTY

"APPROVE"
Vice-rector for scientific and pedagogical work
Associate Professor _____ I.V. Gerush
"24" 08 2021

STUDENT GUIDE
(SYLLABUS)
of studying the discipline
"Instrumental methods of examination in the clinic of internal medicine"
(selective discipline)

Field of knowledge 22 Healthcare

Specialty 222 Medicine

Educational degree master

Educational year 4

Form of study full-time

Departmaent propedeutic of internal medicine

Approved at the methodical session of the department of propedeutic of internal diseases
"08" 06 2021 (Protocol №23).

Head of the Department _____ (T.O. Ilashchuk)

Approved by the subject methodical commission of therapeutic discipline
"29" 06 2021 (Protocol № 13).

Chairman of the subject
methodical commission _____ (V.K. Tashchuk)

Chernivtsi – 2021

1. GENERAL INFORMATION ABOUT SCIENTIFIC AND PEDAGOGICAL WORKERS WHO TEACH THE SUBJECT

Department	**Propedeutic of internal medicine**
Surname, name of scientific and pedagogical staff, scientific degree, academic status	Ilaschuk Tetiana – Head of the Department of Propedeutic of Internal Diseases, DSc, Professor, Ilaschuk_tetiana@bsmu.edu.ua; Prysyazhnyuk Vasyl, DSc, Associate Professor prysjazhnjuk.vasyl@bsmu.edu.ua Bobkovych Kateryna, PhD., Associate Professor bobkovych.kateryna@bsmu.edu.ua Hlubochenko Olena, PhD., Associate Professor glubochenko.olena@bsmu.edu.ua Doholich Oleksandra, PhD., Associate Professor doholich.oleksandra@bsmu.edu.ua Malkovych Nataliia, PhD., Associate Professor malkovich@bsmu.edu.ua Mykytiuk Oksana, PhD., Associate Professor mykytiuk.oksana@bsmu.edu.ua
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2. GENERAL INFORMATION ABOUT THE DISCIPLINE

Status of the discipline	normative
Number of credits	3
Total amount of hours	90
Lectures	-
Practical lessons	20
Individual work	70
Type of final control	credit

3. DESCRIPTION OF THE DISCIPLINE (ABSTRACT)

Instrumental methods of examination in the clinic of internal medicine is a discipline that is studied by students studying at the second (master's) level, field of knowledge 22 "Health" in the specialty 222 "Medicine" in the 4th year of study. The study of the discipline is allocated 3 ECTS credits - 90 hours (20 classroom and 70 hours of independent student work).

The subject of study of the discipline is "Instrumental methods of diagnosis in internal medicine". The program of the discipline is structured as 1 module, which includes 3 content modules. The amount of student workload is described in ECTS credits, which are credited to students upon successful completion of the relevant module (credit).

4. POLICY OF THE SUBJECT

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);
- Instructions for assessing the educational activities of BSMU students in the implementation of the European credit transfer system of the 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 missed and uncredited classes (https://www.bsmu.edu.ua/wp-content/uploads/2019/12/reworks.pdf);
- Regulations on the appeal of the results of the final control of knowledge of higher education (https://www.bsmu.edu.ua/wp-content/uploads/2020/07/polozhennya-pro-apelyacziyu-rezultativ-pidsumkovogo-kontrolyu-znan.pdf);
- Codex of Academic Integrity (https://www.bsmu.edu.ua/wp-content/uploads/2019/12/kodeks_academic_faith.pdf);
- Moral and ethical codex 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 "Bucovynian 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;
- cheating during control of knowledge is 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, to be tolerant, friendly and balanced 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 respectable reasons).

4.5. Deadline policy and completion of missed or uncredited classes by higher education students:

- reworks of missed classes are held according to the schedule of missed or uncredited classes and consultations.

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

List of disciplines, on which the study of academic discipline is based	List of academic disciplines, for which the basis is laid as a result of studying the discipline
Human anatomy	internal medicine
human physiology	
medical biology	
medical and biological physics	
pathological physiology	
pathological anatomy	
propaedeutics of internal medicine	

6. PURPOSE AND TASKS OF THE EDDUCATIONAL DISCIPLINE:

6.1. The purpose of teaching the discipline - the acquisition of knowledge and skills necessary for the appointment of appropriate instrumental research for the diagnosis of diseases of internal organs, their implementation and interpretation of the results. The program is designed to enable students not only to master the basic theoretical aspects of the discipline, but also to acquire practical skills in conducting instrumental research, including electrocardiography, spirometry, ultrasound.

6.2.Main tasks:

- study of techniques, general indications and contraindications for instrumental research in patients with diseases of the internal organs;
- formation of the corresponding diagnostic program necessary for substantiation of the clinical diagnosis,
- evaluation of research results.

7. COMPETENCIES, THE FORMATION OF WHICH IS CONTRIBUTED BY THE DISCIPLINE:

Competences and learning outcomes, the formation of which is facilitated by the discipline (relationship with the normative content of training of higher education, formulated in terms of learning outcomes in the Standard).

According to the requirements the standard discipline provides getting the following *competences:*

7.1. ***Integral competence***: ability to solve typical and complex specialized tasks and practical problems in professional activity or in the process of training, to apply the acquired knowledge, skills, abilities and personal qualities, abilities, values to perform tasks of any level of complexity during professional activity or training.

7.2. ***General competencies*****(GC)**:

GC1. Ability for abstract thinking, analysis and synthesis, ability to learn and be modernly trained.
GC2. Ability to apply knowledge in practice.
GC 3. Knowledge and understanding of the subject area and understanding of professional activity
GC 4. Ability to adapt and act in a new situation.
GC 5. Ability to make an informed decision; work in a team; interpersonal skills.
GC 6. Ability to communicate in the state language both orally and in writing; ability to communicate in a foreign language
GC 7. Skills of using the information and communication technologies.
GC 8. Definiteness and perseverance in terms of tasks and responsibilities
GC 9. Ability to act in a socially responsible and conscious manner.

7.3. Professional competencies of the specialty(PC)
PC2. Ability to interpret the results of laboratory and instrumental studies.
PC3. Ability to establish a preliminary and clinical diagnosis of the disease
PC17 Ability to keep medical records
PC18 Ability to conduct epidemiological and medical-statistical studies of public health; processing of state, social, economic and medical information

8. RESULTS OF STUDYING THE DISCIPLINE.

As a result of studying the discipline student must:

8.1. Know:
1. Instrumental methods of diagnosis in the clinic of internal medicine (cardiology, pulmonology, gastroenterology);
2. The main indications and contraindications to the use of instrumental research methods according to the latest recommendations (ECG, Holter monitoring of ECG and blood pressure, echocardiography, stress tests, coronary ventriculography, spirography, peak flowmetry, pulse oximetry, bronchoscopy, bronchoscopy, bronchoscopy, bronchoscopy, bronchoscopy) pancreas, liver elastography, esophagogastroduodenoscopy, pH-metry, colonoscopy, capsular endoscopy, wireless capsular pH-metry);
3. Diagnostic value of instrumental methods in internal medicine in accordance with the recommendations;
4. The list of necessary instrumental methods of diagnostics for substantiation of the clinical diagnosis in clinic of internal diseases.

8.2. Be able:
1. Determine the range of instrumental studies depending on the suspicion of the disease.
2. Record ECG and spirography.

3. Interpret the results of basic and new instrumental methods in therapeutic practice (ECG, Holter monitoring of ECG and blood pressure, echocardiography, stress tests, coronary ventriculography, spirography, peak flowmetry, pulse oximetry, bronchoscopy, bronchoscopy, myocardial infarction, bronchoscopy, liver elastography; esophagogastroduodenoscopy, pH-metry, colonoscopy; capsular endoscopy, wireless capsular pH-metry).

Demonstrate:

PLO 2. To collect information about the general condition of the patient; to assess psychomotor and physical development of the patient, the state of the organs of the maxillofacial area; to evaluate the information concerning the diagnosis based on the results of instrumental studies (according to the list 4).

PLO 3.2 In the conditions of a health care institution, its subdivision:

- Assign an instrumental examination of the patient (according to list 4) by making an informed decision, based on the most probable or syndromic diagnosis, according to standard schemes, using knowledge about the person, his organs and systems, adhering to relevant ethical and legal norms.

- Carry out differential diagnosis of diseases (according to list 2) by making an informed decision, according to a certain algorithm, using the most probable or syndromic diagnosis, instrumental examination data, knowledge about the person, his organs and systems, adhering to relevant ethical and legal norms.

- Establish a preliminary clinical diagnosis (according to list 2) by making an informed decision and logical analysis, using the most probable or syndromic diagnosis, laboratory and instrumental examination data, conclusions of differential diagnosis, knowledge of the person, his organs and systems, adhering to relevant ethical and legal norms.

PLO 17 Under the conditions of the health care institution, its subdivision: to keep medical documentation on the patient and the population (outpatient / inpatient card), using standard technology, on the basis of normative documents.

PLO 18.1 On the territory of service according to standard methods of descriptive, analytical epidemiological and medical-statistical researches: to carry out screening concerning detection of the most important non-communicable diseases; to assess morbidity, including chronic non-communicable diseases, disability, mortality, and integrated health indicators in the dynamics and in comparison with average static data; identify risk factors for the occurrence and course of diseases; to form risk groups of the population.

PLO 18.2 Under any circumstances, using standard procedures, including modern computer information technology, be able to: determine the source and / or location of the required information depending on its type; receive the necessary information from a specific source; analyze the information obtained.

9. INFORMATION SCOPE OF THE COURSE

Module. "Instrumental methods of diagnosis in internal medicine"

Content module 1. Instrumental methods in cardiology.

Specific goals:

1. Determine the list of necessary instrumental studies for the diagnosis of cardiovascular disease.

2. Carry out ECG recording.

3. Interpret the results of instrumental research methods in cardiology.

4. Identify key diagnostic criteria to justify the cardiac clinical diagnosis.

Content module 2.. Instrumental methods in pulmonology

Specific goals:

1. Determine the list of necessary instrumental studies for the diagnosis of respiratory diseases.

2. Register spirography.

3. Interpret the results of instrumental research methods in pulmonology.

4. To determine key diagnostic criteria for substantiation of pulmonological clinical diagnosis.

Content module 3.. Instrumental methods in gastroenterology

1. To determine the list of necessary instrumental researches for diagnostics of diseases of digestive organs.

2. Interpret the results of instrumental research methods in gastroenterology.

3. To determine key diagnostic criteria for substantiation of gastroenterological clinical diagnosis.

Topic 1. Instrumental methods in cardiology. Electrocardiography: registration, interpretation of indicators in patients with impaired excitability, conduction, coronary heart disease. The value of Holter monitoring of ECG and blood pressure in the diagnosis of diseases of the cardiovascular system.

Electrocardiography. Bioelectric aspects of the method. ECG registration. The main elements of the ECG: the value of the duration and amplitude of the teeth, the duration of the intervals and segments are normal. Algorithm and technique of ECG decoding. ECG changes in patients with excitability (sinus tachycardia, sinus bradycardia, sinus arrhythmia, atrial and ventricular arrhythmias, paroxysmal atrial and ventricular tachycardia, flutter and ventricular fibrillation, hypoventricular, bloating), and bloating Morgan-Adams-Stokes, Frederick's syndrome, WPW-syndrome, QT interval prolongation), coronary heart disease. Holter ECG and blood pressure monitoring. Methods of conducting. Interpretation of indicators. Significance in the diagnosis of diseases of the cardiovascular system.

Topic 2. Instrumental methods in cardiology. Echocardiography. Basic indicators, their interpretation. Stress tests in cardiology: methods, diagnostic value, indications and contraindications. Coronary ventriculography: technique, diagnostic value, indications and contraindications.

Echocardiography. Methods of conducting. Basic indicators, their interpretation. Diagnosis of left ventricular hypertrophy according to echocardiography. Assessment of systolic and diastolic heart function using echocardiography. The role of echocardiographic examination in detecting

complications of myocardial infarction. Echocardiographic diagnosis of congenital and acquired heart defects.

The concept of types of stress tests. Indications and contraindications to stress tests with dosed exercise. Determining the prognosis and further tactics of treatment of patients with acute myocardial infarction using stress tests. The value of pharmacological tests in the diagnosis of coronary heart disease. Stress echocardiography and its use in patients with regional contractility.

Coronary ventriculography: technique, diagnostic value, indications and contraindications.

Topic 3. Instrumental methods of diagnosis in pulmonology. Spirography: determination of indications and contraindications, registration, interpretation of indicators. Diagnostic value of peak flowmetry, pulse oximetry. Bronchoscopy, bronchography. Technique, diagnostic value, indications and contraindications.

The concept of basic methods of instrumental research of respiratory diseases. Methods for determining the state of external respiration function and bronchial reactivity. Registration of spirography and peak flowmetry. The main indicators of the function of external respiration. Diagnostic possibilities of spirography and peak flowmetry. Pulse oximetry in the diagnosis of diseases of internal organs. Conducting the method and interpreting the results. Indications and contraindications for endoscopic examination of the bronchi. Preparation of the patient for bronchoscopy and technique of its carrying out. Diagnostic possibilities of bronchoscopy. Diagnostic value of bronchography.

Topic 4. Instrumental methods of diagnosis in gastroenterology. Ultrasound of the liver, gallbladder, pancreas. liver elastography; esophagogastroduodenoscopy, pH-metry, colonoscopy, capsule endoscopy; wireless capsule pH-metry. Methods, diagnostic value, indications and contraindications.

The concept of basic methods of functional research of diseases of the gastrointestinal tract. Indications and contraindications for endoscopic examination of the gastrointestinal tract. Preparation of the patient for FGDS and technique of its carrying out. Evaluation of gastric secretory function using intragastric and intraesophageal pH-metry. Capsule endoscopy and wireless capsule pH-metry. Advantages of the method, diagnostic value.

Assessment of the hepatobiliary system and pancreas. The value of ultrasound to determine the functional state of the liver, gallbladder and pancreas, patient preparation, methods, analysis and interpretation of results. Diagnostic possibilities of radionuclide methods of liver and pancreas examination.

10. **STRUCTURE OF THE COURSE**

Names of content modules and topics	Number of hours				
	Total	including			
		Classroom		Independent student work	Individual work
		Lectures	Practicals		
1	2	3	4	5	6
Module: «Instrumental methods of examination in the clinic of internal medicine»					

Content module 1. Instrumental methods in cardiology					
Topic 1. Instrumental methods in cardiology. Electrocardiography: registration, interpretation of indicators in patients with impaired excitability, conduction, coronary heart disease. The value of Holter monitoring of ECG and blood pressure in the diagnosis of diseases of the cardiovascular system.	20		5	15	
Topic 2. Instrumental methods in cardiology. Echocardiography. Basic indicators, their interpretation. Stress tests in cardiology: methods, diagnostic value, indications and contraindications. Coronary ventriculography: technique, diagnostic value, indications and contraindications.	20		5	15	
Total on the content module 1	40		10	30	
Content module 2.. Instrumental methods in pulmonology					
Topic 3. Instrumental methods of diagnosis in pulmonology. Spirography: determination of indications and contraindications, registration, interpretation of indicators. Diagnostic value of peak flowmetry, pulse oximetry. Bronchoscopy, bronchography. Technique, diagnostic value, indications and contraindications.	25		5	20	
Total on the content module 2	25		5	20	
Content module 3. Instrumental methods in gastroenterology					
Topic 4. Instrumental methods of diagnosis in gastroenterology. Ultrasound of the liver, gallbladder, pancreas. liver elastography; esophagogastroduodenoscopy, pH-metry, colonoscopy, capsule	25		5	20	

endoscopy; wireless capsule pH-metry. Methods, diagnostic value, indications and contraindications.					
Total on the content module 2	25		5	20	
TOTAL HOURS	90		20	70	

11. **THEMATIC PLAN OF PRACTICAL (SEMINAR) LESSONS**

№	**Topic**	**Number of hours**
1.	Instrumental methods in cardiology. Electrocardiography: registration, interpretation of indicators in patients with impaired excitability, conduction, coronary heart disease. The value of Holter monitoring of ECG and blood pressure in the diagnosis of diseases of the cardiovascular system.	5
2.	Instrumental methods in cardiology. Echocardiography. Basic indicators, their interpretation. Stress tests in cardiology: methods, diagnostic value, indications and contraindications. Coronary ventriculography: technique, diagnostic value, indications and contraindications.	5
3.	Instrumental methods of diagnosis in pulmonology. Spirography: determination of indications and contraindications, registration, interpretation of indicators. Diagnostic value of peak flowmetry, pulse oximetry. Bronchoscopy, bronchography. Technique, diagnostic value, indications and contraindications.	5
4.	Instrumental methods of diagnosis in gastroenterology. Ultrasound of the liver, gallbladder, pancreas. liver elastography; esophagogastroduodenoscopy, pH-metry, colonoscopy, capsule endoscopy; wireless capsule pH-metry. Methods, diagnostic value, indications and contraindications	5
	Total	**20**

12. **TOPICS OF INDIVIDUAL WORK**

№	**Types of VTS**	**Number of hours**	**Types of control**
1.	Preparation for practical classes, including filling the syllabus according to the list of topics for individual work.	64	Current control in practical classes
2.	Preparation of a report on one of the ISRS topics:	6	Control in practical classes

	Total hours	**70**	

13. **LIST OF INDIVIDUAL TASKS**

1. Writing an abstract "ECG-diagnosis of cardiac arrhythmias and conduction."
2. Writing an abstract "ECG-diagnosis of coronary heart disease."
3. Writing an abstract "Echocardiographic diagnosis of diseases of the circulatory system."
4. Writing an abstract "The use of stress tests to diagnose and determine the prognosis of diseases of the circulatory system."
5. Writing an abstract "Spirography as an important method of diagnosing respiratory diseases."
6. Writing an abstract "The value of peak flowmetry in the diagnosis of obstructive pulmonary disease."
7. Writing an abstract "Bronchoscopy. Diagnostic value. Indications and contraindications to carrying out ».
8. Writing an abstract "Bronchography. Diagnostic value. Indications and contraindications to carrying out ».
9. Writing an abstract "Instrumental methods for diagnosing diseases of the gastrointestinal tract.
10. Writing an abstract "Instrumental methods for diagnosing diseases of the hepatobiliary system and pancreas.

14. **LIST OF THEORETICAL QUESTIONS TO THE FINAL MODULE CONTROL**

1. Electrocardiography. Bioelectric aspects of the method. ECG registration.
2. Algorithm and technique of ECG decoding: values of duration and amplitude of teeth, duration of intervals and segments are normal.
3. ECG signs in patients with excitability disorders (sinus tachycardia, sinus bradycardia, sinus arrhythmia).
4. ECG signs in patients with excitability disorders (atrial and ventricular arrhythmias)
5. ECG signs in patients with excitability disorders (paroxysmal atrial and ventricular tachycardia).
6. ECG signs in patients with excitability disorders (flutter and ventricular fibrillation)
7. ECG signs in patients with excitability disorders (flutter and atrial fibrillation).
8. ECG signs in patients with conduction disorders (sinoatrial block)
9. ECG signs in patients with conduction disorders (atrioventricular block).
10. ECG signs in patients with conduction disorders (blockade of the legs of the His bundle)
11. ECG signs of Morgan-Adams-Stokes syndrome, Frederick's syndrome.
12. ECG diagnosis of WPW syndrome
13. The syndrome of prolongation of the Q-T interval on the ECG
14. ECG signs in patients with coronary heart disease.
15. Holter monitoring of ECG and blood pressure. Methods of conducting. Interpretation of indicators. Significance in the diagnosis of diseases of the cardiovascular system.
16. Echocardiography. Methods of conducting. Basic indicators, their interpretation. Diagnosis of left ventricular hypertrophy according to echocardiography.

17. Assessment of systolic and diastolic heart function using echocardiography. The role of echocardiographic examination in detecting complications of myocardial infarction.
18. Echocardiographic diagnosis of congenital and acquired heart defects.
19 The concept of types of stress tests. Indications and contraindications to stress tests with dosed exercise.
20. The value of pharmacological tests in the diagnosis of coronary heart disease.
21. Stress echocardiography and its use in patients with regional contractility.
22. Coronary ventriculography: technique, diagnostic value, indications and contraindications.
23. The concept of basic methods of instrumental research of respiratory diseases.
24. Methods for determining the state of external respiration function and bronchial reactivity. Spirography.
25. The value of spirography in the diagnosis of diseases with bronchial obstruction syndrome.
26. Peak flowmetry. Diagnostic value in the differential diagnosis of bronchoobstructive syndrome.
27. Pulse oximetry in the diagnosis of diseases of internal organs.
28. Indications and contraindications for endoscopic examination of the bronchi. Preparation of the patient for bronchoscopy and technique of its carrying out.
29. Diagnostic possibilities of bronchoscopy.
30. Diagnostic value of bronchography.
31. The concept of basic research methods of diseases of the gastrointestinal tract.
32. Indications and contraindications for endoscopic examination of the gastrointestinal tract.
33. Preparation of the patient for esophagogastroduodenoscopy and its technique.
34. Assessment of secretory function of the stomach using intragastric and intraesophageal pH-metry.
35. Capsule endoscopy. Advantages of the method, diagnostic value.
36. Diagnostic value of wireless capsule pH-metry.
37. Assessment of the hepatobiliary system and pancreas. The value of ultrasound to determine the functional state of the liver, gallbladder and pancreas.
38. Patient preparation, methods, analysis and interpretation of the results of ultrasound examination of internal organs.
39. Elastography of the liver. Diagnostic value
40. Diagnostic possibilities of radionuclide methods of research of a liver and a pancreas.

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

1. ECG registration.
2. Interpretation of ECG in patients with impaired conduction.
4. Interpretation of ECG in patients with excitability
5. Interpretation of the ECG in patients with coronary heart disease.
6. Interpretation of Holter ECG and blood pressure monitoring. Significance in the diagnosis of diseases of the cardiovascular system.
7. Interpretation of echocardiography. Assessment of systolic and diastolic heart function using echocardiography.
8. Interpretation of the results of stress tests with dosed exercise.
9. Registration of spirography.
10. Evaluation of restrictive and obstructive changes by spirography. Determination of the degree of pulmonary insufficiency.
11. Interpretation of spirography results in patients with bronchial obstruction syndrome.

12. Interpretation of the results of peak flow in patients with bronchial obstruction syndrome.

13. Interpretation of pulse oximetry results.

14. Assessment of secretory function of the stomach using intragastric and intraesophageal pH-metry.

15. Assessment of the hepatobiliary system and pancreas according to ultrasound examination of the liver, gallbladder and pancreas.

16. METHODS AND FORMS OF IMPLEMENTATION OF THE CONTROL

The initial level of knowledge is determined in the first practical lesson with the help of a written test, which consists of test tasks.

Current control is carried out at each practical lesson in accordance with the specific objectives of each topic. When evaluating students' learning activities, it is necessary to give preference to standardized methods of control: testing, structured written work, structured according to the procedure of control of practical skills in conditions close to real ones.

The final module control is carried out upon completion of the study of all topics of the module in the last lesson of the module. Students who have attended all the classes provided by the program and have scored at least the minimum number of points during the study of the module are admitted to the final control.

Forms of final module control of learning success should be standardized and include control of theoretical and practical training and be carried out in the form of solving test problems, situational problems, demonstration of skills on phantoms and in the patient's bed.

17. EVALUATION OF THE LEVEL OF STUDENT TRAINING IN THE DISCIPLINE

The maximum number of points for mastering each module (credit) - 200 points obtained during the current educational activity

Evaluation of current educational activities

During the assessment of mastering each topic of the module the student is graded on a 4-point (traditional) scale using the university's accepted evaluation criteria for the discipline. This takes into account all types of work provided by the methodological development for the study of the topic. The student must receive grades on each topic.

A grade of **"excellent"** is given to a student who has mastered the material deeply and firmly and teaches it consistently, competently and logically, in response to which theory is closely linked to practice. At the same time, the student has no difficulties in changing the task, freely copes with tasks, questions and other uses of knowledge, shows knowledge of monographic literature, correctly justifies the decision, has diverse practical skills. Corresponds to 50 points.

The grade **"good"** is given to a student who knows the material well, competently and essentially answers it, who does not make significant mistakes in answering questions, correctly uses theoretical positions in solving practical problems and tasks, has the necessary skills and techniques. Corresponds to 40 points.

The grade **"satisfactory"** is given to a student who has knowledge of the basic material, but has not mastered its details, makes mistakes, does not form correctly enough, breaks the sequence in the presentation of material and has difficulty in performing practical work. Corresponds to 30 points.

The grade **"unsatisfactory"** is given to a student who does not know part of the program material, makes significant mistakes, is unsure, with great difficulty performs practical skills.

Grades on the traditional scale are converted into points depending on the number of topics in the module.

The final score for current activities is defined as the arithmetic sum of scores for each lesson and for individual work.

The maximum number of points assigned to students when mastering each module (credit) - 200 points, is calculated by multiplying the number of points corresponding to the grade "5" by the number of topics in the module: 50 points x 4 topics = 200 points.

The minimum number of points that a student can score while studying the module is 120 points. It is calculated by multiplying the number of points corresponding to the grade "3" by the number of assessed topics in the module: 30 x 4 = 120 points.

Number of module number of study hours / number of credits ECTS	Number of content modules, their numbers	Number of practical classes	Conversion into point of the traditional scale					Minimum score *
			Traditional scale				Scores for individual task	
			"5"	**"4"**	**"3"**	**"2"**		
Module 1 90/3,0	3	4	50	40	30	0	0	120

Assessment of individual student tasks

Individual independent work of the student is performed in the form of a separate message or report on one of the topics provided by the program and is considered successful if the topic is sufficiently covered, the material has the required level of scientificity and is prepared using modern scientific and medical data. answers questions on the topic.

Assessment of students' independent work.

Assessment of students' independent work, which is provided in the topic along with the classroom work, is carried out during the current control of the topic in the relevant classroom.

Due to the lack of final control in the discipline, the types of independent work of students should not involve independent study by students of certain topics that are not planned for classroom work.

Final control (credit)

The results of the test are evaluated on a two-point scale: "credited", "not credited".

The student receives a grade of "credited" if he performed all types of work provided by the working curriculum of the discipline, was present at all classes (if there are passes in time), scored a total of at least 120 points in the study of the discipline.

A student receives a grade of "not credited" if he has unfulfilled absences and / or the number of points for current educational activities is less than 120 points.

Assessment of the level of preparation of the student in the discipline

The grade in the discipline is given only to students who have passed all modules in the discipline.

Scheme of accrual and distribution of points received by students

Forms of assessment of current educational activities are standardized and include control of theoretical and practical training.

When mastering each topic of the module for the current educational activity of the student grades are set on a 4-point traditional scale, which are then converted into points depending on the number of topics in the module.

Assessment in the discipline, a form of final control is a test, based on the results of current educational activities and is expressed by a two-point scale "passed" and "not passed". To enroll, a student must receive a score for current academic activities, not less than 60% of the maximum amount of points in the discipline (120 points).

18. RECOMMENDED LITERATURE

19.1 Basic

1. Harrison's principles of internal medicine. 19th Edition / Dennis L. Kasper **[**et al.]. – Vol. 1, 2, New York: "McGray-Hills Education", 2015. – 3983 p.
2. Stuart H Ralston et all. *Davidson's* Principles and Practice of *Medicine* - 23rd Edition. 2018, Elsevier - 1440p.
3. Maxine A. Papadakis Current Medical Diagnosis & Treatment 2020 / Maxine A. Papadakis, Stephen J. McPhee, Michael W.Rabow – «McGrow-Hill Medical», 2020. – 1920 p.
4. Kovalyova O.M. Propedeutics to internal medicine. Part 2. /O.M.Kovalyova, S.O.Shapovalova, O.O.Nizhegorodtseva. – Вінниця: Нова книга, 2007. – 264 с.
5. Kovalyova O. Propedeutics to internal medicine. Part 1/ O.Kovalyova, T.Ashcheulova. – Вінниця: Нова книга, 2006. – 424 с.
6. Vasiuk V.L. Methods of patient clinical examination / V.L.Vasiuk, A.A.Shubravsky, O.I.Splavsky; by ed. O.I.Voloshin. – Chernovtsy: MPIC "Misto", 2006. – 134 p.

19.2. Auxillary

1. The Washington Manual of Medical Therapeutics (35 Edition) / Pavan Bhat [et al.]. - Publisher: LWW, 2016. – 954 p.
2. Thomas J. Oxford handbook of clinical examination and practical skills (1st Edition) / J.Thomas, T. Monaghan. - Oxford University Press, 2007. – 740p.
3. Christopher M. Wittich, et all. Mayo clinic internal medicine board review, 11th edition. – Mayo Clinic Scientific Press, Oxford University Press, New York, 2016. - 905p.

19.3 Information resources

1. http://moodle.bsmu.edu.ua
2. Medscape Official Site https://www.medscape.com/
3. McMaster textbook of internal medicine https://empendium.com/mcmtextbook/
4. https://www.erswhitebook.org/chapters/principles-of-respiratory-investigation/
5. http://www.worldscientificnews.com/wp-content/uploads/2017/05/WSN-75-2017-64-72.pdf
6. https://www.bmus.org/static/uploads/resources/BMUS-Safety-Guidelines-2009-revision-FINAL-Nov-2009.pdf

20. COMPILERS OF THE STUDENT HANDBOOK (SYLLABUS)

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