APPROVED BY
by the decision of the Academic Council of the USU
Institute of Medicine, Ecology and Physical Culture
22.06. 2020 Record No. 10/220

Chairman_____ _Midlenko V.I._
(Signature, Name)

«22» June 2020.

WORKING PROGRAM

Discipline	Clinical electrocardiography
Faculty	medical faculty
Name of department	Faculty Therapy
Course	VI

Direction (specialty) 31.05.01 General medicine (higher educational level "Speciality"
(code of the direction (specialty), full name)

Date of introduction to the educational process of ULSU «__1____»___09_____2020___

The program is updated at the meeting of the Department, Protocol No. 1 of 31.08. 2020
The program is updated at the meeting of the Department, Protocol No. 1 of 30.08. 2021
The program is updated at the meeting of the Department, Protocol No.1 of 29.08.2022
The program is updated at the meeting of the Department, Protocol No.9 of 28.04.2023
The program is updated at the meeting of the Department, Protocol No.9 of 16.04.2024

Developer information:

Full name	The department	Position, academic degree
Gimaev Rinat Khudzyatovich	Faculty Therapy	Doctor of Medical Sciences, Professor

Agreed	Agreed
Head of department, practicing discipline	Head of the graduating Department
_____/Ruzov V.I_____ *Signature* *Full name*	_____/Vize-KhripunovaM.A._/ *Signature* *Full name*
«22» June 2020г.	«22» June 2020 г.

The present working program was developed according to the Federal State Educational Standard of Higher Education (FSES-4 HE, 2015) in the specialty 31.05.01 "Medicine" (level of higher education "Speciality") (Order № 853 from 17.08.2015) and the Working curriculum of the Federal State Educational Institution of Higher Professional Education "Ulyanovsk State University". (Protocol No. 3/225 of 27 October 2015).

Purpose and objectives of the discipline

The purpose is to learn a complete system of theoretical and practical foundations of clinical electrocardiography; methods of recording and analysis of electrocardiograms; differential diagnostics of cardiovascular system pathologies based on electrocardiography data. The objectives of the training are:

- Studying the basics of normal electrocardiogram formation;
- Mastering the methods of taking the electrocardiogram and conducting functional tests in electrocardiography;
- Evaluation and analysis of normal electrocardiogram indicators;
- Study of the basic mechanisms of forming pathological electrocardiograms in various cardiovascular diseases;
- Carrying out differential diagnostics of cardiovascular system pathology based on electrocardiography data;
- Acquaintance with new methods of diagnostics of pathology of cardiovascular system on the basis of electrocardiography: Holter ECG monitoring, high resolution average ECG signal, heart rate variability, QT interval dispersion.

2. PLACE OF DISCIPLINE IN BPEP:

Clinical electrocardiography refers to the variable part of the unit (B1.V) within the disciplines of choice (B1.V.DV) under the name of the program of the discipline "Clinical electrocardiography" (B1.V.DV.7.2) of the specialist according to FSES 3 + HE (2015) and the Work Plan of the specialty 31.05.01 "Medicine", approved by the Rector of Ulyanovsk State University (2015). The study of the discipline Clinical electrocardiography precedes normal and pathological anatomy, normal and pathological physiology, biological chemistry, pharmacology and propaedeutics of internal diseases, faculty therapy and occupational diseases. The knowledge, skills and competences of these disciplines are determined by the requirements for their mastery at the previous departments and are controlled by the definition of the entrance knowledge to the study of clinical electrocardiography.

The study of the section is previous for the following disciplines: hospital therapy, clinical pharmacology, infectious diseases; phthisiatrics; hospital pediatrics; infectious diseases in children; polyclinical and emergency pediatrics.

A graduate who has mastered a specialist programme should possess **professional competence** appropriate to the type(s) of professional activity for which the specialist programme is oriented medical **practice**:

- the **readiness** to collect and analyze the patient's complaints, his/her anamnesis data, examination **results**, laboratory, **instrumental**, pathological and anatomical and other studies in order to recognize the condition or establish the presence or absence of the disease (PC-5); - the ability to determine patients' basic pathological conditions, symptoms, disease syndromes, nosological forms according to the International Statistical Classification of Diseases and Related Health Problems - X revision, adopted by the 43rd World Health Assembly, Geneva, 1989. (PC-6).

3. THE LIST OF PLANNED RESULTS OF TRAINING BY DISCIPLINE (MODULE), CORRELATED WITH THE PLANNED RESULTS OF THE EDUCATIONAL PROGRAM IMPLEMENTATION

Index and name of competence to be implemented	List of planned results of the training, correlated with indicators of competence achievement
PC -5 readiness to collect and analyze the patient's complaints, his/her anamnesis, examination results, laboratory, instrumental, pathological and anatomical and other tests in order to recognize the condition or to establish the presence or absence of the disease	**Know:** - Methods of standard ECG, functional diagnostic methods using ECG registration; - Methods of conducting functional tests when taking an ECG. - modern methods of instrumental diagnostics of patients using ECG technique; **Can**: - interpret the results of electrocardiographic tests: standard ECG, ECG at load tests, signal-average ECG, ECG stress, daily (Holter) ECG monitoring, heart rate variability; - perform differential ECG diagnostics of syndromes and symptoms; **Possess:** - the technique of standard electrocardiogram removal - methods of electrocardiographic diagnostics using additional methods - Sky ECG, high resolution ECG, load, pharmacological ECG samples, Holter ECG monitoring;
PC -6 – ability to identify patients with major pathological conditions, symptoms, disease syndromes, nosological forms according to the International Statistical Classification of Diseases and Related Health Problems X revision	**Know:** - Clinical picture, current peculiarities and possible complications of the most common diseases that occur in a typical adult form, accompanied by changes in electrocardiographic data; - ECG-diagnostics of emergency conditions and principles of emergency care; - clinical and pharmacological characteristics of the main groups of drugs affecting changes in electrocardiographic parameters; **Can:** - Identify the basic ECG criteria in myocardial hypertrophy of the atria and ventricles; identify the basic ECG criteria for coronary heart disease: ischemia, ischemic injury, necrosis, scarring changes; identify the basic ECG criteria for non-coronatural myocardial

	lesions: myocarditis, pericarditis, cardiomyopathy; take a standard electrocardiogram; - detect life-threatening disorders and provide first aid to children, adolescents and adults in emergency situations; **Possess:** - by interpreting the results of electrocardiographic methods of diagnosis in children and adolescents; - algorithms of setting up electrocardiographic syndromes and symptoms with their subsequent referral for additional examination and to specialist physicians.

4. TOTAL DISCIPLINE EFFORT

4.1. Volume of discipline in credits (total) 2 ZET / 72 hours

4.2. Volume of discipline by type of educational work (in hours)

Type of study	**Number of hours (for each form of training: fulltime/extramural/part-time is completed with a separate table))**		
	According to plan	**Including in terms of semesters.**	
		№ semester	**№ 8 semester**
1	2	3	4
Students' contact work with the teacher	**54**	-	**54**
Auditorium classes:	**54**	-	**54**
Lectures	-	-	-
Practical and seminar sessions	**54**	-	**54**
laboratory work	-	-	-
Individual work	**18**	-	**18**
Current control (number and type: content work, colloquium, essay)	-	-	-
Coursework	-	-	-
Types of intermediate certification (exam, credit)	**credit**	-	**credit**
Total hours by discipline.	**72**	-	**72**

4.3 **Content of the discipline (module.) Distribution of hours by themes and types of training work:**

Type of education _____ full-time _____

The names of sections and topics	Total	Types of training sessions					
		Auditorium sessions			Individual work	Classes in interactive form	Form of current knowledge control
		Lectures	Practical sessions	Laboratory work, workshops			
Section 1: Functional research methods in a clinic of internal medicine: clinical electrocardiography							
1. Method of detecting and analyzing a standard electrocardiogram.	7,58	-	6	-	2.25***		tests, an ECG simulator
2. Electrocardiographic picture in atrial and	7,58	-	6	-	2,25		tests
The names of sections and topics	Total	Types of training sessions					
		Auditorium sessions			Individual work	Classes in interactive form	Form of current knowledge control
		Lectures	Practical sessions	Laboratory work, workshops			
ventricular hypertrophy							
3. Electrocardiogram for ischemic heart disease. Ischaemia, lesion, necrosis.	7,58	-	6	-	2,25***		tests, clinical tasks
4. Electrocardiogram for heart rhythm disorders.	7,58	-	6	-	2,25		tests, clinical tasks
5. Electrocardiogram for cardiac conduction disorders.	7,58	-	6	-	2,25		tests, clinical tasks

6. Electrocardiogram: Infarcto-like electrocardiographic syndromes	7,58	-	6	-	2,25		tests, clinical tasks
7. Electrocardiogram: ECG features in children and adolescents	7,61	-	6	-	2,25		tests, clinical tasks
8. Electrocardiogram: Electrocardiographic pattern in non-coronatural myocardial lesions.	7,58	-	6	-	2,25		tests, clinical tasks
9. Credit	11.33	-	6	-			List of questions, tests, clinical tasks
TOTAL	**72**	**-**	**54**	-	**18**		

*** - Work at the lessons on mastering manual skills on the equipment of the simulation center of IMEiFK of ULSU

5. DISCIPLINE CONTENT

Section 1. Section 1: Functional research methods in a clinic of internal medicine: clinical electrocardiography

Topic 1. Title of the topic. Method of detecting and analyzing a standard electrocardiogram.

Content of the topic. Electrocardiographic deductions: standard, reinforced single pole, thoracic deductions, additional thoracic deductions. Functional samples: with potassium chloride, dipyridamol, anapriline Evaluation and analysis of the main components of normal electrocardiogram: teeth P, Q, R, S, T, U: intervals PQ, RR, QT, PP; segments PQ, ST. The concept of tooth voltages, types of ST segment depression, variability of RR and QT intervals.
Cardiac rhythm and conductivity analysis. Determination of the electrical axis of the heart: cardiac rotation around anterior, longitudinal and transverse axes. Atrial and ventricular electrocardiogram components analysis.

Topic 2. Title of the topic. Electrocardiogram in hypertrophy of the heart. Content of the topic. Electrocardiographic picture of hypertrophy of the left and right atria. Electrocardiographic pattern changes in left ventricular hypertrophy: basic signs and diagnostic criteria (Sokolov-Layon index, Romhilt-Index, Cornell's work, etc.). Electrocardiographic signs of right ventricular hypertrophy. Electrocardiographic criteria for hypertrophy of both atria and ventricles. Electrocardiogram in hyper-tonic disease, pulmonary heart, heart failure.

Topic 3. Title of the topic. Electrocardiogram for ischemic heart disease. Ischaemia, lesion, necrosis.

Content of the topic. Basic electrocardiographic criteria for myocardial ischemia. ECG signs of subendocardial, subepicardial and intramural myocardial ischemia. ECG picture of Princemetal angina. Electrocardiographic criteria for ischemic injury, necrosis and scarring changes in

myocardium. Changes of electrocardiograms in different stages of myocardial infarction: acute, acute, subacute, scarring stages. ECG at the signs of large-focal myocardial infarction. Infarct-like changes on ECG. Electrocardiographic pattern of myocardial infarction of various localizations: left ventricular anterior wall infarctions; back wall infarctions of the left ventricle; deep interventricular septal infarction; circular apex myocardial infarction; combined anterior myocardial infarctions. ECG features a small-focal infarct. Repeated myocardial infarcts. Electrocardiogram for postinfarction aneurysm of the left ventricle. Right ventricular infarction.

Topic 4. Title of the topic. Electrocardiogram for heart rhythm disorders.

Content of the topic.

Classification of heart rhythm disorders. The main mechanisms of arrhythmogenesis.

Extracistolia: classification of atrial, left ventricular, right ventricular, interpolar bath, bi-trigeminias, early extrasystole), gradation of extrasystoles by Lown V. Electrocardiographic picture of atrial fluttering and fibrillation. Paroxysmal rhythm disorders: supraventricular and ventricular paroxysmal tachycardia. ECG manifestations of digital intoxication.

Topic 5. Title of the topic. Electrocardiogram for cardiac conduction disorders. Content of the topic.

Main causes and mechanisms of heart conduction disorders. Classification of conduction disorders. Synoatrial blockade: sinus node arrest. Atrioventricular blockages: classification, Morgania Adams-Stokes syndrome, Frederick syndrome. Blockades of the legs of the Gis beam: single-beam blockades (blockades of the front branch of the left leg of the Gis beam, blockades of the rear branch of the left leg of the Gis beam, blockades of the right leg of the Gis beam); double-beam blockades, blockades of the three branches of the Gis beam (tri-beam blockades).

Topic 6. Title of the topic. Infarct-like electrocardiographic syndromes. Content of the topic. The concept of infarct-like ECG syndromes and conditions. Classification of infarct-like syndromes. Coronerogenic Q infarct-like syndromes. Myogenic Q infarcto-like syndromes. Septogenic Q infarcto-like syndromes. Stress-like infarcto-like syndromes. Positioned infarcto-like syndromes. Diagnostic criteria and differential diagnosis.

Topic 7. Title of the topic.. EKG features in children and teenagers. Contents of the topic: Features of electrocardiogram changes in childhood and adolescence. The concept of juvenile teeth. Features of conductivity in children and teenagers. The notion of partial pre-excitation syndromes, supraventricular scallop syndromes, early ventricular repolarization.

Topic 8. Title of the topic. Electrocardiographic pattern in non-coronatural myocardial lesions.

Content of the topic. Electrocardiogram in inflammatory heart lesions: major changes in the electrocardiogram in myocarditis, cardiomyopathy, pericarditis. Electrocardiogram changes in acute and chronic pulmonary heart. Electrocardiographic pattern in heart failure. Functional disorders of the electrocardiogram. Syndrome of early ventricular repolarization. ECG changes in congenital pathologies (Brugada syndrome, CLC, WPW syndromes). Main ECG changes in electrolyte balance disorder: hypo- and hypercalcemia, hypo- and hypercalcemia. Centrogenic causes of ECG changes. ECG pattern in cerebrocardial syndrome.

6. TOPICS FOR PRACTICAL AND SEMINAR SESSIONS.

Acquaintance with the requirements of the Department of Faculty Therapy. The level of requirements of the department, the study sections. Definition of the place of clinical electrocardiography in the system of disciplines, from-students at the pre-diploma level of education in medical universities. Methodology, purpose and objectives of the subject. Connection with

propaedeutics of internal diseases and other disciplines. History, the main achievements of the department.

Section 1: Functional research methods in a clinic of internal medicine: clinical electrocardiography

Topic 1. Practical lesson. Method of detecting and analyzing a standard electrocardiogram.

Testing. Solving situational problems.

Questions to the topic.

- what are the conclusions of a standard ECG for breast cancer?
- what does the term "ECG transition zone" mean?
- in which thoracic area is the R tooth maximum?
- which teeth are excreted on a standard ECG (their duration and amplitude are normal).
- what are the intervals and segments in a standard ECG?
- how many "standard leads" are available on an ECG?
- What is the number of "reinforced single pole leads" available on the ECG?
- what are the ECG marks that correspond to the median position of the electrical axis of the heart?
- which ECG markings correspond to the horizontal position of the EOS?
- what are the ECG signs that correspond to the left and right deviations of the heart's electrical axis?
- what ECG-signatures are observed in the vertical position of the EOS? - what does the term "reduced tooth voltages" mean?

Topic 2. Practical lesson. Electrocardiographic picture in atrial and ventricular hypertrophy.

Testing. Solving situational problems.

Questions to the topic.

- which ECG signs correspond to LV and LA hypertrophy?
- Which ECG signs correspond to hypertrophy of PVs with systolic overload?
- which ECG-signs correspond to deviations in the electrical axis of the heart "left" and "right"?
- what ECG changes are observed in left and right atrial hypertrophy?
- which ECG signs correspond to RA and RV hypertrophy?
- what are the ECG signs of hypertension?
- what are the ECG signs of the pulmonary heart?
- What are the ECG signs of CHD?

Topic 3. Practical lesson. Electrocardiogram for ischemic heart disease. Ischaemia, lesion, necrosis.

Testing. Solving situational problems.

Questions to the topic.

- what kind of ECG changes are observed in myocardial ischemia?
- which ECGs - signs correspond to subendocardial, subepicardial and intramural myocardial ischemia?
- what are the signs of myocardial ischemia?
- what types of ST segment depression do they detect?

- what is meant by the term "monophasic curve" %.
- what does concordant and discordant shift of ST segment mean?
- describe the ECG signs of ischemic damage to the anterior wall of the left ventricle?
- describe the ECG signs of ischemic damage to the posterior ventricular wall of the left ventricle?
- what is meant by "pathological tooth Q"?
- what are the signs of myocardial transmural infarction?
- what are the signs of a common anterior myocardial infarction?
- what are the ECG signs of a circulatory apical myocardial infarction?
- what are the ECG signs of a minor myocardial infarction?
- signs of cardiosclerosis and scar changes?
- ECG - signs of recurrent myocardial infarction?
- what are the signs of a postinfarct aneurysm?
- What does the term "recurring" changes on an ECG mean? - ECGs are signs of a right ventricular infarction.

Topic 4. Practical lesson. Electrocardiogram for arrhithmias.

The solution of situational problems.

Questions to the topic.

- what kind of ECGs are signs that match ventricular extrasystole?
- which ECGs are the signs that correspond to atrial extrasystole?
- characterize the gradation of ventricular extrasystoles by Lower B.?
- describe the EKG signs of bi- trigeminias?
- what does early ventricular extrasystole mean?
- what does "interpolated" and "polymorphic" ventricular extrasystole mean?
- What are the EKG signs for right and left ventricular extrasystole?
- what are the signs of atrial and supraventricular extrasystole?
- What's an ECG for atrial fibrillation and flutter?
- What do the terms tachysistolic form of atrial fibrillation and atrial flutter in the 2:1 ratio mean?
- what are the ECG signs for paroxysmal ventricular and atrial tachycardia?
- what does an ECG look like in respiratory arrhythmias?
- what kind of ECGs are signs of intoxication by cardiac glycosides?
- what kind of ECG changes are common in fibrillation and ventricular flutter?

Topic 5. Practical lesson. Electrocardiogram for cardiac conduction disorders.

Testing. Solving situational problems.

Questions to the topic.

- What elements does the conductive heart system consist of?
- what kind of ECGs are the signs of a synoatronic block?
- How many degrees of sinus node blockage do you know and what is the ECG - the picture with them?
- what do you mean by "sinus node weakness syndrome"?
- ECG - signs of 1st degree atrioventricular block?
- ECG - signs of 2nd degree atrioventricular block?

- ECG - signs of 3rd degree atrioventricular block?
- what are the distinguishing features of type 3 Mobic atrioventricular block 2 from complete atrioventricular block?
- What is Morgania Adams-Stokes syndrome and when does it occur?
- ECG - a picture of Frederick's syndrome?
- What kind of EKGs are symptoms typical of complete blockage of the right leg of the Geese beam?
- What is the difference between complete and incomplete blockages of the legs of the Geez beam?
- What is the ECG picture of complete blockage of the left leg of the Geese beam?
- What is the ECG picture of complete blockage of the right leg of the Geese beam?
- What is the ECG picture of complete blockage of the left leg of the Geese beam?
- What is the ECG picture of the blockage of the front branch of the left leg of the Geese beam?
- What is the ECG picture of the blockage of the left leg of the left leg of the Geese beam? - ECG - signs of two-beam and three-beam blockages of Geese's legs?

Topic 6. Practical lesson. Electrocardiogram: Infarcto-like electrocardiographic syndromes.
Testing. Solving situational problems.
Questions to the topic.

- what is the ECG picture of the load Q-anormal?
- what are the signs of Q-anormal positional Q-anormal at horizontal, vertical electric axis of the heart?
- what are the ECG signs in myogenic Q-like syndromes: PL hypertrophy, PG hypertrophy, "stun" and myocardial hibernation?
- which ECG criteria are typical for stressful infarct-like syndromes?
- characteristics of infarct-like syndromes depending on the ECG of the following sections: II, III, aVF, aVL, V1-3.

Topic 7. Practical lesson. Electrocardiogram: ECG features in children and adolescents.
Testing. Solving situational problems.
Questions to the topic.

- What are the features of changes in the electrical axis of the heart in childhood and adolescence?
- definition and mechanisms of formation of "juvenile T teeth"?
- peculiarities of conductivity in childhood and adolescence?
- What changes on the ECG are described as "pancreatic scallop syndrome"?
- what are the ECG manifestations of "partial premature excitation syndrome" in children and adolescents?
- what are the peculiarities of repolarization processes in children and teenagers (early ventricular repolarization syndrome?

Topic 8. Practical lesson. Electrocardiogram: Electrocardiographic pattern in noncoronatural myocardial lesions.
Testing. Solving situational problems.

Questions to the topic.

- What kind of EKGs are symptoms common to acute pericarditis?
- What kind of ECGs are symptoms typical of acute myocarditis?
- which ECGs are typical of acute rheumocarditis?
- which ECGs are typical for cardiomyopathies (dilatational, hypertrophic)?
- ECG - symptoms of chronic pulmonary heart and pulmonary artery thromboembolism?
- ECG - signs of hyperkalemia, hypo- and hypercalcemia?
- characteristic signs of early ventricular repolarization syndrome? - ECGs are signs of hypo and hypermagnesia.

7. LABORATORY WORK (LABORATORY WORKSHOP).

"This type of work is not provided for by the UP".

8. THE SUBJECT OF COURSEWORK, TEST PAPERS, ESSAYS.

"This type of work is not provided for by the UP".

9. A LIST OF CREDIT QUESTIONS.

1. Method of removal of standard 12-channel ECG. Basic elements of normal ECG.
2. Give characteristics to the main ECG teeth.
3. Give characteristics of the main ECG intervals and segments.
4. Describe the algorithm of ECG conclusion.
5. Give the concept of the electrical axis of the heart. Methods of definition and basic variants of EOS.
6. Characterize the basic research methods where ECG diagnosis is used.
7. Which ECG signs correspond to LV and LA hypertrophy?
8. What ECG-signatures correspond to hypertrophy of LA with systolic overload?
9. What ECG-signs correspond to the deviations of the electrical axis of the heart "left" and "right"?
10. What ECG changes are observed in left and right atrial hypertrophy?
11. What ECG signs correspond to PA and PV hypertrophy?
12. What are the ECG signs of hypertension?
13. What are the ECG signs of the pulmonary heart?
14. What are the ECG signs of CHD?
15. What are the ECG signs that match ventricular extrasystole?
16. What are the ECG signs that correspond to atrial extrasystole?
17. describe the gradation of ventricular extrasystoles by Lower B.?
18. describe the ECG signs of bi- trigeminias?
19. what does early ventricular extrasystole mean?
20. what does "interpolated" and "polymorphic" ventricular extrasystole mean?
21. What are the ECG signs for right and left ventricular extrasystole?
22. what are the signs of atrial and supraventricular extrasystole?
23. What's an ECG for atrial fibrillation and flutter?
24. What do "tachysistolic" terms mean for atrial fibrillation and atrial flutter in a 2:1 ratio?
25. What kind of ECG signs are typical for paroxysmal ventricular and atrial tachycardia?
26. what does an ECG look like in respiratory arrhythmias?

27. What's an ECG - signs of cardiac glycosid intoxication?
28. what are the ECG changes typical of fibrillation and ventricular flutter?
29. what kind of ECGs are signs of synoatronic blockade?
30. what do you mean by "sinus node weakness syndrome"?
31. EKG - signs of atrioventricular blockage?
32. What are the distinguishing features of degree 2 atrioventricular block type Mobits 3 from complete atrioventricular block?
33. what is Morgania Adams-Stokes syndrome and when does it occur?
34. EKG picture of Frederick's syndrome?
35. EKG is a symptom of a complete blockage of the right leg of the Geese beam?
36. EKG is a picture of a complete blockage of the left leg of the Geese beam?
37. ECG- Picture of complete blockage of the right leg of the Geese beam?
38. ECG- Picture of a complete blockage of the left leg of the Geese beam?
39. ECG- Picture of blockage of the front branch of the left leg of the Geese beam?
40. ECG- Picture of blockage of the back branch of the left leg of the Geese beam?
41. ECG - signs of two-beam and three-beam blockade of Geese's legs?
42. ECG - load Q-anormal pattern?
43. ECG - signs of Q-anormal position at horizontal, vertical electric axis of heart?
44. ECG - signs of myogenic Q infarct-like syndromes: LV hypertrophy, PG hypertrophy, "stun" and hibernating myocardium?
45. ECG features in children and teenagers.
46. Features of repolarization in childhood and adolescence.
47. ECG criteria for early ventricular repolarization syndrome.
48. ECG picture of congenital ECG phenomena: CLC, WPW, Brugada.
49. ECG - signs of acute pericarditis.
50. ECG - symptoms of acute myocarditis?
51. ECG - symptoms typical for cardiomyopathy (dilatational, hypertrophic)?
52. ECG - symptoms of chronic pulmonary heart and pulmonary artery thromboembolism?
53. ECG - signs of hyperkalemia, hypo- and hypercalcemia.
54. ECG - signs of hypo- and hypermagnesia.

10. INDIVIDUAL STUDENT WORK

Education form _____ Full-time_____

The names of sections and topics	Type of independent work (elaboration of training material, problem solving, essay, report, control work, preparation for passing the exam, etc.).	Volume in hours	Form of control (verification of problem solving, abstract, etc.).
Method of detecting and analyzing a standard electrocardiogram.	*development of training material, task solving*	3	task verification
Electrocardiographic pattern in hypertrophy of the heart sections	*development of training material, task solving*	2	task verification

Electrocardiogram for ischemic heart disease. Ischaemia, injury, necrosis.	*development of training material, task solving*	3	task verification
Electrocardiogram for heart rhythm disorders.	*development of training material, task solving*	2	task verification
Electrocardiogram for cardiac conduction disorders.	*development of training material, task solving*	2	task verification
Electrocardiogram: Infarcto-like electrocardiographic syndromes	*development of training material, task solving*	2	task verification
ECG features in children and teenagers.	*development of training material, task solving*	2	task verification
Electrocardiographic pattern in non-coronatural myocardial lesions.	*development of training material, task solving*	2	task verification

11. METHODICAL AND INFORMATION SUPPORT OF THE DISCIPLINE

a) List of recommended literature:

Basic Literature

1. Viktor Nikolaevich Orlov. Guide to electrocardiography / Viktor Orlov. - 6th ed., er. - Moscow : MIA, 2007. - 528 c. silt. - Bibliogr. : p. 524-526. - BIBLIOGR.: 5-89481-407-3 : 332.00.
2. Ruzov V.I. Practical manual on internal diseases : a textbook for higher education institutions. Section 1: Fundamentals of Clinical Electrocardiography / V.I. Ruzov, R.H. Himayev, V.A. Razin; ULGU, IMEiFK, Medfak. - Ulyanovsk : ULGU, 2009. - 124 c. : silt. - Bibliogr.: p. 123. - b/p.

Additional literature

3. Clinical electrocardiography. Electrocardiography [Electron resource]: a training manual/ K.M. Ivanov [et al.]. - Electron. text data.- Orenburg: Orenburg State Medical Academy, 2013.
4. Ruzov Viktor Ivanovich. Clinical electrocardiography : situational problems [Electron resource] : electronic training course : manual for the 4th course of medical faculty on special "Medicine" / Ruzov Victor Ivanovich, R. H. Himayev, V. A. Razin; ULSU. - Electron. text dan. - Ulyanovsk : ULGU, 2015. - URLhttp://edu.ulsu.ru/cources/675/interface/
5. Murashko Vladislav Vladimirovich. Electrocardiography : a textbook for medical universities / V.V. Murashko, A.V. Strutynskiy. - Moscow: Medicine, 1987. - 256 c. - 1.26.
6. Sergey Leonidovich Mironov. Decoding of ECG / Mironov Sergey Leonidovich. - Moscow : AST, 2017. - 191 c. mud : silt. - (The newest medical directory). - ISBN 978-5-17-096202-0 (in per.) : b/p.

Educational and methodical literature

7. Himayev R.H. Clinical electrocardiography [Electron resource]: a training manual . Section 3: Heart rhythm disorders / R. H. Himayev; ULGU, IMEiFK. - Electron. text data. (1 file :

5.24 MB). - Ulyanovsk : ULGU, 2018. - Zagl. from the screen.
8. Ruzov V.I. Clinical electrocardiography [Electronic resource] : a training manual . Section 1: Clinical evaluation of ECG elements (in Russian) / V.I. Ruzov; Ulyanovsk State University, IMEiFK. - Electron. text data. (1 file : 52.1 MB). - Ulyanovsk : ULGU, 2017. - Zagl. from the screen.
9. Ruzov V.I. Clinical electrocardiography [Electronic resource] : a training manual . Section 2: ECG-symptoms and ECG-syndromes / V.I. Ruzov, A.M. Vorob'ev; ULGU, IMEiFK. - Electron. text data. (1 file : 6.14 MB). - Ulyanovsk : ULGU, 2017. - Zagl. from the screen.

Согласовано:
Гл. библ. ИБ УлГУ Полина И.Ю. [signature] /
Должность сотрудника научной библиотеки ФИО подпись дата

b) Software

Antivirus: DrWeb, PCA Consultant Plus, NNEB OF RUSSIA, EBS IPRBooks, MicrosoftOffice 2016, Internet: MozillaFirefox, MicrosoftExcel2016

c) Professional databases, information and reference systems Electron-library systems:

1. IPRbooks [Electronic Resource]: Electronic Library System / IBP Media Group . - Electron. dan. - Saratov , [2019]. - Access mode: http://www.iprbookshop.ru.
2. YURAIT [Electronic resource]: electronic library system / Electronic Publishing House YURAIT Ltd. - Elektron. dan. - Moscow , [2019]. - Access mode: https://www.biblio-online.ru.
3. Student adviser [Electronic resource]: electronic library system / Politekhresurs. - Elektron. dan. - Moscow, [2019]. - Access mode: http://www.studentlibrary.ru/pages/catalogue.html.
4. ConsultantPlus [Electronic resource]: reference legal system. /Consultant Plus Company - Electron. dan. - Moscow :ConsultantPlus, [2019].
5. Database of periodicals [Electronic resource]: electronic journals / Ivis. - Elektron. dan. - Moscow, [2019]. - Access mode: https://dlib.eastview.com/browse/udb/12.
6. National Electronic Library [Electronic resource]: electronic library. - Electron. dan. - Moscow, [2019]. - Access mode: http://www.studentlibrary.ru/pages/catalogue.htmlhttps://нэб.рф.
7. Electronic library of dissertations RGB [Electronic resource]: electronic library / FGBU RGB. - Electron. dan. - Moscow, [2019]. - Access mode: https://dvs.rsl.ruhttp://www.studentlibrary.ru/pages/catalogue.htmlhttps://e.lanbook.com/.

Federal information and educational portals:

1. information system Single window of access to educational resources. Access mode: http://window.edu.ru.
2. https://e.lanbook.com/Федеральный portal Russian Education. Access mode: http://www.edu.ru.

ULSU educational resources:

1. ULSU electronic library. Access mode : http://lib.ulsu.ru/MegaPro/Web.
2. ULSU educational portal. Access mode : http://edu.ulsu.ru.

Согласовано:
Техник 1 кат. Бородулина К.С. [signature] /
Должность сотрудника УИТиТ ФИО подпись дата

c). LOGISTICAL SUPPORT FOR DISCIPLINE

Material and technical support of discipline:

2. Ultrasonic scanner Toschiba Aplio300
3. Poly-spectrum-8/EX (12-channel miniature wireless electrocardiograph)
4. Treadmill test treadmill
5. portable monitors for daily ECG and AD monitoring
6. computer Pentium III

7. Panasonic Multimedia Projector

* **Cabinets**: Department of Faculty and Hospital Therapy
* **Laboratories**: Ulyanovsk LPU, IMEiFK UlSU
* **Furniture**: study rooms
* **Simulators**, **simulators, phantoms, models:**

Simulation manipulations on the equipment of the simulation center on machines virtuMED and virtuMEN - auscultation of the lung and heart, ECG recording, diagnosis and emergency care for complications of myocardial infarction.

Topics and practical skills of students to master manual skills on the equipment of the simulation center IMEiFK ULGU on machines virtuMED and virtuMEN.

- EKG recording;
- ECG monitoring; - Defibrillation.
- **Equipment, devices**: therapeutic and diagnostic equipment of the functional diagnostics room, ultrasound scanner Toshiba Aplio 300, electrocardiographs (Polyspectrum8/EX), running track Valliant, portable systems for daily ECG monitoring (Icarus, Medicom, Russia).
- Technical means of training (personal computers with Internet access, multimedia, audio and video equipment):

IS Mechanics computer

12. SPECIAL FACILITIES FOR STUDENTS WITH DISABILITIES (OVZ) AND DISABLED PERSONS

Students with disabilities and persons with disabilities undergo practical training together with other students (in a study group) or individually (upon personal application of a student).

Placement of trainees with disabilities is determined taking into account their health status and accessibility requirements for this category of trainees. When determining the places and conditions (taking into account the nosological group and the student's disability group) for training and internships for this category of persons, the individual characteristics of the students are taken into account, as are the recommendations of the medical and social expertise reflected in the individual rehabilitation programme regarding the recommended conditions and types of work.

In determining the place of practice for students with disabilities and disabled persons, special attention is paid to occupational safety and workplace equipment. Internship placements are provided by the relevant organization in accordance with the following requirements:

- for students with disabilities and visually impaired: equipping a special workstation with general and local lighting to ensure that the person can easily find his or her place of work and perform individual tasks; availability of video amplifiers, magnifying glasses;
- for students with disabilities and visually impaired: equipping a special workstation with typographic and technical guidelines and devices, with the possibility of using large relief-contrast and braille fonts, acoustic navigation aids to ensure the smooth stay of the person in question at his or her workplace and to perform individual tasks;
- for students with disabilities and the hearing impaired: equipment (equipment) of a special workstation with sound-amplifying devices, telephones for the hearing impaired;

- for students with disabilities and hearing impaired: equipment of a special workstation with visual indicators that convert audio signals into light, speech signals into a text ticker line to ensure that the person can easily find his or her workplace and perform individual tasks;
- for students with disabilities and disabled people with locomotor system functions: equipment ensuring the implementation of ergonomic principles (the most convenient location of elements that make up the workplace for a disabled person); mechanisms and devices that allow you to change the height and slope of the working surface, the position of the seat of the working chair in height and slope, the angle of slope of the backrest of the working chair; equipment with a special seat that provides compensation for force when standing up, special devices for control and maintenance.

The conditions of organization and passing the internship, preparation of reporting materials, current control and interim certification in practice are provided in accordance with the following requirements:

- The volume, pace, forms of performance of an individual task for the period of practice are set individually for each student of the specified categories. Depending on nosology, contraindicated loads (visual, sound, muscle, etc.) are reduced to the maximum.
- Training and teaching materials on practice are presented in various forms so that students with disabilities and hearing impaired receive information visually (the practice documentation is printed in larger font; video materials and visual materials on the content of practice are provided), with visual impairments - audio (for example, with the use of speech synthesis programs) or with the help of typhoon devices.
- The form of current performance monitoring and interim assessment for students with disabilities and disabled persons is established taking into account individual psychophysical characteristics (orally, in writing, by computer, in the form of testing, etc.). If necessary, the student is given additional time to prepare a reply and/or to defend the report.

Developer  Himayev R. Kh., Professor, PhD, Associate Professor

Лист согласования 1
Дисциплины/практики Clinical electrocardiography

№	Содержание изменения или ссылка на прилагаемый текст	ФИО заведующего кафедрой, реализующего дисциплину/выпускающей кафедрой	Подпись	Дата
1	Приложение 1»Внесене изменений в п.п. а)Список рекомендуемой литературы п. 11 «Учебно-методическое и информационное обеспечение дисциплины/практики» с оформлением отдельного приложения	Рузов В.И.		30.08.21
2	Приложение 1»Внесене изменений в п.п. б)Профессиональные базы данных п. 11 «Учебно-методическое и информационное обеспечение дисциплины/практики» с оформлением отдельного приложения	Рузов В.И.		30.08.21

Application 1

11. METHODICAL AND INFORMATION SUPPORT OF THE DISCIPLINE

a) List of recommended literature: main

1. Nechaev, V. M. Propedeutics of clinical disciplines: textbook / V. M. Nechaev; under total. ed. V. T. Ivashkina. - Moscow: GEOTAR-Media, 2017 .-- 288 p. : ill. - 288 p. - ISBN 978-5-9704-4489-4. - Text: electronic // EBS "Student Consultant": [site]. - URL: https://www.studentlibrary.ru/book/ISBN9785970444894.html

2. Makolkin, V. I. Internal diseases: textbook / Makolkin V. I., Ovcharenko S. I., Sulimov V. A. - 6th ed. , revised and add. Moscow: GEOTAR-Media, 2017 .-- 768 p. - ISBN 978-5-9704-4157-2. - Text: electronic // EBS "Student Consultant": [site]. - URL:https://www.studentlibrary.ru/book/ISBN9785970441572.html

4. Shamov, IA Propedeutics of internal diseases with elements of radiation diagnostics: textbook / Shamov, IA - Moscow: GEOTAR-Media, 2016. - 512 p. - ISBN 978-5-9704-3597-7. - Text: electronic // EBS "Student Consultant": [site]. - URL:https://www.studentlibrary.ru/book/ISBN9785970435977.html

additional

1. Shchukin, Yu. V. Functional diagnostics in cardiology: textbook / Yu. V. Shchukin - Moscow: GEOTAR-Media, 2017. - 336 p. - ISBN 978-5-9704-3943-2. - Text: electronic // EBS "Student Consultant": [site]. - URL:https://www.studentlibrary.ru/book/ISBN9785970439432.html

2. Ogurtsov, PP Emergency cardiology: textbook / ed. P. P. Ogurtsova, V. E. Dvornikova - Moscow: GEOTAR-Media, 2016 .-- 272 p. - ISBN 978-5-9704-3648-6. - Text: electronic // EBS "Student Consultant": [site]. - URL:https://www.studentlibrary.ru/book/ISBN9785970436486.html

3. Gordeev, I. G. Electrocardiogram in myocardial infarction: a tutorial / I. G. Gordeev, N. A. Volov, V. A. Kokorin - Moscow: GEOTAR-Media, 2016. - 80 p. - ISBN 978-5-9704-3231-0. - Text: electronic // EBS "Student Consultant": [site]. - URL:https://www.studentlibrary.ru/book/ISBN9785970432310.html

4.1 Ruzov V.I. Clinical electrocardiography: textbook. allowance. Sec. 1: Clinical evaluation of ECG elements / V. I. Ruzov; UlSU, IMEiFK. - Ulyanovsk: UlSU, 2017. - Title. from the screen. - Electron. text data. (1 file: 52.1 MB). - Text: electronic. -http://lib.ulsu.ru/MegaPro/Download/MObject/2940

4.2 Ruzov V.I. Clinical electrocardiography: textbook. allowance. Sec. 2: ECG symptoms and ECG syndromes / V. I. Ruzov, A. M. Vorobiev; UlSU, IMEiFK. - Ulyanovsk: UlSU, 2017. - Title. from the screen. - Electron. text data. (1 file: 6.14 MB). - Text: electronic. - http://lib.ulsu.ru/MegaPro/Download/MObject/1181

4.3 Gimaev R. Kh. Clinical electrocardiography: a tutorial. Sec. 3: Heart rhythm disturbances / R. Kh. Gimaev; UlSU, IMEiFK. - Ulyanovsk: UlSU, 2018. - Title. from the screen. - Electron. text data. (1 file: 5.24 MB). - Text: electronic. - http://lib.ulsu.ru/MegaPro/Download/MObject/1391

educational-methodical

Gimaev R. Kh. Methodological instructions for the organization of independent work of students in the discipline "Clinical electrocardiography" for the specialty 31.05.01 "General medicine" / R. Kh. Gimaev; UlSU, Med. fac. - Ulyanovsk: UlSU, 2019. - Unpublished resource. - URL: http://lib.ulsu.ru/MegaPro/Download/MObject/10455. - Access mode: EBS UlGU. - Text: electronic.

Agreed:

Гл. библиотекарь	Мартынова С. Н.	
Должность сотрудника научной библиотеки	ФИО	Подпись

Application 2

b) Software

- Antivirus: DrWeb
- SPS Consultant Plus
- NEB RF
- EBS IPRBooks
- MicrosoftOffice 2016
- Internet: MozillaFirefox
- MicrosoftExcel2016

c) Professional databases, information and reference systems

1. Electronic library systems:

1.1. IPRbooks: electronic library system: website / group of companies IPR Media. - Saratov, [2020]. - URL: http://www.iprbookshop.ru . - Access mode: for registered. users. - Text: electronic.

1.2. YURAYT: electronic library system: website / LLC Electronic publishing house YURAYT. - Moscow, [2020]. - URL: https://www.biblio-online.ru . - Access mode: for registered. users. - Text: electronic.

1.3. Student advisor: electronic library system: website / Polytekhresurs LLC. - Moscow, [2020]. - URL: http://www.studentlibrary.ru/catalogue/switch_kit/x2019-128.html. - Access mode: for registered. users. - Text: electronic.

1.4. Lan: electronic library system: website / EBS Lan. - St. Petersburg, [2020]. - URL: http://www.studentlibrary.ru/pages/catalogue.html https://e.lanbook.com . - Access mode: for registered. users. - Text: electronic.

1.5. **Znanium.com :** electronic library system: website / Znanium LLC. - Moscow, [2020]. - URL: http://www.studentlibrary.ru/pages/catalogue.html http://znanium.com. - Access mode: for registered. users. - Text: electronic.

2. ConsultantPlus [Electronic resource]: reference legal system. / LLC "Consultant Plus" - Electron. Dan. - Moscow: ConsultantPlus, [2020].

3. Databases of periodicals:

3.1. Database of periodicals: electronic journals / LLC IVIS. - Moscow, [2020]. - URL: https://dlib.eastview.com/browse/udb/12 . - Access mode: for authorization. users. - Text: electronic.

3.2. eLIBRARY.RU: scientific electronic library: site / Scientific Electronic Library LLC. - Moscow, [2020]. - URL: http://elibrary.ru . - Access mode: for authorization users. - Text: electronic

3.3. "Grebennikon": electronic library / ID Grebennikov. - Moscow, [2020]. - URL: https://id2.action-media.ru/Personal/Products . - Access mode: for authorization users. - Text: electronic.

4. National Electronic Library : Electronic Library: Federal State Information System: website / Ministry of Culture of the Russian Federation; RSL. - Moscow, [2020]. - URL: http://www.studentlibrary.ru/pages/catalogue.html https: //neb.rf . - Access mode: for users of the scientific library. - Text: electronic.

5. SMARTImagebase // EBSCOhost: [portal]. - URL : https://ebsco.smartimagebase.com/?TOKEN=EBSCO-1a2ff8c55aa76d8229047223a7d6dc9c&custid=s6895741. - Access mode: for authorization users. - Image: electronic.

6. Federal information and educational portals:

6.1. Single window of access to educational resources : federal portal / founder of FGAOU DPO TsRGOP and IT. - URL: http://window.edu.ru/ . - Text: electronic.

6.2. Russian education : federal portal / founder of FGAOU DPO TsRGOP and IT. - URL: http://www.edu.ru . - Text: electronic.

7. Educational resources of UlSU:

7.1. Electronic library of UlSU: module ABIS Mega-PRO / Data Express LLC. - URL: http://lib.ulsu.ru/MegaPro/Web . - Access mode: for users of the scientific library. - Text: electronic.

1. 7.2. UlSU educational portal. - URL: http://edu.ulsu.ru . - Access mode: for register. users. - Text: electronic.

Agreed:

Лист согласования 2

Дисциплины/практики Clinical electrocardiography

№	Содержание изменения или ссылка на прилагаемый текст	ФИО заведующего кафедрой, реализующего дисциплину/выпускающей кафедрой	Подпись	Дата
1	Приложение 1»Внесене изменений в п.п. а)Список рекомендуемой литературы п. 11 «Учебно-методическое и информационное обеспечение дисциплины/практики» с оформлением отдельного приложения	Рузов В.И.		29/08/22
2	Приложение 1»Внесене изменений в п.п. б)Профессиональные базы данных п. 11 «Учебно-методическое и информационное обеспечение дисциплины/практики» с оформлением отдельного приложения	Рузов В.И.		29/08/22

Application 1

EDUCATIONAL-METHODICAL AND INFORMATION SUPPORT OF DISCIPLINE

A. List of recommended literature

a). Core reading:

1. Ивашкин В. Т. Internal diseases propedeutics / V. T. Ivashkin, A. V. Okhlobystin. - Moscow : GEOTAR-Media, 2020. - 176 p. - 176 с. - ISBN 978-5-9704-5555-5. - Текст : электронный // ЭБС "Консультант студента": [сайт]. - URL: https://www.studentlibrary.ru/book/ISBN9785970455555.html

2 Internal Diseases: Textbook in 2 Vols. Vol. I / edited by A. I. Martynov, Z. D. Kobalava, S. V. Moiseev. - Moscow: GEOTAR-Media, 2022. - 688 с. - ISBN 978-5-9704-6766-4. - Текст:электронный // ЭБС "Консультант студента": [сайт]. - URL : https://www.studentlibrary.ru/book/ISBN9785970467664.html

3. Internal Diseases. Vol. II. : Textbook in 2 Vols. / edited by A. I. Martynov, Z. D. Kobalava, S. V. Moiseev. - Moscow : GEOTAR-Media, 2022. - 616 с. - ISBN 978-5-9704-6767-1. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. - URL : https://www.studentlibrary.ru/book/ISBN9785970467671.html

b). Supplementary reading:

1.LWW ECG Interpretation: An Incredibly Easy Pocket Guide /Ed.: Third edition. Philadelphia : Wolters Kluwer Health. 2017. - 100 Pages. Resource Type: eBook. Related ISBNs: 9781496352163. 9781496352170. - **URL :** https://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=1690663&site=ehost-live&scope=site&ebv=EK&ppid

2.Rowlands, Angela, Sargent, Andrew The ECG Workbook. Edition: 4th edition. Keswick : M&K Publishing. 2019. eBook. Related ISBNs:9781910451267. 9781910451762. https://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=2103565&site=ehost-live&scope=site&ebv=EB&ppid

3. Smirnova A. Yu. Basis of functional and laboratory diagnostics : textbook of medicine for medicine faculty students / Smirnova A. Yu., V. V. Gnoevykh; Ulyanovsk State University, Insitute of Medicine, Ecology and Physical culture. - Ulyanovsk : ULSU, 2018. - 163 p. : ill. - Текст на англ. яз. URL: http://lib.ulsu.ru/MegaPro/Download/MObject/1237 . - Режим доступа: ЭБС УлГУ. - Текст : электронный.

c). Educational and methodical literature

1. Gimaev R.Kh. Methodological manual for the self-study work of students studied the discipline «Clinical electrocardiography» in the specialty 31.05.01 «General medicine»: toolkit / Gimaev R.Kh. ; Ulyanovsk State University. - Ulyanovsk : UlSU, 2022. - 12 p. - Неопубликованный ресурс; На англ. яз. - URL: http://lib.ulsu.ru/MegaPro/Download/MObject/13064. - Режим доступа: ЭБС УлГУ. - Текст : электронный.

AGREED:

Main Librarian	Смирнова	Смир	22.04.2022
The position of the worker scientific library	Full name	signature	data

Application 2

c) Software:

1. Система «Антиплагиат.ВУЗ»
2. ОС Microsoft Windows
3. Microsoft Office 2016
4. Мой Офис Стандартный

d) Professed data base, directory and search systems:

1. Electronic library systems:

1.1. Цифровой образовательный ресурс IPRsmart: электронно-библиотечная система: сайт /ООО Компания «Ай Пи Ар Медиа». - Саратов, [2022].— URL: http://www.iprbookshop.ru . — Режим доступа: для зарегистрир. пользователей. - Текст электронный.

1.2. Образовательная платформа ЮРАЙТ: образовательный ресурс, электронная библиотека сайт / ООО Электронное издательство ЮРАЙТ. — Москва, [2022]. - URL: https://urait.ru. — Режим доступа: для зарегистрир. пользователей. - Текст: электронный.

1.3. Консультант врача. Электронная медицинская библиотека: база данных: сайт/ ООО Высшая школа организации и управления здравоохранением-Комплексный медицинский консалтинг. — Москва, [2022]. — URL: https://www.rosniedlib.ru. — Режим доступа: для зарегистрир. пользователей. — Текст: электронный.

1.4. Большая медицинская библиотека: электронно-библиотечная система: сайт/ ООО Букап. — Томск, [2022]. — URL: https://www.books-up.ru/ru/library/. — Режим доступа: для зарегистрир. пользователей. — Текст: электронный.

1.5. ЭБС Лань: электронно-библиотечная система: сайт / ООО ЭБС Лань. — Санкт- Петербург, [2022]. — URL: https://e.lanbook.com. — Режим доступа: для зарегистрир. пользователей. — Текст: электронный.

1.6. ЭБС Znanium.com: электронно-библиотечная система: сайт /ООО Знаниум. - Москва, [2022). - URL: http://znanium.com. — Режим доступа: для зарегистрир. пользователей. - Текст: электронный.

1.7. Clinical Collection : научно-информационная база данных EBSCO // EBSCOhost : [портал]. — URL: http://web.b.ebscohost.com/ehost/search/advanced?vid=l&sid=9f57a3e1-1191-414b-8763-e97828f9f7e1%40sessionmgr102. — Режим доступа: для авториз. пользователей. — Текст: электронный,

1.8. Data base «Русский как иностранный»: электронно-образовательный ресурс для иностранных студентов: сайт / ООО Компания «Ай Пя Ар Медиа». — Саратов, [2022]. — URL: https://ros-edu.ru. — Режим доступа: для зарегистрир. пользователей. — Текст: электронный.

2. ConsultantPlus [Электронный ресурс]: legal search system. /ООО «Консультант Плюс» - Электрон. дан. - Москва: КонсультантПлюс, [2022).

3. Базы данных периодических изданий:

3.1. База данных периодических изданий EastView: электронные журналы / ООО ИВИС. - Москва, [2022]. - URL: https://dlib.eastview.com/browse/udb/12. — Режим доступа: для авториз. пользователей. — Текст: электронный.

3.2. eLIBRARY.RU: научная электронная библиотека: сайт / ООО Научная Электронная Библиотека. — Москва, [2022]. — URL: http://elibrary.ru. — Режим доступа: для авториз. пользователей. — Текст: электронный.

3.3. Электронная библиотека «Издательского дома «Гребенников» (Grebinnikon): электронная библиотека / ООО ИД Гребенников. — Москва, [2022]. — URL: https://id2.action- media.ru/Personal/Products. — Режим доступа: для авториз.пользователей.

— Текст электронный.

4. **Федеральная государственная информационная система «Национальная электронная библиотека»**: электронная библиотека: сайт / ФГБУ РГБ. — Москва, [2022]. — URL: https://нэб.рф. — Режим доступа: для пользователей научной библиотеки. — Текст: электронный.
5. **SMART Imagebase**: научно-информационная база данных EBSCO // EBSCOhost: [портал]. — URL: https://ebsco.smartimagebase.com/?TOKEN=EBSCO-1a21f8c55aa76d8229047223a7d6dc9c&custid=s6895741 — Режим доступа: для авторизованных пользователей. — Изображение: электронное.
6. **Федеральные информационно-образовательные ресурсы:**

6.1. Единое окно доступа к образовательным ресурсам: федеральный портал. — URL: http://window.edu.ru/ - Текст: электронный.

6.2. Российское образование: федеральный портал/ учредитель ФГАУ «ФИЦТО» — URL: http://www.edu.ru — Текст: электронный.

7. **Образовательные ресурсы УлГУ:**

7.1. Электронная библиотечная система УлГУ: модуль «Электронная библиотека» АБИС Мега-ПРО / ООО «Дата Экспресс». — URL: http://lib.usu.ru/MegaPro/Web. — Режим доступа: для пользователей научной библиотеки. — Текст: электронный.

AGREED:

зам нач УИТТ	Кисунова ВЗ		22.04.2022
The position of the employee of DTTaT	Full name	signature	data

Лист согласования 3
Дисциплины/практики Clinical electrocardiography

№	Содержание изменения или ссылка на прилагаемый текст	ФИО заведующего кафедрой, реализующего дисциплину/выпускающей кафедрой	Подпись	Дата
1	Приложение 1»Внесене изменений в п.п. а)Список рекомендуемой литературы п. 11 «Учебно-методическое и информационное обеспечение дисциплины/практики» с оформлением отдельного приложения	Рузов В.И.		28/04/23
2	Приложение 1»Внесене изменений в п.п. б)Профессиональные базы данных п. 11 «Учебно-методическое и информационное обеспечение дисциплины/практики» с оформлением отдельного приложения	Рузов В.И.		28/04/23

Application 1

EDUCATIONAL-METHODICAL AND INFORMATION SUPPORT OF DISCIPLINE

A. List of recommended literature

a). Core reading:

1. Ивашкин В. Т. Internal diseases propedeutics / V. T. Ivashkin, A. V. Okhlobystin. - Moscow : GEOTAR-Media, 2020. - 176 p. - 176 с. - ISBN 978-5-9704-5555-5. - Текст : электронный // ЭБС "Консультант студента": [сайт]. - URL: https://www.studentlibrary.ru/book/ISBN9785970455555.html

2 Internal Diseases: Textbook in 2 Vols. Vol. I / edited by A. I. Martynov, Z. D. Kobalava, S. V. Moiseev. - Moscow: GEOTAR-Media, 2022. - 688 с. - ISBN 978-5-9704-6766-4. - Текст:электронный // ЭБС "Консультант студента": [сайт]. - URL : https://www.studentlibrary.ru/book/ISBN9785970467664.html

3. Internal Diseases. Vol. II. : Textbook in 2 Vols. / edited by A. I. Martynov, Z. D. Kobalava, S. V. Moiseev. - Moscow : GEOTAR-Media, 2022. - 616 с. - ISBN 978-5-9704-6767-1. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. - URL : https://www.studentlibrary.ru/book/ISBN9785970467671.html

b). Supplementary reading:

1. Smirnova A. Yu. Basis of functional and laboratory diagnostics : textbook of medicine for medicine faculty students / Smirnova A. Yu., V. V. Gnoevykh; Ulyanovsk State University, Insitute of Medicine, Ecology and Physical culture. - Ulyanovsk : ULSU, 2018. - 163 p. : ill. - Текст на англ. яз. URL: http://lib.ulsu.ru/MegaPro/Download/MObject/1237 . - Режим доступа: ЭБС УлГУ. - Текст : электронный.

c). Educational and methodical literature

1. Gimaev R.Kh. Methodological manual for the self-study work of students studied the discipline «Clinical electrocardiography» in the specialty 31.05.01 «General medicine»: toolkit / Gimaev R.Kh. ; Ulyanovsk State University. - Ulyanovsk : UlSU, 2022. - 12 p. - Неопубликованный ресурс; На англ. яз. - URL: http://lib.ulsu.ru/MegaPro/Download/MObject/13064. - Режим доступа: ЭБС УлГУ. - Текст : электронный.

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c) Software:

1. Система «Антиплагиат.ВУЗ»
2. ОС Microsoft Windows
3. Microsoft Office 2016
4. Мой Офис Стандартный

d) Professed data base, directory and search systems:

1. Electronic library systems:

1.1. Цифровой образовательный ресурс IPRsmart: электронно-библиотечная система: сайт /ООО Компания «Ай Пи Ар Медиа». - Саратов, [2022].— URL: http://www.iprbookshop.ru . — Режим доступа: для зарегистрир. пользователей. - Текст электронный.

1.2. Образовательная платформа ЮРАЙТ: образовательный ресурс, электронная библиотека сайт / ООО Электронное издательство ЮРАЙТ. — Москва, [2023]. - URL: https://urait.ru. — Режим доступа: для зарегистрир. пользователей. - Текст: электронный.

1.3. База данных «Электронная библиотека технического ВУЗа (ЭБС «Консультант студента»:электронная библиотечная система: сайт/ ООО»Политехресурс». – Москва, [2023]. – URL:https:||www/studentlibrary.ru/cgi-bin/mb4x. – Режим доступа: для зарегистрированных пользователей. – Текст электронный.

1.4. Консультант врача. Электронная медицинская библиотека: база данных: сайт/ ООО Высшая школа организации и управления здравоохранением-Комплексный медицинский консалтинг. — Москва, [2023]. — URL: https://www.rosniedlib.ru. — Режим доступа: для зарегистрир. пользователей. — Текст: электронный.

1.5. Большая медицинская библиотека: электронно-библиотечная система: сайт/ ООО Букап. — Томск, [2022]. — URL: https://www.books-up.ru/ru/library/. — Режим доступа: для зарегистрир. пользователей. — Текст: электронный.

1.6. ЭБС Лань: электронно-библиотечная система: сайт / ООО ЭБС Лань. — Санкт- Петербург, [2023]. — URL: https://e.lanbook.com. — Режим доступа: для зарегистрир. пользователей. — Текст: электронный.

1.7. ЭБС Znanium.com: электронно-библиотечная система: сайт /ООО Знаниум. - Москва, [2023). - URL: http://znanium.com. — Режим доступа: для зарегистрир. пользователей. - Текст: электронный.

2. ConsultantPlus [Электронный ресурс]: legal search system. /ООО «Консультант Плюс» - Электрон. дан. - Москва: КонсультантПлюс, [2023).

3. Базы данных периодических изданий:

3.1. eLIBRARY.RU: научная электронная библиотека: сайт / ООО Научная Электронная Библиотека. — Москва, [2023]. — URL: http://elibrary.ru. — Режим доступа: для авториз. пользователей. — Текст: электронный.

3.2. Электронная библиотека «Издательского дома «Гребенников» (Grebinnikon): электронная библиотека / ООО ИД Гребенников. — Москва, [2023]. — URL: https://id2.action- media.ru/Personal/Products. — Режим доступа: для авториз.пользователей. — Текст электронный.

4. Федеральная государственная информационная система «Национальная электронная библиотека»: электронная библиотека: сайт / ФГБУ РГБ. — Москва, [2023]. — URL: https://нэб.рф. — Режим доступа: для пользователей научной библиотеки. — Текст: электронный.

5. Федеральные информационно-образовательные ресурсы:

5.1. Российское образование: федеральный портал/ учредитель ФГАУ «ФИЦТО» — URL:

http://www.edu.ru — Текст: электронный.

6. **Электронная библиотечная система УлГУ:** модуль «Электронная библиотека» АБИС Мега-ПРО / ООО «Дата Экспресс». — URL: http://lib.usu.ru/MegaPro/Web. — Режим доступа: для пользователей научной библиотеки. — Текст: электронный.

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Инженер ведущий	Шуренко Ю.Б.		20.06.2023
Должность сотрудника УИТиТ	ФИО	Подпись	Дата

Лист согласования 4

Дисциплины/практики Clinical electrocardiography

№	Содержание изменения или ссылка на прилагаемый текст	ФИО заведующего кафедрой, реализующего дисциплину/выпускающей кафедрой	Подпись	Дата
1	Приложение 1»Внесене изменений в п.п. а)Список рекомендуемой литературы п. 11 «Учебно-методическое и информационное обеспечение дисциплины/практики» с оформлением отдельного приложения	Рузов В.И.		16/04/24
2	Приложение 1»Внесене изменений в п.п. б)Профессиональные базы данных п. 11 «Учебно-методическое и информационное обеспечение дисциплины/практики» с оформлением отдельного приложения	Рузов В.И.		16/04/24

Application 1

EDUCATIONAL-METHODICAL AND INFORMATION SUPPORT OF DISCIPLINE

A. List of recommended literature

a). Core reading:

1. Ивашкин В. Т. Internal diseases propedeutics / V. T. Ivashkin, A. V. Okhlobystin. - Moscow : GEOTAR-Media, 2020. - 176 p. - 176 с. - ISBN 978-5-9704-5555-5. - Текст : электронный // ЭБС "Консультант студента": [сайт]. - URL: https://www.studentlibrary.ru/book/ISBN9785970455555.html

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1. Smirnova A. Yu. Basis of functional and laboratory diagnostics : textbook of medicine for medicine faculty students / Smirnova A. Yu., V. V. Gnoevykh; Ulyanovsk State University, Insitute of Medicine, Ecology and Physical culture. - Ulyanovsk : ULSU, 2018. - 163 p. : ill. - Текст на англ. яз. URL: http://lib.ulsu.ru/MegaPro/Download/MObject/1237 . - Режим доступа: ЭБС УлГУ. - Текст : электронный.

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1. Gimaev R.Kh. Methodological manual for the self-study work of students studied the discipline «Clinical electrocardiography» in the specialty 31.05.01 «General medicine»: toolkit / Gimaev R.Kh. ; Ulyanovsk State University. - Ulyanovsk : UlSU, 2022. - 12 p. - Неопубликованный ресурс; На англ. яз. - URL: http://lib.ulsu.ru/MegaPro/Download/MObject/13064. - Режим доступа: ЭБС УлГУ. - Текст : электронный.

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Application 2

Профессиональные базы данных, информационно-справочные системы

1. Электронно-библиотечные системы:

1.1. Цифровой образовательный ресурс IPRsmart : электронно-библиотечная система : сайт / ООО Компания «Ай Пи Ар Медиа». - Саратов, [2024]. – URL: http://www.iprbookshop.ru. – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.2. Образовательная платформа ЮРАЙТ : образовательный ресурс, электронная библиотека : сайт / ООО Электронное издательство «ЮРАЙТ». – Москва, [2024]. - URL: https://urait.ru . – Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.3. База данных «Электронная библиотека технического ВУЗа (ЭБС «Консультант студента») : электронно-библиотечная система : сайт / ООО «Политехресурс». – Москва, [2024]. – URL: https://www.studentlibrary.ru/cgi-bin/mb4x. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.4. Консультант врача. Электронная медицинская библиотека : база данных : сайт / ООО «Высшая школа организации и управления здравоохранением-Комплексный медицинский консалтинг». – Москва, [2024]. – URL: https://www.rosmedlib.ru. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.5. Большая медицинская библиотека : электронно-библиотечная система : сайт / ООО «Букап». – Томск, [2024]. – URL: https://www.books-up.ru/ru/library/ . – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.6. ЭБС Лань : электронно-библиотечная система : сайт / ООО ЭБС «Лань». – Санкт-Петербург, [2024]. – URL: https://e.lanbook.com. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

1.7. ЭБС Znanium.com : электронно-библиотечная система : сайт / ООО «Знаниум». - Москва, [2024]. - URL: http://znanium.com . – Режим доступа : для зарегистрир. пользователей. - Текст : электронный.

2. КонсультантПлюс [Электронный ресурс]: справочная правовая система. / ООО «Консультант Плюс» - Электрон. дан. - Москва : КонсультантПлюс, [2024].

3. eLIBRARY.RU: научная электронная библиотека : сайт / ООО «Научная Электронная Библиотека». – Москва, [2024]. – URL: http://elibrary.ru. – Режим доступа : для авториз. пользователей. – Текст : электронный

4. Федеральная государственная информационная система «Национальная электронная библиотека» : электронная библиотека : сайт / ФГБУ РГБ. – Москва, [2024]. – URL: https://нэб.рф. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

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