Federal State Autonomous Educational Institution of Higher Education

"Peoples' Friendship University of Russia"

Medical Institute

Recommended by ISSC

THE WORKING PROGRAM OF THE DISCIPLINE

Name of the discipline: Heart failure

Recommended for the direction of training / specialty: 31.06.01 Clinical medicine

Focus of the program (profile): 14.01.04 Internal disease: heart failure

Qualification (degree) of the graduate: Researcher. Research teacher.

Form of study: full-time (3 years)

1. Goals and objectives of the discipline:
Discipline objectives:
- study of the etiology, pathogenesis, diagnosis and treatment of diseases of the cardiovascular system
Discipline objectives:
- study of the etiological and pathogenetic foundations of diseases of the cardiovascular system;
- mastering the basic diagnostic methods for the diagnosis and treatment of diseases of the cardiovascular system.

2. Place of discipline in the structure of EP:
Discipline "Heart failure" refers to the variable part of Block 1, is an optional discipline, read in the 4th semester (4 EC, 144 hours).
In the process of mastering the discipline, the following universal competencies (UC) are formed:

- the ability to plan and solve problems of their own professional and personal development (UC-6).

In the process of mastering the discipline, the following general professional competencies (GPC) are formed:

- the ability and readiness to conduct applied scientific research in the field of biology and medicine (GPC-2);
- the ability and willingness to analyze, generalize and publicly present the results of completed scientific research (GPC-3);
- the ability and readiness to use the laboratory and instrumental base for obtaining scientific data (GPC-5);

In the process of mastering the discipline, the following professional competencies (PC) are formed:

- ability and readiness to analyze, generalize and publicly present the results of scientific research in the field of clinical medicine (PC-2);
- readiness to use laboratory and instrumental base for obtaining scientific data (PC-4);

Table 1 shows the previous and subsequent disciplines aimed at the formation of discipline competencies in accordance with the competence matrix of EP HE.

Table No. 1

Prior and subsequent disciplines aimed at the formation of competencies

P / p No.	Code and name of competence	Preceding disciplines	Subsequent disciplines (groups of disciplines)
General cultural competences			
1	UC-6	Pedagogics of higher education, Internal medicine	Lab and functional diagnostics Clinical pharmacology , Practice
General professional competencies			
2	GPC-2	Methodology of scientific research, Internal medicine	Lab and functional diagnostics Clinical pharmacology, Practice
3	GPC-3	Methodology of scientific research, Internal medicine	Lab and functional diagnostics Clinical pharmacology, Practice
4	GPC-5	Internal medicine	Lab and functional diagnostics Clinical pharmacology , Practice
Professional competence			
5	PC-2	Methodology of scientific research, Internal medicine	Lab and functional diagnostics Clinical pharmacology , Practice
6	PC-4	Internal medicine	Lab and functional diagnostics Clinical pharmacology , Practice

3. Requirements for the results of mastering the discipline:
As a result of studying the discipline, a graduate student must:

Know:

- definition of the concept of "health", its structure and content, patterns of formation of a healthy lifestyle; definition of the concept of "prevention", medical prevention "," pre-illness "and" disease "; risk factors for common cardiovascular diseases;
- types of preventive measures; theoretical foundations of balanced nutrition;
- principles of preventive nutrition; principles of prevention of alcoholism, tobacco smoking, drug addiction and substance abuse; principles of individual and professional hygiene, including a set of measures for hygienic care in preparing a patient in the preoperative and postoperative periods.
- regularities of the body's functioning and mechanisms of ensuring health from the position of the theory of functional systems;
- the essence of methods for studying various human functions to assess the state of his health, the main regularities and the role of the causes, conditions and reactivity of the body in the occurrence of diseases;
- causes, mechanisms of development and manifestation, pathological processes underlying cardiovascular diseases;
- etiology, pathogenesis and pathomorphology, leading manifestations, outcomes of the most important inflammatory, destructive, immunopathological, tumor and other diseases;
- methodological foundations of medicinal and non-medicinal methods of prevention and treatment of common human cardiovascular diseases;
- the main provisions of legislative acts regulating the reform of management and financing of health care, the introduction of health insurance for citizens;
- fundamentals of legislation on health care, directive documents defining the activities of institutions and departments of health care of various forms of ownership;
- legal issues of the activities of doctors, middle and junior medical personnel in medical institutions;
- qualification requirements for a cardiologist, his rights and obligations, principles of work organization in state, non-state medical institutions and insurance companies;
- fundamentals of clinical pharmacology, pharmacokinetics and principles of pharmacotherapy for the most common cardiovascular diseases;
- principles of diet therapy, psychotherapy, exercise therapy and physiotherapy in the treatment of common cardiovascular diseases in adults;
- basics of resuscitation and intensive care, pathophysiology of the extinction of vital functions of the body, indications for resuscitation;
- medical, legal and social aspects of the issue of termination of resuscitation measures;
- organization of cardiac care for the population;
- modern theories of the etiology and pathogenesis of inflammatory, dystrophic, dysplastic, neoplastic, diseases of the cardiovascular system in adults, elderly and senile people;
- features of the modern manifestation of the clinic and the course of cardiological diseases in adults, elderly and senile people;
- modern principles of therapy of cardiac diseases in adults, elderly and senile people.

Be able to:

- apply the principles of preventive medicine when carrying out health-improving and preventive measures;

- give recommendations on the correction of cardiovascular risk factors;
- provide emergency medical care in the amount of first medical aid at the prehospital stage in case of emergency and life-threatening conditions;
- evaluate and explain the basic laws of the formation and regulation of human physiological functions in the process of his life;
- evaluate and explain the age-related characteristics of the human body and its functional systems;
- navigate general issues of nosology, including etiology, pathogenesis and morphogenesis;
- to represent the role of pathological processes in the development of diseases of various etiology and pathogenesis;
- to use the theoretical foundations of medicinal and non-medicinal methods of prevention and treatment of common human diseases.
- organize a medical and diagnostic process and carry out preventive measures in the cardiology department of the polyclinic and hospital;
- to form a healthy lifestyle, to conduct an examination of the temporary and permanent disability of patients, to comply with the rules of medical ethics and medical deontology;
- to determine the indications and contraindications for the prescription of medicines in the amount of qualified or specialized cardiac care for common cardiovascular diseases in adults;
- to determine the indications and contraindications for the use of physiotherapy exercises, a complex of rehabilitation measures in the treatment of common cardiovascular diseases in adults;
- to determine the indications and contraindications for the appointment of physiotherapeutic procedures in the treatment of common cardiovascular diseases in adults;
- determine the indications and contraindications for resuscitation;
- apply non-instrumental and instrumental methods of restoring airway patency and perform chest compressions.
- organize the prevention of cardiovascular diseases;
- to carry out early diagnosis by clinical symptoms and syndromes, differential diagnosis, to assess the severity of the patient's condition, to determine the indications for hospitalization;
- determine the scope and sequence of special diagnostic measures, evaluate their results;
- draw up and substantiate a plan of therapeutic measures, formulate indications and contraindications for surgical intervention in cardiovascular pathology;
- to assess the need for the participation of doctors of related specialties in the complex treatment of adults, children, elderly and senile people:
- organize medical examination, rehabilitation, examination of the working capacity of patients with cardiovascular diseases;
- carry out preventive, diagnostic and therapeutic measures for major cardiovascular diseases.
- provide emergency and planned cardiac care within the framework of basic skills and abilities to patients with diseases of the cardiovascular system;

Own:

- methods of providing first aid in case of emergency;

- fully general medical manipulations and the latest methods and technologies of additional examination, freely interpret their data
- preventive, diagnostic and therapeutic measures in the amount of qualified or specialized care;
- knowledge of the causes, mechanisms of development and manifestation of pathological processes underlying the most common cardiovascular diseases;
- methodological foundations of medicinal and non-medicinal methods of treatment of common cardiovascular diseases;
- knowledge of general issues of nosology, etiology, pathogenesis and morphogenesis;
- knowledge of the main legislative acts governing reforms in the management and financing of health care, health insurance of citizens, including:
- knowledge of the basics of healthcare legislation, directive documents defining the activities of institutions and healthcare units of various forms of ownership;
- knowledge of the legal issues of the activities of doctors, nurses and nurses in cardiovascular institutions;
- at an advanced level, carry out preventive, diagnostic and therapeutic measures for inflammatory diseases of the cardiovascular system;
- methods of treating complications arising in the process of treating inflammatory diseases of the cardiovascular system;
- knowledge of the clinical manifestations of benign and malignant tumors of the cardiovascular system, modern and traditional diagnostic methods, measures of their prevention, methods of treatment;
- knowledge of the structure of cardiac diseases in adults, know the etiology, pathogenesis, diagnosis of major cardiovascular diseases in the section - cardiology;
- methods of diagnostics of common cardio-neurological diseases, to carry out their differential diagnosis;
- knowledge in the field of modern methods of radiation diagnostics, their features and capabilities, including: traditional radiography, radiopaque angiography, computed tomography, spiral computed tomography, magnetic resonance imaging, ultrasound diagnostics;
- modern information technologies: navigate and act in the modern information field, know the technological capabilities of modern software;
- use a personal computer to create a database of patients, regulatory documents and compilation of statistical reports.

4. Scope of discipline and types of educational work

The total workload of the course is 4 credit points.

No.	Type of study load	Total hours
1.	**Auditory lessons**	**18**
	Including:	
1.1	Lectures	6
1.2	Other occupations	
	Including	

1.2.1	Practical lessons (PZ)	12
1.2.2	Seminars (C)	
1.2.3	Laboratory exercises (LZ)	
	Of these, in an interactive form (IF)	
2.	**Independent work of graduate students (academic hours)**	**126**
	Including:	
2.1	Course project (work)	
2.2	Calculation and graphic works	
2.3	abstract	
2.4	Preparation and passing of interim / final certification	27
	Other types of independent work	
3.	**Total labor intensity (academic hours)**	**144**
	Total labor intensity (credit units)	**4**

5. Content of the discipline

5.1 Content of discipline sections

No. p / p	The name of the discipline section	Section Contents
1	Arterial hypertension	Risk factors. Classification, clinical presentation, examination methods, drug and non-drug treatment. Surgical and interventional treatments, indications and contraindications.
2	Ischemic heart disease. Risk factors. Angina pectoris.	Ischemic heart disease. Risk factors. Exertional angina. Classification (functional classes of angina pectoris), clinical symptoms, drug and non-drug treatment. Surgical and interventional treatments, indications and contraindications. Prinzmetal's angina. The reasons. The clinical picture. Diagnostics, differential diagnostics, treatment tactics. Painless myocardial ischemia. Causes of occurrence, clinical picture, diagnosis and differential diagnosis, treatment. Syndrome - H. clinical picture, differential diagnosis, treatment features. Cardialgia: non-coronary heart disease, diseases of the musculoskeletal system, lungs and pleura, esophagus, stomach, duodenum, gallbladder, pancreas and other diseases with which it is necessary to carry out a differential diagnosis
3	ACS. Myocardial infarction	ACS, classification. Unstable angina: definition, pathogenesis, classification, diagnosis, differential diagnosis, drug treatment, surgical and interventional methods of treatment of unstable angina, indications and contraindications Epidemiology of myocardial infarction. Risk factors. Pathogenesis. Classifications. Types of myocardial infarction. The clinical picture. Diagnostics and differential diagnosis of myocardial infarction. Instrumental methods: ECG changes, their staging; echocardiography. Laboratory diagnostics. The course and complications of myocardial infarction. Treatment.

4	Heart rhythm disturbances. Conduction disorders of the heart (blockade).	Etiology, pathogenesis, classification of cardiac arrhythmias. Ectopias, supraventricular and ventricular extrasystoles, paroxysmal tachycardia, flutter and atrial and ventricular fibrillation. Classification, clinical presentation, ECG diagnostics, treatment tactics. Fibrillation ventricles. Emergency therapy. Classification of cardiac conduction disorders. Sick sinus syndrome. Sinoatrial, atrioventricular and intraventricular blockade (blockade of the bundle branch, branches of the left leg) Causes of occurrence, clinical picture, ECG - diagnostics, treatment tactics. Complications of conduction disorders, clinical picture, diagnosis, differential diagnosis of complications. Treatment. Syndromes of premature excitation of the ventricles. Classification, diagnostics, differential diagnostics. Medication and non-medication treatment. Long QT syndrome. Causes, ECG diagnostics, clinical symptoms, treatment tactics. Transesophageal cardiac stimulation in the diagnosis and treatment of patients with cardiac arrhythmias and conduction disorders. Pacemakers. Classification. Indications and contraindications for temporary and permanent cardiac stimulation. Methods of implantation of pacemakers. ECG with pacing. Features of hemodynamics during cardiac stimulation. Pacemaker's syndrome, mechanism of occurrence and treatment.
5	Acquired heart defects. Pericarditis. Cardiomyopathy and myocarditis.	Insufficiency of a two-piece valve. Stenosis of the left atrioventricular foramen. .Insufficiency of the aortic valve. Narrowing of the aortic opening. Etiology, pathogenesis, clinical picture, diagnostic methods, differential diagnosis, treatment. Stenosis and tricuspid valve insufficiency. Combined heart defects. Etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment. Heart defects Surgical methods of treatment of valvular heart lesions. Indications and contraindications for surgical treatment. Pericarditis. Etiology, pathogenesis, classification, clinical picture, diagnosis, differential diagnosis, treatment. Indications for pericardial puncture, pericardial puncture technique. Pericardial biopsy. Features of the clinical manifestations of pericarditis in trauma, tuberculosis, neoplasms, systemic lupus erythematosus, myxedema, uremia, etc. Dry pericarditis. Clinical picture, diagnosis, differential diagnosis, ECG, EchoCG. Treatment. Acute effusion pericarditis. The clinical picture. Diagnosis. Differential diagnosis. The value of X-ray examination, echocardiography. Cardiac tamponade. Symptoms of compression of the heart. Treatment taking into account the etiological factor. Adhesive (constrictive) pericarditis. Etiology. The mechanism of development and features of circulatory disorders, "pseudocirrhosis" of the liver. Postoperative adhesive pericarditis. Diagnosis, treatment. Indications for puncture of the pericardium. Indications and surgical treatment and its types. Myocarditis. Classification. Etiology and pathogenesis. Clinical manifestations. Diagnostics and differential diagnostics. Treatment. Forecast. Prevention.

		Cardiomyopathy. Classification. Pathogenesis of intracardiac hemodynamic disorders in dilated, hypertrophic and restrictive cardiomyopathy. Clinical manifestations. Diagnostics and differential diagnostics. Course and complications. Forecast. Medication. Indications for surgical treatment.
6	Acute and chronic heart failure.	Etiology, pathogenesis, clinic, diff. diagnostics of acute and chronic heart failure. Classification. Modern methods of examination and treatment Acute and chronic heart failure.

5.2. Section of disciplines and types of classes

No. p / p	**Name section**	**Lectures**	**Practical exercises and laboratory work**			**CPC**	**Total**
			PZ	**LR**	**Including in IF**		
4 semester							
1	Arterial hypertension	1	1			21	23
2	Ischemic heart disease. Risk factors. Angina pectoris.	1	1			21	23
3	ACS. Myocardial infarction	1	1			21	23
4	Heart rhythm disturbances. Conduction disorders of the heart (blockade).	1	2			21	24
5	Acquired heart defects. Pericarditis. Cardiomyopathy and myocarditis.	1	3			21	25
6	Acute and chronic heart failure.	1	4			21	26
TOTAL		**6**	**12**			**126**	144

6. Practical lessons (seminars)

No. p / p	Discipline section	Practical training topics (seminars)	Labor intensity (hours)
1	Arterial hypertension	1.Arterial hypertension, hypertension 2.Symptomatic hypertension	1
2	Ischemic heart disease. Risk factors. Angina pectoris.	1.Stenocardia 2.Treatment of angina pectoris 3.Cardialgia	1
3	ACS. Myocardial infarction	1. Myocardial ischemia 2.Acute coronary syndrome 3. Myocardial infarction	1
4	Heart rhythm disturbances. Conduction disorders of the heart (blockade).	1. Rhythm disturbances 2. Treatment of arrhythmias. 3. Violation of conductivity 4.Treatment of conduction disorders	2
5	Acquired heart defects. Pericarditis.	1.Diagnosis and treatment of heart defects	3

	Cardiomyopathy and myocarditis.	2. Diagnosis and treatment of pericarditis 3. Cardiac tamponade 4. Cardiomyopathy 5. Myocarditis	
6	Acute and chronic heart failure.	1.Acute heart failure 2. Chronic heart failure 3. Treatment of heart failure	4

7. Material and technical support of the discipline:

P / p No.	Department name	Name of special * rooms and rooms for independent work	Name of benefits, equipment
1.	**Department of Internal Medicine with a course of cardiology and functional diagnostics named after V.S. Moiseeva**	Moscow, st. Vavilova, 61, GBUZ GKB im. V.V. Vinogradov DZ Moscow " 10 classrooms for 30, a conference hall for 200 training and seating places.	Lecture rooms are equipped with multimedia equipment. The offices are equipped with computers and Internet access, there is a scientific laboratory for genetic research. 1 lecture hall (multimedia projector, screen), 1 lecture room (laptop, LCD plasma screen). ECG rooms, ECHO-cardiography, functional diagnostics laboratory, general clinical laboratory, wards with patients of various therapeutic and cardiological profiles. Sets of specialized furniture, technical means: a dummy for practicing physical examination skills (2 pcs.), A multimedia projector (4 pcs.), A plasma panel (3 pcs.), A laptop (8 pcs.), A tablet (11 pcs.), A personal computer (7 pcs), magnetic board. A set of dummies, a set of educational videos and presentations, a set of analog and digital radiographs, tomograms, sonograms, angiograms, educational posters and tables.

8. Educational-methodical and informational support of the discipline

a) main literature

1. D. Zipes, P. Libby et all. Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine, 2-Volume Set, 11th Edition. Elsevier, 2018 .-- 2128.
2. Hurst's The Heart, 14th Edition. V. Fuster, RA Harrington, J. Narula, ZJ Eapen. McGraw-Hill Education, 2017 .-- 2208
3. Heart Failure: A Companion to Braunwald's Heart Disease, 3th Edition. D. Mann, GM Felker. Saunders, 2015 .-- 784
4. Harrison's Principles of Internal Medicine, 20th Edition. D. Kasper, AS Fauci, SL Hauser, DL Longo, JL Jameson, J. Loscalzo. McGraw-Hill Education / Medical, 2018.
5. Davidson's Principles and Practice of Medicine, 23th Edition. SH Ralston, ID Penman, M. W. J. Strachan. Elsevier, 2018 .-- 1440
6. Feigenbaum's Echocardiography. 8th Edition. WF Armstrong, T. Ryan. Wolters Kluwer. 2018 .-- 2841.
7. Evidence-Based Medicine - 5th Edition. S. Straus, P. Glasziou, S. Richardson, B. Haynes. Elsevier, 2018 .-- 336.
8. Moiseev V.S., Moiseev S.V., Kobalava Zh.D .. Heart Diseases. M .: "Medical Information Agency", 2008. -528 p.
9. Guidelines for the diagnosis and treatment of chronic heart failure. European Heart Journal (2008) 22, 1527-1560

10. American College of Cardiology / European Society of Cardiology Clinical Expert Consensus Document on Hypertrophic Cardiomyopathy European Heart Journal (2010) 24, 1965-1991
11. Guidelines on Prevention, Diagnosis and Treatment of Infective Endocarditis Executive Summary European Heart Journal (2009) 25, 267-276
12. ACC / AHA / ESC guidelines for the management of patients with atrial fibrillation. European Heart Journal (2010) 22, 1852-1923
13. Guidelines on diagnosis and treatment of pulmonary arterial hypertension European Heart Journal (2010) 25, 2243–2278
14. Cardiomyopathy and myocarditis / V.S.Moiseev. - M.: GEOTAR-Media, 2012 .-- 352 p.
15. Acute heart failure / V. S. Moiseev. - M.: Medical Information Agency, 2012 .-- 328 p.
16. Guidelines for the management of patients with atrial fibrillation. www. cardiosite.ru
17. Expert Consensus Document on the Use of Antiplatelet Agents. European Heart Journal (2014) 25, 166-181
18. Cardiology. National leadership. Edited by E.V. Shlyakhto Geotar-Media. 2015.800 p.
19. ESC Guidelines for the Management of Patients with Infective Endocarditis, 2015. Available on the website:http://www.scardio.org/guidelines
20. Fundamentals of Internal Medicine. Manual in 2 volumes / ed. V.S. Moiseev, Zh.D. Kobalava, I.V. Maev, A.D. Kaprin, E.I. Gusev, M.V. Shestakova, S.V. Moiseev. 2nd ed., Rev. and add. Moscow. LLC "Medical Information Agency", 2020.
21. VNOK recommendations for the treatment of acute coronary syndrome without persistent ST-segment elevation on ECG. www. cardiosite.ru
22. Recommendations for the diagnosis, treatment and prevention of hypertension in children and adolescents of the All-Russian Scientific Society of Cardiology and the Association of Pediatric Cardiologists of Russia. www. cardiosite.ru

b) additional literature

1. The ESC Textbook of Cardiovascular Medicine. TF Lüscher, JA Camm, G. Maurer, P. Serruys. Oxford University Press, 2018.
2. Oxford Textbook of Advanced Heart Failure and Cardiac Transplantation - Oxford Medicine. MJ Domanski, MR Mehra, MA Pfeffer.Oxford University Press, 2016 .-- 442.
3. The ESC Textbook of Intensive and Acute Cardiovascular Care. M. Tubaro, P. Vranckx, S. Price, C. Vrints. Oxford University Press, 2015 .-- 799.
4. The EHRA book of Pacemaker, ICD, and CRT Troubleshooting. H. Burri, C. Israel, J.-C. Deharo. Oxford, 2015 .-- 310.
5. The EACVI Textbook of Cardiovascular Imaging. JL Zamorano et al. Oxford University Press, 2015 .-- 678.
6. The ESC Handbook on Cardiovascular Pharmacology. JC Kaski, KP Kjeldsen. Oxford University Press, 2019. -960.
7. How to Read a Paper: The Basics of Evidence-based Medicine and Healthcare, 6th Edition | Trisha Greenhalgh.T. Greenhalgh... Blackwell Bmj Books, 2006 .-- 229.
8. Guidelines for cardiac arrhythmias p / ed. E.I. Chazova. M. 2010.
9. Moiseev V.S., Kiyakbaev G.K. Cardiomyopathies and myocarditis. Moscow, GEOTAR-Media. - 2013. 352s
10. Moiseev V.S., Nikolaev A.Yu., Garmash I.V. Alcoholic disease.Moscow, GEOTAR-Media. - 2014. 480s

c) journals:

1. Journal of the American College of Cardiology.
2. JACC: Heart Failure.
3. JACC: Cardiovascular Imaging.
4. Circulation.

5. Circulation: Heart Failure.
6. European Heart Journal.
7. European Journal of Heart Failure.
8. European Heart Journal - Cardiovascular Imaging.
9. EP-Europace.
10. JAMA: Cardiology
11. JAMA: Internal Medicine.

Internet resources:

1. Portal All-Russian Scientific Society of Cardiology and the Association of Pediatric Cardiologists of Russia. http: // www. cardiosite.ru/
2. Portal of the European Association of Cardiology. http://www.escardio.org/
3. American Heart Association website. http://www.heart.org/HEARTORG/
4. American Heart Association website. www.acc.org
5. Electronic library system of RUDN University;
6. RUDN educational portal (http://web-local.rudn.ru);
7. Scientific electronic library (http://elibrary.ru/defaultx.asp);
8. Universal library ONLINE (http://biblioclub.ru);
9. Library of electronic journals BENTHAM OPEN (http://www.benthamscience.com/open/az.htm);
10. Elsevier Electronic Journal Library (http://www.elsevier.com/about/open-access/open-archives)
11. Medical online library MedLib (http://med-lib.ru/);
12. Recommendations of the Russian Society of Cardiologywww.scardio.ru
13. USNational Library of Medicine National Institutes of Health:http://www.ncbi.nlm.nih.gov/pubmed/
14. Scientific electronic library: http://library.ru/defaultx.asp

9. Methodical instructions for students on mastering the discipline:

In practical classes and lectures in the classroom, the relevant topics are analyzed using multimedia technology (computer, projector). For classes and lectures, presentations prepared in Microsoft PowerPoint are intended. The main purpose of practical training is to study the etiology, pathogenesis, clinic, diagnostic methods, differential diagnosis and treatment of cardiac diseases.

Independent work of a graduate student

Independent work of graduate students during extracurricular hours can take place as in a computer class, where graduate students can study material on the presentations prepared by the teachers of the department, as well as on computer tests.

As one of the forms of independent work, it is envisaged that graduate students prepare abstracts for various sections of the course and presentations of reports at meetings of the department.

Extracurricular independent work of a postgraduate student includes:

- The study of material on the textbook, teaching aids on paper and electronic media.
- Preparation of an abstract message / presentation on a selected topic.
- Preparation for the execution of tests and test tasks.

10. Funds of assessment tools for intermediate certification by discipline

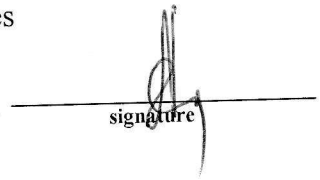
Materials for assessing the level of mastering the educational material of the discipline "Heart failure" (assessment materials), including a list of competencies with an indication of the stages of their formation, description of indicators and criteria for assessing competencies at various stages of their formation, description of assessment scales, typical control tasks or other materials

necessary for assessing knowledge, skills, skills and (or) experience of activity, characterizing the stages of the formation of competencies in the process of mastering the educational program, methodological materials that determine the procedures for assessing knowledge, skills, skills and (or) experience of activities that characterize the stages of formation competencies are developed in full and are available for students on the discipline page at TUIS RUDN.

The program has been drawn up in accordance with the requirements of the OS of VO RUDN.

Developers:

Associate Professor of Department Internal diseases with a course of cardiology and functional diagnostics named after V. S. Moiseev
position, department name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E.O.Kotova.
initials, surname

Head of the Department of Internal diseases with a course of cardiology and functional diagnostics named after V. S. Moiseev
position, department name


signature

Kobalava Zh. D.
initials, surname

Program Manager

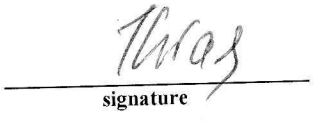
Head of the Department of Internal diseases with a course of cardiology and functional diagnostics named after V. S. Moiseev
position, department name


signature

Kobalava Zh. D.
initials, surname

Head of the Department

Head of the Department of Internal diseases with a course of cardiology and functional diagnostics named after V. S. Moiseev
position, department name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