

Документ подписан простой электронной подписью  
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Khanty-Mansiysk Autonomous Okrug-Ugra  
 "Surgut State University"

Approved by  
 Deputy Rector for Academic Affairs  
 \_\_\_\_\_ E. V. Konovalova  
 “11” June 2025, Record No. 5

## Functional diagnostics

### Syllabus

Department	<b>Cardiology</b>	
Curriculum	s310501-ЛечДелоИн-25-6.plx Specialty: 31.05.01 General Medicine	
Qualification	<b>General Practitioner</b>	
Form of education	<b>Full-time</b>	
Total (in credits)	<b>2</b>	
Total academic hours	72	Control: Credit 12 <sup>th</sup> term
including :		
Classes	48	
Self-study	24	

### Course outline in terms

Academic year (Term)	<b>12 (6.2)</b>		Total	
Weeks	18 4/6			
Types of classes	Cur	Syl	Cur	Syl
Lectures	16	16	16	16
Practical	32	32	32	32
Total contact	48	48	48	48
Contact work	48	48	48	48
Self-study	24	24	24	24
Total	72	72	72	72

The Syllabus is compiled by:

The Syllabus

**Functional diagnostics**

Developed in accordance with Federal State Educational Standard:

Federal State Educational Standard of higher education in the specialty 31.05.01 General medicine (Order of the Ministry of Education and Science of the Russian Federation on February 9, 2016 No. 95)

Based on the Curriculum:

31.05.01 GENERAL MEDICINE

Specialization: General Medicine

Approved by the Academic Council of Surgut State University, "11" June 2025, Record No. 5.

The Syllabus was approved by the department

**Cardiology**

Head of Department: PhD in Medical Sciences (Medicine), Associate Professor Urvantseva I. A.

1. COURSE OBJECTIVES						
1.1	To identify objective opportunities for improving the effectiveness of diagnostics of cardiovascular and other somatic diseases in adults by using functional diagnostic methods, as well as to determine the degree of deviation of the functions of affected organs and systems from age-related symptoms.					
2. COURSE OVERVIEW						
Course code (in curriculum)	Б1.В.ДВ.05					
2.1	<b>Assumed background:</b>					
2.1.1	Endovascular diagnostics (adaptive program)					
2.1.2	Instrumental research methods					
2.1.3	Faculty therapy, occupational diseases					
2.1.4	Faculty Surgery, Urology					
2.1.5	Propaedeutics of internal diseases, radiation diagnostics					
2.2	<b>Post-requisite courses and practice:</b>					
2.2.1	Outpatient therapy					
2.2.2	Endovascular diagnostics (adaptive program)					
2.2.3	Instrumental research methods					
2.2.4	Hospital therapy, endocrinology					
3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)						
GC-5: readiness for self-development, self-realization, self-education, use of creative potential						
GPC-9: ability to assess morphofunctional, physiological states and pathological processes in the human body to solve professional problems						
PC-6: ability to determine the patient's main pathological conditions, symptoms, syndromes of diseases, nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems.						
PC-22: readiness to participate in implementing new methods and approaches aimed at protecting public health						
By the end of the course students must:						
3.1	<b>Know:</b>					
objective opportunities for improving the effectiveness of diagnostics of cardiovascular and other somatic diseases in adults, functional diagnostic methods, degree of deviation of the functions of affected organs and systems from age-related symptoms.						
3.2	<b>Be able to:</b>					
identify objective opportunities for improving the effectiveness of diagnostics of cardiovascular and other somatic diseases in adults by using functional diagnostic methods, as well as to determine the degree of deviation of the functions of affected organs and systems from age-related symptoms.						
4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)						
Class code	Topics /Class type	Term / Academic year	Academic hours	Competences	Literature	Notes
	<b>Section 1. Electrocardiography and ECG control</b>					
1.1	/Lecture/	12	4	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
1.2	/Practical/	12	4	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
1.3	/Self-study/	12	4	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
	<b>Section 2. Functional electrocardiographic samples</b>					
2.1	/ Lecture /	12	4	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
2.2	/Practical/	12	4	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
2.3	/Self-study/	12	4	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
	<b>Section 3. Stress echocardiography</b>					
3.1	/Lecture/	12	6	OK-5, PC-9, PC-6	L1.1J2.1J3.1	

3.2	/Practical/	12	4	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
3.3	/Self-study/	12	2	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
	<b>Section 4. Daily (Holter) monitoring ECG</b>					
4.1	/Lecture/	12	6	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
4.2	/Practical/	12	4	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
4.3	/Self-study/	12	2	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
	<b>Section 5. Ultrasound Dopplerography of the main arteries of the head and brain</b>					
5.1	/ Lecture /	12	4	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
5.2	/ Practical /	12	6	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
5.3	/ Self-study /	12	2	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
	<b>Section 6. Study of external respiration function</b>					
6.1	/ Lecture /	12	6	OK-5, PC-9, PC-6	L1.1J2.1J3.1	Control work
6.2	/ Practical /	12	4	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
6.3	/ Self-study /	12	2	OK-5, PC-9, PC-6	L1.1J2.1J3.1	
	<b>Section 7. Intermediate certification</b>			OK-5, PC-9, PC-6		
7.1	/Credit/	12	0	OK-5, PC-9, PC-6		Task for credit

## 5. ASSESSMENT TOOLS

### 5.1. Assessment tools for ongoing monitoring and intermediate certification

Supplement 1

### 5.2. Assessment tools for diagnostic testing

Supplement 1

## 6. COURSE (MODULE) RESOURCES

### 6.1. Recommended literature

#### 6.1.1. Core literature

	Authors	Title	Publish, year	Quantity
L1.1	O. D. Mikhailova [et al.]	Base of electrocardiography diagnostic: textbook	Izhevsk: IGMA, 2023, electronic resource	1

#### 6.1.2. Supplementary literature

	Authors	Title	Publish, year	Quantity
L1.1	O. D. Mikhailova [et al.]	Base of electrocardiography diagnostic: textbook	Izhevsk: IGMA, 2023, electronic resource	1

#### 6.1.3. Didactic materials

	Authors	Title	Publish, year	Quantity
L3.1	S. V. Lelevich, V. V. Vorobyov, T. N. Grinevich	Clinical Laboratory Diagnostics for Foreign Students (in English)	St. Petersburg: Lan, 2023, electronic resource	1

### 6.2. Internet resources

E1	<a href="http://www.freemedicaljournals.com/22/highwire.stanford.edu/lists/freeart.dtl.23">http://www.freemedicaljournals.com/22/highwire.stanford.edu/lists/freeart.dtl.23</a>
E2	<a href="http://highwire.stanford.edu/lists/freeart.dtl">http://highwire.stanford.edu/lists/freeart.dtl</a>

E3	<a href="http://www.mcponline.org">http://www.mcponline.org</a> .
E4	<a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi">http://www.ncbi.nlm.nih.gov/entrez/query.fcgi</a> .
Э5	<a href="http://193.232.7.200/opacr.htm">http://193.232.7.200/opacr.htm</a>
Э6	<a href="http://www.blackwell-synergy.com/servlet/useragent?func=showHome">http://www.blackwell-synergy.com/servlet/useragent?func=showHome</a> .
E7	<a href="http://www.disser.ru/library/66/262.htm">http://www.disser.ru/library/66/262.htm</a> <a href="http://www.zdr.ru/6.3.1">http://www.zdr.ru/6.3.1</a>

### 6.3.1 Software

6.3.1.1 "Microsoft Office Application Software Package"

### 6.3.2 Information Referral systems

6.3.2.1 Garant Reference and Legal System

6.3.2.2 Reference information bases: «Consultant plus»

## 7. MATERIAL AND TECHNICAL SUPPORT OF THE DISCIPLINE (MODULE)

7.1	Classrooms for conducting lecture-type classes, seminar-type classes (practical classes), group and individual consultations, ongoing monitoring and intermediate certification are equipped with: standard educational furniture, technical training facilities that serve to present educational information
7.2	The classrooms for practical classes of the Simulation Center of the MI Surgut State University, "Surgut City Clinical Polyclinic No. 1" are equipped with the necessary specialized educational furniture and technical means for providing educational information to students, a media projector, a stationary screen and educational medical equipment and instruments:
7.3	System for Holter (daily) ECG monitoring, computer station, accessories for connecting computers to the network;
7.4	Device for measuring systolic and diastolic pressure during the day BiPib;
7.5	ECG device, Page Wright Trim III (Philips)
7.6	Ultrasound diagnostic system iE 33US (Philips)
7.7	Electronic scales Sega-780
7.8	Height meter Sega-220
7.9	Device for ultrasound examinations of the heart and blood vessels Vivid
7.10	X-SCRM stress test system for conducting samples with phys. Load on Bicycle ergometer
7.11	ECG and blood pressure recorder wearable SCHILLER Medilog AR-12
7.12	Electrocardiograph multichannel EKT 12T "Alton -06"
7.13	Ultrasound. Vivid 7 Pro system Vivid 7 Pro
7.14	X-ray angiography unit "Allura FD 10 ""PHILIPS" Netherlands
7.15	Patient monitoring monitor "PHILIPS" Netherlands
7.16	Cypress ultrasound machine «ACUSON» Germany
7.17	Temporary 1 - and 2-chamber EUS "MEDTRONIK" USA
7.18	Digital diagnostic system for performing intravascular and intracardial ultrasounds iLab USA
7.19	EFI system "Pruka"" GE " USA
7.20	Intravascular ultrasound device Ultrasound "Invus" "JOMED" USA