

LD-16

State budgetary educational Institution  
higher professional education  
**NORTH OSSETIAN STATE MEDICAL ACADEMY**  
Ministry of Health of the Russian Federation



O. V. Remizov

**WORKING PROGRAM OF THE DISCIPLINE**

**Functional diagnostics**

the main professional educational program of higher education is a specialty program in the specialty  
31.05.01 Medical care, approved on 30.03.2022.

**Specialty** 31.05.01 Medical science (specialty)

**Form of study** full-time  
(full-time, part-time (evening), part-time)

**The term of development of OPOP in** 6 years  
(standard training period)

**Department of Internal Diseases No. 4**



When developing the work program of the discipline, the following principles are used::

1. Federal State Educational Standard for higher Education in the specialty **31.05.01 Medical Care** approved by the Ministry of Education and Science of the Russian Federation on February 9, 2016 No. 95
2. Curriculum **OPOP** HE specialty 31.05.01 Medical business,  
LD-16-02.16  
LD-16-03-17  
LD-16-04-18  
LD-16-05-19  
LD-16-06-20 approved by the Academic Council of the SOGMA Federal State Budgetary Educational Institution of Higher Education of the Ministry of Health of the Russian Federation on March 30, 2022, Protocol No. 6.
3. The working program of the discipline was approved at the meeting of the Department of Internal Diseases No. 4 dated March 03, 2022, Protocol No. 13.
4. The working program of the discipline was approved at the meeting of the central coordinating educational and methodological council dated March 22, 2022, Protocol No. 4.
5. The work program of the discipline was approved by the Academic Council of the Federal State Budgetary Educational Institution of Higher Education of the Russian Academy of Medical Sciences on March 30, 2022, Protocol No. 6.

**Developers:**

Head of the Department, prof.



Z. T. Astakhova

Assistant



Besaeva M. M.

**Reviewers:**

Head of the Innovation Department  
projects of the Ministry of  
Health of the Republic of North Ossetia-  
Alania, Candidate of Medical Sciences

Shanaeva A.P.

Head of the Department of Internal  
diseases No. 5 of SOGMA,

Prof. Burduli N.M.

### **Content of the work program**

1. name of the discipline;
2. a list of planned results of training in the discipline, correlated with the planned results of mastering the educational program;
3. indication of the place of the discipline in the structure of the educational program;
4. the volume of the discipline in credit units with an indication of the number of academic or astronomical hours allocated for contact work of students with the teacher (by type of training sessions) and for independent work of students;
5. the content of the discipline is structured according to topics (sections) with an indication of the number of academic or astronomical hours allocated to them and the types of training sessions.
6. the list of educational and methodological support for independent work of students in the discipline;
7. fund of assessment funds for conducting intermediate certification of students in the discipline;
8. a list of basic and additional educational literature required for mastering the discipline;
9. the list of resources of the information and telecommunication network " Internet "(hereinafter referred to as the "Internet" network) required for mastering the discipline;
10. methodological guidelines for students on mastering the discipline;
11. a list of information technologies used in the implementation of the educational process in the discipline, including a list of software and information reference systems (if necessary);
12. description of the material and technical base necessary for the implementation of the educational process in the discipline.

**2. The list of planned results of training in the discipline and the results of mastering the educational program**

n / A number	Competence number/ index	Content of the competence (or part of it)	Results of mastering		
			know	be able	to master
1	2	3			
1.	OPK-8 OPK-9 PC-5 PC-6 PC-8 PC-9 PC-10 PC-11	Respiratory diseases	Definition, etiology, risk factors and pathogenesis, current classifications, clinical picture, features of the course, methods of diagnosis and differential diagnosis of bronchopulmonary diseases, treatment methods and indications for their use.	Conduct a survey and physical examination of the patient on the respiratory system and interpret the data of laboratory and instrumental methods of examination-ECG, spirometry, piclofluometry	An algorithm for performing basic differential diagnostic and therapeutic measures.
2.	OPK-8 OPK-9 PC-5 PC-6 PC-8 PC-9 PC-10 PC-11	Diseases of the urinary system	Definition, etiology and pathogenesis, current classification, clinical picture, features of the course, diagnostic methods and differential diagnosis	Conduct a survey and physical examination of the patient on the respiratory system and interpret the data of laboratory and instrumental methods of examination.	Algorithm for performing basic differential diagnostic and therapeutic measures
3.	OPK-8 OPK-9 PC-5 PC-6 PC-8 PC-9 PC-10 PC-11	Diseases of the digestive system	Definition, etiology and pathogenesis, current classification, clinical picture, features of the course, diagnostic methods and differential diagnosis of diseases of the digestive system, emergency	Conduct a survey and physical examination of a patient with diseases of the digestive system and interpret the data of laboratory and instrumental methods of examination	An algorithm for performing basic differential diagnostic and therapeutic measures.

			conditions, treatment methods and indications for their use.		
<b>4.</b>	OPK-8 OPK-9 PC-5 PC-6 PC-8 PC-9 PC-10 PC-11	Diseases of the circulatory system	Definition, etiology, risk factors and pathogenesis, current classifications, clinical picture, features of the course, methods of diagnosis and differential diagnosis of diseases of the circulatory system, methods of treatment of diseases, emergency conditions and indications for their use.	Conduct a survey and physical examination of the patient by the circulatory system and interpret the data of laboratory and instrumental examination methods, conduct an ECG recording, perform, and draw up standard medical documentation.	Methods of diagnostic evaluation of conclusions obtained using instrumental and laboratory diagnostic methods. .

### **3. Place of the discipline in the structure of the educational program**

The academic discipline "Hospital therapy" refers to the basic part of the program of the Federal State Educational Standard for Higher Education in the specialty "Medical business" of Block 1.

Types of professional activities that underlie the teaching of this discipline:

1. medical;
2. organizational and managerial;
3. scientific research.

#### 4. Scope of the discipline

№ n / A number	Type of work		Total credits	Total hours	Semesters	
					IX, X	XI
					hours	hours
1	2		3	4	5	6
<b>1</b>	<b>Students ' contact work with the teacher (total), including::</b>		3	72	-	72
2	Lectures (L)		-	10-10	-	10
93	Clinical practice sessions (PPS)		-	62	-	62
4	Workshops (C)					
5	Laboratory work (LR)					
<b>6</b>	<b>Student's independent work (SRS)</b>		1	36-36	-	36
<b>7</b>	<b>Type of intermediate certification</b>	credit (S)				In the XI semester
		exam (E)	--	-		
<b>8</b>	<b>TOTAL: Total labor</b>	intensity of hours	108			108
		ZET	3	--	-	3

## 5. Content of the discipline

№ n /	№ a semester number	Name of the topic (section) of the discipline	Types of learning activities (in hours)					Forms of current monitoring of academic
			L	performance LR	PZ	SRS	total	
1	2	3	4	5	6	7	8	9
	<b>XI</b>	<b>Functional diagnostics</b> Electrophysiological basis of ECG. Genesis of teeth and intervals Electrical axis of the heart Electrocardiographic leads. Electrocardiographic characteristics of cardiac hypertrophy. ECG for cardiac arrhythmias and conduction disorders. ECG diagnostics of coronary heart disease (angina pectoris and myocardial infarction). Load tests (bicycle ergometry, tread-mil). SMAD and SMECG	10-62	-	62	36	108	Oral survey, ECG transcript, written and computer testing, individual homework assignments
<b>TOTAL:</b>			10	-	62	36	108	

## 6. List of educational and methodological support for independent work of students in the discipline

n/	№ a semester number	Title of educational and methodical development
1	XI	<b>Z. T. Astakhova, Besaeva M. M. Zh. A. Kulova, D. S. Zagalova, G. S. Turiev,</b> <b>Methodological developments on functional diagnostics in the course of hospital therapy.</b>

2	XI	<p><b>Z. T. Astakhova, Zh. A. Kulova, Z. A. Toguzova, M. M. Besaeva</b></p> <p><b>Methodological developments in cardiology in the course of hospital therapy.</b></p> <p>Z. T. Astakhova, A.V. Rappoport, I. B. Tuaeva et al. "Myocardial infarction" - a methodological guide, Vladikavkaz, 2017. - TSUMK of Therapeutic Disciplines.</p> <p>Z. T. Astakhova, I. B. Tuaeva, A. V. Rappoport and others. "Congenital and acquired heart defects".Vladikavkaz, 2016. - TSUMK of therapeutic disciplines.</p> <p>Z. T. Astakhova, Z. A. Toguzova, Zh. A. Kulova and others. "Guidelines for emergency therapy classes for VI-year students".Vladikavkaz, 2012. - TSUMK of therapeutic disciplines.</p> <p>Z. T. Astakhova, I. B. Tuaeva, A. V. Rappoport and others. "Guidelines on cardiology for practical classes of VI-year students".Vladikavkaz, 2012. - TSUMK of therapeutic disciplines.</p> <p>Z. T. Astakhova, Zh. A. Kulova and others. "Cardiomyopathies". Educational and methodical development for independent preparation of students for practical training.Vladikavkaz, 2019. - TSUMK of Therapeutic disciplines.</p> <p>Z. T. Astakhova, Z. A. Toguzova et al. " IHD. Myocardial infarction". Educational and methodical development for independent preparation of students for practical training.Vladikavkaz, 2012. - TSUMK of therapeutic disciplines.</p> <p>Z. T. Astakhova, Z. A. Toguzova et al. "Complications of myocardial infarction". Educational and methodical development for independent preparation of students for practical training.Vladikavkaz, 2019-TSUMK of Therapeutic Disciplines.</p> <p>Z. T. Astakhova, A. V. Rappoport and others. "Violation of the automatism function". Educational and methodical development for independent preparation of students for practical training.Vladikavkaz, 2015. - TSUMK of therapeutic disciplines.</p> <p>Z. T. Astakhova, A.V. Rappoport et al. "Non-coronary diseases of the myocardium - myocarditis, endocarditis, pericarditis". Educational and methodical development for independent preparation of students for practical training.Vladikavkaz, 2015. - TSUMK of therapeutic disciplines.</p> <p>Z. T. Astakhova, I. B. Tuaeva et al. " Genesis of the main teeth, intervals and segments of ECG. Electric axis of the heart. ECG-signs of hypertrophy". Educational and methodical development for independent preparation of students for practical training.Vladikavkaz, 2017. - TSUMK of therapeutic disciplines.</p> <p>Z. T. Astakhova, Besaeva M. M. and others. "Violation of excitability function". Educational and methodical development for independent preparation of students for practical training.Vladikavkaz, 2019. - TSUMK of Therapeutic disciplines.</p>



**7. Fund of assessment funds for conducting intermediate certification of students in the discipline**

<b>No. /p</b>	<b>List of competencies</b>	<b>no . of the semester</b>	<b>Rating indicator(s) ratings</b>	<b>Rating criterion (s) Rating</b>	<b>scale</b>	<b>Name of the feedback</b>
<b>form 1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>1.</b>	OPK-9 PC-5 PC-6	X	<b>See. Standard for Assessing the Quality of Education, approved by the Ministry of Education of the Russian Federation. By Order No. 264/0 of the SOGMA Federal State Budgetary Educational Institution of Higher Education of the Ministry of Health of the Russian Federation dated 10.07.2018</b>	<b>Standard for Assessing the Quality of Education, approved by the Ministry of Education of the Russian Federation. By Order No. 264/0 of the SOGMA Federal State Budgetary Educational Institution of Higher Education of the Ministry of Health of the Russian Federation dated 10.07.2018</b>	<b>Standard for Assessing the Quality of Education, approved by the Ministry of Education of the Russian Federation. By Order No. 264/0 of the Federal State Budgetary Educational Institution of Higher Professional Education of the Ministry of Health of the Russian Federation dated 10.07.2018</b>	<b>Exam tickets for the test, test tasks, ECG.</b>

**8. List of basic and additional educational literature required for mastering the discipline**  
**Basic literature**

<b>p / no.</b>	<b>Name</b>	<b>Author (s)</b>	<b>Year and place of publication</b>	<b>Number of copies</b>	
				<b>in the library</b>	<b></b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>7</b>	

1.	Internal diseases: textbook: in 2t	Edited by V. S. Moiseev	, Moscow, GEOTAR-Media, 2012, Moscow, GEOTAR-Media, 2013.52	52 "Student's consultant" <a href="http://www.studmedlib.ru/ru/book/ISBN9785970425763.html">http://www.studmedlib.ru/ru/book/ISBN9785970425763.html</a>
2.	Internal diseases: textbook.	V. I. Makolkin, S. I. Ovcharenko	Moscow: GEOTAR-Media, 2011 Moscow: GEOTAR-Media, 2013	99  20 "Student's consultant" <a href="http://www.studmedlib.ru/ru/book/ISBN9785970425763.html">http://www.studmedlib.ru/ru/book/ISBN9785970425763.html</a>
3.	Hospital therapy, training manual.	Edited by V. A. Lyusov	, Moscow: GEOTAR-Media, 2010.	1 "Student's consultant" <a href="http://www.studmedlib.ru/ru/book/ISBN9785970425763.html">http://www.studmedlib.ru/ru/book/ISBN9785970425763.html</a>
4.	Internal diseases. 333 test tasks and comments on them. Training manual.	Edited by L. I. Dvoretzky	, Moscow: GEOTAR-Media, 2010	. "Student's consultant" <a href="http://www.studmedlib.ru/ru/book/ISBN9785970425763.html">http://www.studmedlib.ru/ru/book/ISBN9785970425763.html</a>
5.	"Cardiology": national guidelines	of Yu.N. Belenkov, G. G. Oganov	Moscow: GEOTAR-Media, 2007 Moscow: GEOTAR-Media, 2015	10  1 "Student's consultant" <a href="http://www.studmedlib.ru/ru/book/ISBN9785970425763.html">http://www.studmedlib.ru/ru/book/ISBN9785970425763.html</a>

**Additional literature atypa**

p / no.	Name	Author (s)	Year and place of publication	Number of copies	
				in the library	at the department
1	2	3	4	7	8
1.	Guidelines for students of the 6th year of the medical Faculty on the cycles of gastroenterology and nephrology.	Department of Internal Diseases No. 4, Z. T. Astakhova.	Vladikavkaz, 20012-16	-	16
2.	Guidelines for students of the 6th year of the medical Faculty on the cycle of cardiology.	Department of Internal Diseases No. 4, Z. T. Astakhova.	Vladikavkaz, 2012-16	-	16
3.	Internal diseases with the basics of evidence-based medicine and clinical pharmacology: guidelines for doctors	S. V. Moiseev, Zh. D. Kobalava, V. S. Moiseev	Moscow: GEOTAR-Media, 2008	.	-
4.	Clinical pharmacology and pharmacotherapy in real medical practice: master class: textbook.	V. I. Petrov.	Moscow: GEOTAR-Media, 2011. Moscow: GEOTAR-Media, 2015.	1 3	- -
5.	Internal diseases. Laboratory and instrumental diagnostics: textbook. stipend.	Roitberg G. E.	M.: MED-press-inform, 2011	2	-
6.	Guidelines for cardiology: textbook. manual T1.	Edited by G. I. Strozhakov	Moscow: GEOTAR-Media, 2008	12	1
7.	Guidelines for cardiology: textbook. manual T2.	Edited by G. I. Strozhakov	, Moscow: GEOTAR-Media, 2008	3	1
8.	Guidelines for cardiology: textbook. manual T3.	Edited by G. I. Strozhakov	Moscow: GEOTAR-Media, 2009	3	1

**9. List of resources of the information and telecommunication network "Internet" required for mastering the discipline**

## 1. "Student's consultant"

<http://www.studmedlib.ru/ru/book/ISBN9785970425763.html>

<http://www.studmedlib.ru/ru/book/ISBN9785970425794.html>

<http://www.studmedlib.ru/ru/book/ISBN9785970425800.html>

<http://www.studmedlib.ru/ru/book/ISBN9785423500764.html>

<http://www.studmedlib.ru/ru/book/ISBN9785970430743.html>

<http://www.studmedlib.ru/ru/book/ISBN9785970425763.html>

<http://www.studmedlib.ru/ru/book/ISBN9785970425794.html>

<http://www.studmedlib.ru/ru/book/ISBN9785970425800.html>

<http://www.studmedlib.ru/ru/book/ISBN9785423500764.html>

<http://www.studmedlib.ru/ru/book/ISBN9785970430743.html>

Standards of medical care:

<http://www.rspor.ru/index.php?mod1=standarts3&mod2=db1>

- State Register of Medicinal Products:

<http://www.drugreg.ru/Bases/WebReestrQuery.asp>

- Russian Encyclopedia of Medicines (RLS): <http://www.rlsnet.ru/>

- Vidal reference book. Medicinal products in Russia: <http://www.vidal.ru/>

- National Internet Society of Internal Medicine Specialists-<http://internist.ru>

- First Medical Channel-<http://1med.tv>

- Interregional Society of Evidence-Based Medicine Specialists. <http://www.osdm.org/index.php>

- Russian Society of Cardiology - <http://www.scardio.ru/>

- Russian Scientific Medical Society of Therapists - <http://www.rnmot.ru/>

## Electronic versions of journals:

«Consilium medicum» - <http://www.consilium-medicum.com/media/consilium>

Bulletin of Evidence-Based Medicine <http://www.evidence-update.ru/>

«Врач» - <http://www.rusvrach.ru/journals/vrach>

"Evidence-based Cardiology" -

<http://www.mediasphera.ru/journals/dokcard>

Pulmonology - <http://www.c://www.consilium-medicum.com/media/pulmo-medicum.com/media/pulmo>

"Russian Journal of Gastroenterology, Hepatology, Coloproctology" - <http://www.m-vesti.ru/rggk/rggk.h://www.m-vesti.ru/rggk/rggk.html>

Russian Medical Journal - <http://www.rmj.ru://www.rmj.ru>

"Polyclinic Doctor's Handbook" - <http://www.c://www.consilium-medicum.com/media/refer-medicum.com/media/refer>

"Difficult patient" - <http://www.t-pacient.ru://www.t-pacient.ru>

Farmateka - <http://www.pharmateca.ru://www.pharmateca.ru>

## 10. Methodological guidelines for students on mastering the discipline

Training consists of classroom sessions (261 hours), including a lecture course and practical exercises, and independent work (130 hours). The main academic time is allocated for practical work on providing qualified medical care to patients and on providing emergency medical care for urgent conditions.

In the study of the discipline uses knowledge of the etiology, pathogenesis, clinical picture of diseases and pathological conditions, the modern classification of diseases, possible

complications of the most common diseases of modern methods of clinical, laboratory and instrumental examination of patients and develops practical skills to formulate a clinical diagnosis, to develop a therapeutic plan of action to formulate indications for the chosen method of treatment based on etiologic and pathogenetic means to justify pharmacotherapy to specific patient with major pathological syndromes, and emergency conditions.

Practical classes are conducted in the form of clinical analysis of patients being treated in the clinic, participation of students in rounds of the head of the department, demonstration of practical skills in providing medical care using visual aids, solving situational problems, answers to test tasks, analysis of clinical patients.

The main method of teaching students in the 6th year is independent work of the student at the bedside under the guidance of a teacher. Along with this, the development of diagnostic research methods in the main sections of internal medicine is actively used in functional diagnostics rooms, X-ray rooms, clinical and biochemical laboratories; participation in clinical and pathoanatomical conferences; participation in professorial rounds; registration of medical documentation; participation in thematic rounds and clinical reviews of patients; conducting seminars on the following cycles: cardiology, nephrology, gastroenterology, pulmonology, hematology, functional diagnostics, physical therapy and medical control with the basics of manual therapy; conducting students' participation in scientific work.

Clinical analysis of the patient in lectures and practical classes is accompanied by a demonstration and detailed analysis of the results of additional research methods, while students must participate in the analysis, with independent interpretation of complaints, anamnesis, objective status data, functional and laboratory research methods, formulation of a clinical diagnosis, formation of a differentiated treatment and rehabilitation plan. The purpose of the analysis is a detailed study of the disease in its individual form.

In accordance with the requirements of the Federal State Educational Standard, active and interactive forms of conducting classes are widely used in the educational process. The share of classes conducted in interactive forms is at least 10 % of classroom classes.

Each student is provided with access to the library collections of the University and the Department.

The initial level of knowledge of students is determined by testing, the current control of mastering the subject is determined by an oral survey during classes, during clinical reviews, when solving typical situational problems and answering test tasks.

At the end of the study of the academic discipline, an intermediate control of knowledge is carried out using test control, testing practical skills and solving situational problems.

Questions on the academic discipline are included in the Final state certification of graduates.

## **11. List of information technologies used in the implementation of the educational process in the discipline**



<b>Term</b>	<b>Occupation type L, PR, S,</b>	<b>Educational technologies used (active, interactive)</b>	<b>Number of hours</b>	<b>% of interactive classes</b>	<b>List of software</b>
<b>IX-XII</b>	<b>L</b>	A set of slides, videos for a traditional lecture, visualization lectures-in the feedback form+ methodological recommendations for teachers.	60		Microsoft Office PowerPoint; Internet Exploer
<b>IX-XII</b>	<b>PZ</b>	A set of questions and tasks for practical tasks, a test wrapper for test control, a set of situational tasks for PO, a set of topics for research and development, a set of case histories for analyzing clinical cases, a set of materials for business and role-playing games.	228		Microsoft Office PowerPoint; Internet Exploer All-Russian Educational Internet program - "Internist"
<b>IX-XII</b>	<b>With</b>	Questions and tasks for business and role-playing educational games, a set of thematic plans for students ' research work.	144		Microsoft Office PowerPoint; Internet Exploer All-Russian Educational Internet program - "Internist".

## **12. Description of the material and technical base necessary for the implementation of the educational process in the discipline**

The Department of Internal Diseases No. 4 is located on the basis of the cardiology, Gastroenterology and Nephrology departments of the Republican Clinical Hospital.

The department has 176 beds: 120-cardiology, 40-nephrology – 40-gastroenterology. In addition, classes in hematology are held on the basis of the hematology department of the Republican Cancer Dispensary, and in pulmonology-on the basis of the pulmonology department of the RKB. The Republican Clinical Hospital is currently equipped with a sufficient arsenal of modern diagnostic equipment, which makes it possible to ensure the educational process at a sufficiently high level.

**The total academic area** occupied by the department is 338.39 sq. m. The department has its own conference hall (34.2 sq. m.) and a lecture hall with 100 seats (98.82 sq. m.). The department has at its disposal: the office of the head of the department, the office of the professor of the department (28.67 and 19.38 sq. m. respectively), study rooms (2 – No. 2 – 15.66 sq. m., No. 3 – 15.66 sq. m., No. 4 – 9.37 sq. m., No. 5 – 21.09 sq. m. on the territory of the cardiology building, as well as one study room in the departments of gastroenterology and nephrology), laboratory of functional diagnostics (33.06 sq. m.), laboratory of daily pressure monitoring and ECG (13.3 sq. m.), computer class - study room No. 1 (19.38 sq. m.), practical skills class (21.09 sq. m.), assistant's room (8.7 sq. m.). In specialized departments (cardiology, nephrology, gastroenterology, functional diagnostics, pulmonology) there are study rooms equipped with appropriate methodological manuals (stands, tables, modular components), which allow to fully ensure the development of the material.

In addition to educational and methodological information, visual media are presented: history of the department's development, scientific work of the team (monographs, abstracts), therapeutic activities, results of the work of the SNK. There is a stand for organizing the educational process with plans for a lecture course, practical classes, a schedule of classes, distribution of study rooms, a list of topics that students can study independently, a list of questions to the IGA, a schedule of teachers' work and assistants' duties, a schedule of consultations and practice sessions. The stands reflect the current activities of the department and are regularly updated.

The computer class created on the basis of the department allows you to fully ensure both the educational process and the current and final quality control of students' knowledge. Classes in the computer class are conducted according to the schedule available at the department.

№	Equipment name	Quantity	Technical condition
<b>Special equipment</b>			
1	Veloergometer	1	will satisfy you.
2	Cadascope, pcs	. 2	will satisfy you.
3	ECGs, pcs	. 1	will satisfy.
4	Laser device "Pattern"	1	unit.-
5	The computer diagnostic system "Valenta"	1	will satisfy you.
6	The complex "Diamant"	1	will satisfy you.
7	Blood Pressure Monitor (holter)	1	will satisfy you.
8	ECG Monitor (holter)	1	will satisfy you.
9	Duodenal and gastric	2 probes	will satisfy.
<b>Dummies</b>			
1	Dummy phantom UZFO surgical	1	will satisfy.
2	The lung simulator for mechanical ventilation and indirect heart massage	1	will satisfy you.
3	The universal head trainer	1	will satisfy you.
4	The proctological simulator	1	will satisfy you.
	Tables, pcs	. 28	will satisfy.

### 13. Conducting educational activities using e-learning and distance learning technologies

In the context of the introduction of restrictive measures (quarantine) associated with an unfavorable epidemiological situation, the threat of the spread of a new coronavirus infection, and other force majeure events that do not allow conducting face-to-face training sessions, it is possible to study this discipline or part of it using e-learning and distance educational technologies.

Teaching the discipline in the situations described above will be carried out through the development of an electronic course with access to video lectures and interactive course materials: presentations, articles, additional materials, tests and various tasks. When conducting training sessions, current monitoring of academic performance, as well as intermediate certification of students, platforms of the electronic information and educational environment of the academy and/or other e-learning systems recommended for use in the academy, such as Moodle, Zoom, Webinar, etc. can be used.

Lectures can be presented in the form of audio, video files, "live lectures" , etc.

Seminars and practical classes can be held on-line in both synchronous and asynchronous modes. Seminars can be held in the form of web conferences