

Federal State Budgetary Educational Institution
higher education
"NORTH OSSETIAN STATE MEDICAL ACADEMY"
Ministry of Health of the Russian Federation

APPROVED

Rector of FSBEI HE NOSMA

MOH Russia

O.V. Remizov

«24» May 2023



EDUCATIONAL TRAINING PROGRAM OF DISCIPLINE
" Radiation Therapy "

the main professional educational program of higher education - the program of a specialist in specialty 31.05.01 General Medicine , approved on May 24, 2023

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

The term for the development of the OPOP VO is _____ **6 years**
(normative training period)

Department of Radiation Diagnostics and Radiation Therapy with Oncology

When developing the work program of the discipline, the following are taken as the basis:

1. GEF VO in the specialty 31.05.01 General Medicine, approved by the Ministry of Education and Science of the Russian Federation on August 12, 2020 No. 988

2. Curriculum of OBEP VO in the specialty 31.05.01 General Medicine

(ЛД-21-01-21ИИ

ЛД-21-02-22ИИ

ЛД-21-03-23ИИ)

approved by the Academic Council of the Federal State Budgetary Educational Institution of Higher Education SOGMA of the Ministry of Health of Russia on May 24, 2023, Protocol No. 8

The work program of the discipline was approved at a meeting of the Department of Radiation Diagnostics and Radiation Therapy with Oncology on May 21, 2023, Protocol No. 10.

The work program of the discipline was approved at a meeting of the central coordinating educational and methodological council on May 23, 2023, Protocol No. 5.

The work program of the discipline was approved by the Academic Council of the Federal State Budgetary Educational Institution of Higher Education SOGMA of the Ministry of Health of Russia on May 24, 2023, Protocol No. 8

Developers:

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Content of the work program

1. name of the discipline;
2. a list of planned learning outcomes 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 discipline in credit units indicating the number of academic or astronomical hours allocated for contact work of students with a teacher (by type of training) and for independent work of students;
5. the content of the discipline, structured by topics (sections) indicating the number of academic or astronomical hours allocated to them and types of training sessions;
6. a list of educational and methodological support for independent work of students in the discipline;
7. a fund of evaluation tools for conducting intermediate certification of students in the discipline;
8. a list of basic and additional educational literature necessary for mastering the discipline;
9. a list of resources of the information and telecommunications network "Internet" (hereinafter referred to as the "Internet" network) necessary for mastering the discipline;
10. methodological instructions 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.
13. conducting educational activities using e-learning and distance learning technologies

2. The list of planned learning outcomes in the discipline and the results of mastering the educational program

No . p / p	Number / index of competence	Content of competence (or parts of it)	Topic of the lesson (section)	Achievement indicators competencies	Development results		
					know	be able to	own
1	2	3	4	5	6	7	8
1.	OPK-1	Able to implement moral and legal norms, ethical and deontological principles in professional activities	1. Physical basis of radiation therapy. 2. Radiobiological bases of radiation therapy of malignant diseases. 3. Radiobiological bases of radiation therapy for non-tumor diseases.	ID-1 GPC-1 C observes moral and legal standards in professional activities. ID-2 GPC-1 I store professional information in the process of intercultural interaction, observing ID-1 GPC-2 A analyzes the awareness of the population about a healthy lifestyle and medical literacy ID-2 OPK-2 R develops a plan of organizational and methodological measures aimed at raising public awareness of a healthy	1. The history of the discovery of x-ray, gamma, alpha, beta radiation, 2. stages of development and formation, physical and technical foundations of radiation therapy. 3.subject, structure and tasks of radiation therapy. 3. Radiobiological bases of radiation therapy for malignant and non-tumor diseases. 4. the effect of ionizing radiation on the tumor biological effect of penetrating radiation. 5. the essence of biochemical and	clinical results . 2.X-ray.endoscopic, other methods of investigation of oncology. 4. Use medical terminology .	1. Methods of deontology when working with cancer patients 2. Methods of maintaining medical records. 3.Medical terminology .

				<p>lifestyle, its literacy in the prevention of infectious and non-communicable diseases in the adult population.</p> <p>ID-3 GPC-2 Develops an oral presentation or printed text that promotes a healthy lifestyle and increases the literacy of the population in matters of disease prevention.</p>	<p>pathomorphological processes occurring under the influence of penetrating radiation</p> <p>radiosensitivity</p> <p>6. Medical terminology .</p>		
2.	OPK-4	Able to use medical devices provided for by the order of medical care, as well as conduct examinations of the patient in order to establish a diagnosis	Methods of radiation therapy. Technical support of radiotherapy	<p>ID-2 OPK-4. Owns the algorithm of clinical examination of the patient.</p> <p>ID-3 GPC-4 V has an algorithm for the use of medical devices provided for in the procedure for providing medical care.</p>	Know ethical and deontological principles in professional activity	Be able to implement ethical and deontological principles in professional activities	Own the basics of ethical and deontological principles
3.	OPK-8	readiness for the medical use of drugs and other substances and their	Fundamentals of radiation therapy of malignant tumors of the maxillofacial region.	<p>ID-1 GPC-8 Z defines the basics of medical rehabilitation of patients</p> <p>ID-1 GPC-9 Z</p>	Know drugs and combinations in solving professional problems	Know how to properly prescribe medications. be able to combine	Know the basics of drug dosing

		combinations in solving professional problems		recognizes the principles of quality management in professional activities			
4.	PC-1	PC-1 Providing medical care to a patient in urgent or emergency forms	Fundamentals of radiation therapy of malignant tumors of the chest and abdominal cavities	ID-1 PC-1 B detects clinical signs of conditions requiring emergency medical care ID-2 PC-1 Performs emergency medical care ID-3 PC-1 B Identifies conditions requiring emergency medical care, including clinical signs of sudden cessation of blood circulation and breathing	Know the types of activities aimed at maintaining and strengthening health, methods of early diagnosis	Be able to examine cancer patients: radiographs, mammograms, angiograms, CT, MRI, etc.	Be proficient in obtaining, processing and analyzing received medical images
5.	PC-2	Examination of the patient in order to establish a diagnosis	Fundamentals of radiation therapy of malignant tumors of the central nervous system, thyroid gland, Retroperitoneal space, skeletal system,	ID-1 PC-2 O collects complaints, anamnesis of life and illness of the patient and analyzes the information received ID-6 PC-2 Analyzes the results of the patient's examination,	Cancer and precancerous skin diseases. Cancer of the oral mucosa. Tumors of bones and soft tissues. Precancerous diseases and breast cancer. Precancerous diseases and lung cancer.	be able to recognize cancer and precancerous skin diseases. Cancer of the oral mucosa. Tumors of bones and soft tissues. Precancerous diseases and cancer mammary gland. Precancerous diseases and	

				<p>if necessary, substantiates and plans the scope of additional studies</p> <p>ID-11 PC-2 O provides early diagnosis of diseases of internal organs</p> <p>ID-12 PC-2 P performs differential diagnosis of diseases of internal organs from other diseases</p> <p>ID-13 PC-2 O determines the sequence of volume, content and sequence of diagnostic measures</p>	<p>Cancer of the esophagus, cancer of the stomach . Malignant lymphomas . Myeloma . Cancer of the colon and rectum. Tumors hepatopancreatoduodenal zone. - Fundamentals of radiation therapy of malignant tumors of the maxillofacial region, - About the basics of radiation therapy of malignant tumors of the chest and abdominal cavities, - Fundamentals of radiation therapy of malignant tumors of the central nervous system , thyroid gland, Retroperitoneal space, skeletal system,</p>	<p>cancer lung. Cancer of the esophagus, cancer of the stomach. Malignant lymphomas . Myeloma . Cancer of the colon and rectum. Tumors hepatopancreatoduodenal zone. -Choose the correct irradiation method. -Build a topometric map, calculate the dose and time of exposure, fields, etc. -Prescribe treatment for reaction and injury after radiation treatment.</p>	
6.	PC-5	Carrying out and monitoring the effectiveness of measures to prevent and	Carrying out preventive medical examinations, clinical examination and dispensary	ID-3 PC-5 Carries out clinical examination of the adult population for the purpose of early detection of chronic	Know the methods used in the clinical examination of patients with oncological pathology	To be able to carry out dispensary observation of patients with oncological pathology	To master the methods of preventive medical examinations

		promote a healthy lifestyle and sanitary and hygienic education of the population	observation of patients with oncological pathology;	non-communicable diseases, the main risk factors for their development ID-4 PC-5 Carries out dispensary observation of patients with identified chronic non-communicable diseases, including patients with high and very high cardiovascular risk ID-5 PC-5 N assigns preventive measures to patients, taking into account risk factors for the prevention and early detection of diseases, including socially significant diseases			
7.	PC-6	Maintaining medical records and organizing the activities of the nursing staff at the disposal	-Methods of irradiation of patients remote, contact). -Planning of radiotherapy.	ID-2 PC-6 A analyzes data from official statistical reporting, including forms of federal and sectoral statistical observation	Organization of oncological care for the population ., -Build a remote exposure plan (radiotherapy , tele-gammatherapy).	Be able to - O organize oncological care for the population, -Choose the correct irradiation method, -Build a topometric map, calculate the dose and time of exposure, fields, etc.	Own Methods of organizing oncological care for the population, -Methods of irradiation of

			<p>-Beam periods - reactions to radiation (local and general). - Complications in radiation therapy. the power of the population</p>	<p>ID-3 PC-6 Works with personal data of patients and information constituting a medical secret</p> <p>ID-5 PK-6 Fills out medical documentation, including in electronic form</p> <p>Workers</p> <p>ID-6 PC-6 Controls the performance of duties by the district nurse and other medical</p> <p>ID-7 PC-6 And uses information systems and information and telecommunications network "Internet" in professional activities</p>	<p>-Correctly determine the method of radiation therapy. - Prepare the patient for treatment -Make a treatment plan. - prevention of radiation reaction</p>	<p>-Prescribe treatments for reaction and injury after radiation treatment</p>	<p>patients (remote, contact). - Methods of rehabilitation classification of radiation therapy. -Methods of treatment of reactions and injuries after radiation treatment,</p>
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3. The place of discipline in the structure of the educational program

1. The discipline " **Radiation therapy** " refers to the mandatory part of the Block of the Federal State Educational Standard of HE with a degree in **Medicine** .

4 Scope of discipline

No. No. n / n	Type of work	Total credits	Total hours	Semesters
				12
				hours
1	2	3	4	5
1	Contact work of students with the teacher (total), including:	-	50	50
2	Lectures (L)	-	10	10
3	Clinical Practice (PP)	-	40	40
4	Seminars (C)	-	-	-
5	Laboratory work (LR)	-	-	-
6	Independent work of the student (SR)	-	22	22
7	Type of intermediate certification	credit (G)	+	+
		exam (E)	-	-
8	TOTAL: Total labor intensity	hours	72	72
		WE	2	2

5. The content of the discipline

No./p –	semester number	Name of the topic (section) of the discipline	Types of learning activities (in hours)					Forms of current progress control
			L	LR	PZ	SRS	Total	
1	2	3	4	five	6	7	8	nine
1	12	Physical basis of radiation therapy. Radiobiological bases of radiation therapy of malignant and non-tumor diseases	2	-	6	3	11	S,TS .S Z,UZ

2.	12	Methods of radiation therapy. Technical support of radiotherapy	2	-	6	3	11	S,TS .S Z,UZ
3.	12	Radiation therapy planning. Prebeam period. Beam period. Reactions of the body to therapeutic radiation exposure. Post-beam period. Radiation Protection of Organs and Tissues During Radiation Therapy	2	-	6	3	11	S,TS .S Z,UZ
4.	12	Fundamentals of radiation therapy of malignant tumors of the maxillofacial region.	2	-	6	3	11	S,TS .S Z,UZ
5.	12	Fundamentals of radiation therapy of malignant tumors of the chest and abdominal cavities	2	-	6	3	11	S,TS .S Z,UZ
6.	12	Fundamentals of radiation therapy of malignant tumors of the central nervous system , thyroid gland, Retroperitoneal space, skeletal system,	-	-	6	4	10	S,TS .S Z,UZ
7.	12	Modular lesson offset	-	-	4	3	7	S,TS .S Z,UZ
TOTAL:			10		40	22	72	

6. The list of educational and methodological support for independent work of students in the discipline

No./n	semester number	Name of educational and methodical development
1	12	Methodical manual : " Physical bases of radiation diagnostics and radiation therapy". Vladikavkaz 2020 Khasigov A.V., Koraeva I.Kh., Krivov A.A.
2	12	Methodological guide: "Physical foundations of radiology. Radioactivity, radioactive radiation, their characteristics. Radionuclide diagnostics.» Vladikavkaz 2020 Khasigov A.V., Koraeva I.Kh., Krivov A.A.
3	12	Methodical manual :. " Radial diagnosis of diseases of the pancreas and spleen, spinal cord and brain." Vladikavkaz 2020 Khasigov A.V., Koraeva I.Kh., Krivov A.A.
4	12	Methodical manual: "Radial diagnosis of diseases of the esophagus, stomach, intestines" Vladikavkaz 2020 Khasigov A.V., Koraeva I.Kh., Krivov A.A.
5	12	Vladikavkaz 2020 Khasigov A.V., Koraeva I.Kh., Krivov A.A.
6	12	Methodological guide: "Radial diagnosis of diseases of the musculoskeletal system ." methodical allowance . Vladikavkaz 2020 Khasigov A.V., Koraeva I.Kh., Krivov A.A.

7	12	Methodological guide: "Radial diagnosis of lung diseases ." methodical allowance . Vladikavkaz 2020 Khasigov A.V., Koraeva I.Kh., Krivov A.A.
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7. Fund of assessment tools for conducting intermediate certification of students in the discipline

No./p _	List of competencies	No. semester	Indicator (s) evaluation	Evaluation criteria (s)	Evaluation scale	Name FOS
1	2	3	4	five	6	7
1	OPK-1 OPK-4 OPK-8 PC-1 PC-2 PC-5 PC-6	12	see the standard for assessing the quality of education, approved. By order of the Federal State Budgetary Educational Institution of Higher Education SOGMA of the Ministry of Health of Russia dated July 10, 2018, No. 264 / o	see the standard for assessing the quality of education, approved. By order of the Federal State Budgetary Educational Institution of Higher Education SOGMA of the Ministry of Health of Russia dated July 10, 2018, No. 264 / o	see the standard for assessing the quality of education, approved. By order of the Federal State Budgetary Educational Institution of Higher Education SOGMA of the Ministry of Health of Russia dated July 10, 2018, No. 264 / o	Questions to offset; Test tasks; Control tasks

8. The list of basic and additional educational literature necessary for mastering the discipline

n / no.	Name	The authors)	Year, place of publication	Number of copies		EBS name
				in library	on the department	Link to EBS
1	2	3	4	5	6	7
	Radiation diagnostics : textbook. T.1	ed. G. E. Trufanov	M. : GEOTAR-Media, 2009 2011	198	1	"Student Advisor" http://www.studmedlib.ru/ru/book/ISBN9785970419274.html
	Radiation diagnostics:	ed. G. E. Trufanov	M. : GEOTAR-	1		"Student Advisor"

	textbook		Media, 2010 2015			http://www.studmedlib.ru/ru/book/ISBN9785970425152.html
	Radiation therapy : textbook. T.2	Trufanov G. E., Asaturyan M. A., Zharinov G. M.	M. : GEOTAR- Media, 2009, 2010	197	1	"Student Advisor" http://www.studmedlib.ru/ru/book/ISBN9785970415658.html
	Radiotherapy : textbook	Trufanov G. E., Asaturyan M. A., Zharinov G. M.	M. : GEOTAR- Media, 2013			"Student Advisor" http://www.studmedlib.ru/ru/book/ISBN9785970425145.html
	Radiation diagnostics and therapy. General radiology	S. To Ternova . etc. –	M. : GEOTAR- Media, 2014			"Student Advisor" http://www.studmedlib.ru/book/ISBN9785970429891.html
	Radiology: textbook . n special	ed. A.Yu. Vasiliev	M. : GEOTAR- Media, 2008			"Student Advisor" http://www.studmedlib.ru/book/ISBN9785970409251.html
	Radiation diagnostics in dentistry: textbook . n special	Vasiliev A.Yu., Vorobyov Yu.I., Serova N.S.	M. : GEOTAR- Media, 2010			"Student Advisor" http://www.studmedlib.ru/book/ISBN9785970415955.html

additional literature

n / no.	Name	The authors)	Year, place of publication	Number of copies		EBS name
				in e libraries	on the departme	Link to EBS

					nt	
1	2	3	4	5	6	7
	Medical radiology and radiology (basics of radiation diagnostics and radiation therapy) : textbook	Lindenbraten L. D.	M. : Medicine, 1993	278	1	"Student Advisor" http://www.studmedlib.ru/book/I/SBN9785970415955.html
	Brief atlas of digital radiography: textbook . n special	ed. A. Yu. Vasiliev	M. : GEOTAR-Media, 2008	7	1	"Student Advisor" http://www.studmedlib.ru/book/I/SBN9785970415955.html
	Topographic anatomy and operative surgery : textbook. In 2 tons.	Sergienko V. I. ,, Petrosyan E. A, Frauchi I. V.	M. : GEOTAR-Media, 2010	T. 1–147 T.2 - 148	-	"Student Advisor" http://www.studmedlib.ru/book/I/SBN9785970415955.html
	Radiation mammology	Ternovoy S. K.	M. : GEOTAR-Media, 2007.	5		"Student Advisor" http://www.studmedlib.ru/book/I/SBN9785970415955.html
	X-ray diagnosis of dental diseases: textbook . n special	Vodolatsky M. P., Vodolatsky V. M., Samokhina N. V.	Stavropol : SGMA, 2006	1		"Student Advisor" http://www.studmedlib.ru/book/I/SBN9785970415955.html
	Radiation diagnostics of liver diseases (MRI, CT, ultrasound, SPECT and PET)	ed. G. E. Trufanov	M. : GEOTAR-Media, 2007. -	2		"Student Advisor" http://www.studmedlib.ru/book/I/SBN9785970415955.html
	Analysis of the data of radiation research	Vasiliev A.Yu., Malyi A.Yu.,	GEOTAR-			" Student

	methods based on the principles of evidence-based medicine	Serov N.S.	Media, 2008			Advisor" http://www.studmedlib.ru/book/ISBN9785970408698.htm
	Radiation diagnostics: textbook	Ilyasova E. B., Chekhonatskaya M. L., Priezzheva V. N.	M. : GEOTAR-Media, 2013			"Student Advisor" http://www.studmedlib.ru/book/ISBN9785970427200.html
	Atlas of Radiation Human Anatomy	Filimonov V.I., Shilkin V.V., Stepankov A.A., Churakov O.Yu.	M. : GEOTAR-Media, 2010			"Student Advisor" http://www.studmedlib.ru/book/ISBN9785970413616.html
	Magnetic resonance imaging: a guide for physicians	ed. G. E. Trufanov	St. Petersburg : Folio, 2007	1		"Student Advisor" http://www.studmedlib.ru/book/ISBN9785970415955.html
	Magnetic Resonance Imaging: Tutorial	ed. S.K. Ternovoy	M. : GEOTAR-Media, 2008			"Student Advisor" http://www.studmedlib.ru/book/ISBN9785970408353.html

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

1. Information and legal system "Garant"
2. Information and legal system "Consultant"
3. Information system " State Register of Medicines "
4. - "Student Advisor" .

Radiation therapy [Electronic resource] / Trufanov G.E., Asaturyan M.A., Zharinov G.M. - M. : GEOTAR-Media, 2013. - <http://www.studmedlib.ru/book/ISBN9785970425145.html>

Radiation diagnostics. In 2 volumes. Volume 1 [Electronic resource] / Akiev R.M., Ataev A.G., Bagnenko S.S. and others. Ed. G.E. Trufanov. - M. : GEOTAR-Media, 2011. - <http://www.studmedlib.ru/book/ISBN9785970419274.html>

Radiation diagnostics in dentistry [Electronic resource] : textbook / Vasiliev A.Yu., Vorobyov Yu.I., Serova N.S. and others - 2nd ed., add. and rework . - M. : GEOTAR-Media, 2010. -

<http://www.studmedlib.ru/book/ISBN9785970415955.html>

Radiation diagnostics and therapy. General radiation diagnostics [Electronic resource] / Ternovoy S. K. et al. - M. : GEOTAR-Media, 2014. -

<http://www.studmedlib.ru/book/ISBN9785970429891.html>

5. - Bulletin of radiology and radiology

<http://www.russianradiology.ru/jour>

6. - Russian Electronic Journal of Radiation Diagnostics

<http://www.rejr.ru/perviy-nomer/vol-6-3-2016.html>

7. National School of Radiology

<http://www.radiology-school.ru>

"Student Advisor":

<http://www.studmedlib.ru/book/ISBN9785970407127.html>

<http://www.studmedlib.ru/book/ISBN9785970414163.html>

<http://www.studmedlib.ru/book/ISBN9785970425329.html> <http://www>

[.studmedlib.ru/book/ISBN9785970427194.html](http://www.studmedlib.ru/book/ISBN9785970427194.html)

<http://www.studmedlib.ru/book/ISBN9785970427194.html>

RosOncoWeb - Internet portal of the Russian Society of Clinical Oncology:

<http://www.rosoncoweb.ru/standards/RUSSCO/>

Association of Oncologists of Russia. Clinical guidelines for the diagnosis and treatment of tumors: <http://www.oncology.ru/association/clinical-guidelines/>

Journal "Oncology"

http://www.oncology.kiev.ua/archiv/19_1/index.php

Journal "Practical Oncology"

http://www.rosoncoweb.ru/library/journals/practical_oncology/

Magazine "Modern oncology"

<http://con-med.ru/magazines/contemporary/contemporary-01-2017/>

Journal "Oncourology "

<http://oncourology.abvpress.ru/oncur>

Journal "Tumors of the female reproductive system" <http://ojrs.abvpress.ru/ojrs>

Journal "Tumors of the head and neck"

<http://ogsh.abvpress.ru/jour>

10. Guidelines for students on mastering the discipline

Training consists of contact work (50 hours), including a lecture course (10 hours) and practical classes (40 hours), and independent work (22 hours). The main study time is allocated to practical work on the study of the anatomy of organs, methods of radiation diagnostics of symptoms and differential diagnosis of various diseases. When studying the discipline, it is necessary to use the

basic and additional recommended literature and master practical skills in radiation diagnostics of pathological processes.

Practical classes are held in the form of answers to tests, oral questioning, analysis and description of clinical cases, presence during the examination and treatment of patients, solving situational problems. In accordance with the requirements of the Federal State Educational Standard in the educational process, active and interactive forms of conducting classes (video films, situational tasks, independent extracurricular work) are widely used. The proportion of classes conducted in interactive forms is at least 5% of the classroom classes.

Independent work of students implies the preparation of the formation of a systematic approach to the analysis of medical information, includes the study of additional literature, work with medical records, writing x-ray protocols in the SRS section).

Each student is provided with access to the library funds of the academy and the department. During the study of the discipline, students independently draw up protocols for describing images of various organs and are present during radiation examination in the classrooms.

The work of a student in a group forms a sense of collectivism and sociability.

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

- microsoft word
- • Microsoft excel
- • Microsoft Power Point
- adobe photoshop
- Adobe Acrobat
- Adobe Fine Reader

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

No./P	Name of equipment	Quantity	Technical condition
one	2	3	4
Special equipment			
1.	classrooms (19.1 sq.m , 22.7 sq.m, 13.6 sq.m)	3	good
2.	room (18 sq.m)	1	satisfactory
3.	(141.8 sq.m)	1	good
4.	computers	3	satisfactory
5.	laptop -book	1	good
6.	multimedia complex (laptop, projector, screen)	1	good
7.	negatoscope	10	satisfactory
8.	slidescope	1	satisfactory
9.	set of radiographs, CT and MR	70	good
10.	vidio movies	4	good
11.	situational tasks	34	good
12.	tests		good
13.	Diagnostic devices ROD	4	good
14.	Devices for radiotherapy ROD	3	good
phantoms			

15.	-		
dummies			
16.	-		

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 training sessions in full-time mode, it is possible to study this discipline or part of it using e-learning and distance learning technologies.

Teaching 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 progress, as well as intermediate certification of students, the 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. Conducting seminars and practical classes is possible on-line in both synchronous and asynchronous modes. Seminars can be held in the form of web - conferences.