### Summaryof the working program of the academic discipline

#### «Radiation Diagnostics » (name of the academic discipline)

General Educational Program of higher education (specialist's degree programs)

code, name of the specialty

#### 31.05.01 General Medicine;

### Department: Department of Oncology, Radiation Therapy and Radiation Diagnostics

**1. The purpose of mastering the discipline** (*participation in the formation of relevant competencies – specify the codes*):

1.1. The purpose of mastering the discipline: participation in the formation of competencies UC-1, UC - 4, GPC-1, GPC -3, GPC -5.

1.2. Tasks of the discipline:

1.3. Requirements to the deliverables of mastering the discipline

## **2.** Position of the academic discipline in the structure of the General Educational Program (GEP).

**2.1.** The discipline Radiation Diagnostics refers to the core part of Block 1 of GEP HE (31.05.01 "General Medicine").

**2.2.** The following knowledge, skills and abilities formed by previous academic disciplines are required for mastering the discipline: anatomy, physics, internal diseases, surgical diseases.

**2.3.** Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines: faculty therapy, occupational diseases; hospital therapy, polyclinic therapy, oncology and radiation therapy.

### 3. Deliverables of mastering the academic discipline and metrics of competence acquisition

Mastering the discipline aims at acquiring the following universal (UC) or/and general professional (GPC) or/and professional (PC) competencies

	Competen The content of the		The content of the Code and name of		As a result of mastering the discipline, the students should:		
N⁰	ce code	competen ce code part) competence (or its acquisition metric		know	be able to	possess	
1.	UC -1	Capable	UC 1.1 Knows the	methods of	receive new	has	
		realize	methods of critical	critical	knowledge	practical	
		critical analysis	analysis and	analysis	based on	experience	
		problem situations	evaluation of	and	analysis,	in studying	
		based on systemic	modern scientific	evaluation	synthesis,	the	
		approach,	achievements; basic	of modern	etc.; collect	problems	
		work out	principles of critical	scientific	data on	of	
		action strategy	analysis	achieveme	complex	professiona	
			UC 1.2 Able to	nts; basic	scientific	l activity	
			acquire new	principles	problems	using	

			knowledge based on	of critical	related to the	analysis,
			analysis, synthesis,	analysis,	professional	synthesis
			etc.; collect data on	new	field; to	and other
			complex scientific	knowledge	search for	methods of
			problems related to	based on	information	intellectual
			the professional	analysis,	and solutions	activity;
			field; search for	synthesis,	based on	developing
			information and	etc.; the	actions,	an action
			solutions based on	method of	experiment	strategy to
			action, experiment	collecting	and	solve
			and experience	data on	experience	professiona
			UC 1.3 Has	complex		l problems
			practical	scientific		
			experience:	problems		
			researching the	related to		
			problem of	the		
			professional activity	profession		
			using analysis,	al field;		
			synthesis and other	ways to		
			methods of	search for		
			intellectual activity;	informatio		
			development of an action strategy for	n and solutions		
			solving professional	based on		
			problems;	actions,		
			problems,	experiment		
				and		
				experience		
2.	UC -4	Able to apply	UC 4.1 Knows the	experience	express one's	Has
		modern	basics of oral and	of	thoughts in	practical
		communication	written	speaking	Russian and	experience
		technologies,	communication in	in Russian	foreign	in:
		including in a	Russian and	and	languages in	compiling
		foreign language(s),	business	foreign	business	texts in
		for academic and	communication,	languages,	communicati	Russian
		professional	modern means of	basics of	on	and foreign
		interaction	information and	oral and		languages
			communication	written .		related to
			technologies	communic		professiona
			UC 4.2 Is able to	ation in Russian		l activities;
			express his thoughts in Russian and	and		experience in
			foreign languages in	foreign		translating
			business	languages,		medical
			communication	functional		texts from
			UC 4.3 Has	styles of		a foreign
			practical experience	the native		language
			r-action onperionee			
1			in: compiling texts	language		1nto
			in: compiling texts in Russian and	language, requireme		into Russian;
			in Russian and	language, requireme nts for		Russian;
				requireme		

			activities; experience in translating medical	ation, modern		and foreign languages
			translating medical texts from a foreign language into Russian;	means of informatio n and communic ation		
				technologi es		
3.	GPC -1	Able to assess the condition of a patient requiring medical care in emergency or emergency forms of	GPC 1.1 Knows the etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; methodology for collecting complaints and anamnesis; physical examination technique (examination, palpation, percussion, auscultation); a list of laboratory and instrumental research methods for assessing the condition, the main medical indications for conducting research and interpreting the results in patients requiring medical care in emergency or emergency forms GPC 1.2 Can identify clinical signs of conditions requiring emergency or emergency or emergency or emergency medical care	es etiology, pathogenes is and pathomorp hology, clinical picture, differential diagnosis, course features, complicati ons and outcomes of diseases of internal organs; methodolo gy for collecting complaints and anamnesis; physical examinatio n technique (examinati on, palpation, percussion, auscultatio n); a list of laboratory and instrument al research methods for assessing the condition, the main	make a preliminary diagnosis with subsequent referral to a specialist doctor using diagnostic and differential diagnostic techniques, including the identification of clinical signs of conditions requiring emergency or emergency medical care	methods and techniques of radiation examinatio n of patients, the implement ation of basic diagnostic measures in urgent and life- threatening conditions

	r					
				medical		
				indications		
				for		
				conducting		
				research		
				and		
				interpretin		
				g the		
				results in		
				patients		
				requiring		
				medical		
				care in		
				emergency		
				or		
				emergency		
				forms		
				basic		
				principles		
				of		
				radiation		
				examinatio		
				n of		
				patients,		
				organizatio		
				n of		
				planned		
				and urgent		
				radiation		
				examinatio		
				n, rules for		
				maintainin		
				g medical		
				records to		
				identify		
				clinical		
				signs of		
				conditions		
				requiring		
				medical		
				care in		
				emergency		
				or		
				emergency		
4	CDC 2	A 1-1 - 4 - 1 - 1	CDC 2.1 K	forms		1
4.	GPC -3	Able to provide	GPC 3.1 Knows:	rules for	rules for	have .
		emergency medical	the rules for	basic	performing	experience
		care to patients with	conducting basic	cardiopul	external	for
		sudden acute	cardiopulmonary	monary	electrical	performing
		diseases,	resuscitation; the	resuscitati	impulse	external
		conditions,	principles of	on;	therapy	electrical
		exacerbation of	operation of devices	principles	(defibrillatio	impulse
		ехасстваной ог	operation of devices	principies	(defibilitatio	mpuise

		chronic diseases without obvious signs of a threat to the patient's life, provide emergency medical care to patients with conditions that threaten the patient's life, including clinical death (stopping vital functions of the human body (circulation and / or respiration)	for external electrical impulse therapy (defibrillation); the rules for performing external electrical impulse therapy (defibrillation) in case of sudden cessation of blood circulation and /or breathing GPC 3.2 Knows how to perform measures to provide medical care in urgent and emergency forms; basic cardiopulmonary resuscitation in combination with electrical impulse therapy (defibrillation)	of operation of devices for external electropuls e therapy (defibrillat ion);	n) in case of sudden cessation of blood circulation and / or respiration	therapy (defibrillati on) in case of sudden cessation of blood circulation and / or respiration
5.	GPC -5	Able to collect complaints, an anamnesis of the patient's life and illness, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation), formulate a preliminary diagnosis and draw up a plan for laboratory and instrumental examinations of the patient	GPC 5.1 Knows: Legislation of the Russian Federation in the field health care, regulatory legal acts and other documents that determine the activities of medical organizations and medical workers; method of collecting complaints, anamnesis of life and disease of the patient; a technique for a complete physical examination of the patient (examination, palpation, percussion, auscultation); etiology,	the legislation of the Russian Federation in the field of health protection, regulatory legal acts and other documents that determine the activities of medical organizatio ns and medical workers; method of collecting complaints , anamnesis	collect complaints, a history of life and illness of the patient and analyze the information received; conduct a complete physical examination of the patient (examination , palpation, perkussia, auskul- tation) and inter- pretence its results; determinatio n of volume, co- maintenance	Has practical experience in: collecting complaints, anamnesis of life and diseases in children and adults (their legal representati ves), identifying risk factors and causes of diseases; examinatio n and physical examinatio n of children and adults; diagnosis

		C1:C 7	1 0	6.1
	pathogenesis and	of life and	and after-	of the most
	pathomorphology,	disease of	completion	common
	clinical picture,	the patient;	of diagnostic	diseases in
	differential	a	measures	children
	diagnosis, course	technique		and adults;
	features,	for a	interpret the	identificati
	complications and	complete	data	on of risk
	outcomes of	physical	obtained	factors for
	diseases of internal	examinatio	using	major
	organs;	n of the	various	cancers;
	patterns of	patient	radiation	formulatin
	functioning of a	(examinati	diagnostic	g a
	healthy human body	on,	methods	preliminary
	and mechanisms for	palpation,		diagnosis,
	ensuring health	percussion,		drawing up
	from the standpoint	auscultatio		a plan for
	of the theory of	n);		instrument
	functional systems;	etiology,		al,
	features of the	pathogenes		laboratory,
	regulation of the	is and		additional
	functional systems	pathomorp		studies,
	of the human body	hology,		consultatio
	in pathological	clinical		ns with
	processes; methods	picture,		specialist
	of laboratory and	differential		doctors;
	instrumental studies	diagnosis,		referral of
	for assessing the	course		patients for
	state of health,	features,		instrument
	medical indications	complicati		al,
	for conducting	ons and		laboratory,
	studies, rules for	outcomes		additional
	interpreting their	of diseases		studies,
	results	of internal		consultatio
		organs;		ns of
	GPC 5.2 Able to:	patterns of		medical
	collect complaints,	functionin		specialists
	anamnesis of life	g of a		in
	and disease of the	healthy		accordance
	patient and analyze	human		with the
	the information	body and		current
	received; conduct a	mechanis		procedures
	complete physical	ms for		for the
	examination of the	ensuring		provision
	patient	health		of medical
	(examination,	from the		care,
	palpation,	standpoint		clinical
	percussion,	of the		recommen
	auscultation) and	theory of		dations,
	interpret its results;	functional		taking into
	determine the	systems;		account the
	sequence of	features of		standards
	volume, content and	the		of medical
1		ı		1

I	C	1	
	sequence of	regulation	care;
	diagnostic measures	of the	interpretati
	GPC 5.3 Has	functional	on of data
	practical experience	systems of	from
	in: collecting	the human	additional
	complaints,	body in	(laboratory
	anamnesis of life	pathologic	and
	and diseases in	al	instrument
	children and adults	processes;	al)
	(their legal	methods of	examinatio
	representatives),	laboratory	ns of
	identifying risk	and	patients;
	factors and causes	instrument	making a
	of diseases;	al studies	preliminary
	examination and	for	diagnosis
	physical	assessing	in
	examination of	the state of	accordance
	children and adults;	health,	with the
	diagnosis of the	medical	internation
	most common	indications	al
	diseases in children	for	statistical
			classificati
	and adults;	conducting	
	identification of risk	studies,	on of
	factors for major	rules for	diseases
	cancers;	interpretin	and related
	formulating a	g their	health
	preliminary	results	problems
	diagnosis, drawing		(ICD);
	up a plan for	features of	carrying
	instrumental,	various	out
	laboratory,	methods of	differential
	additional studies,	radiation	diagnostics
	consultations with	diagnostics	of diseases;
	specialist doctors;	, the	rarecogniti
	referral of patients	possibilitie	on of
	for instrumental,	s of	conditions
	laboratory,	domestic	arising
	additional studies,	and	from
	consultations of	foreign	sudden
	medical specialists	equipment	acute
	in accordance with	for	diseases,
	the current	diagnostics	exacerbatio
	procedures for the		n of
	provision of		chronic
	medical care,		diseases
	clinical		without
			obvious
	recommendations,		
	taking into account		signs of a
	the standards of		threat to
	medical care;		the
	interpretation of		patient's
	data from additional		life and

	1			· · · · · · · · · · · · · · · · · · ·
		(laboratory and		requiring
		instrumental)		emergency
		examinations of		medical
		patients; making a		care
		preliminary		
		diagnosis in		
		accordance with the		
		international		
		statistical		
		classification of		
		diseases and related		
		health problems		
		(ICD); carrying out		
		differential		
		diagnostics of		
		diseases;		
		rarecognition of		
		conditions arising		
		from sudden acute		
		diseases,		
		exacerbation of		
		chronic diseases		
		without obvious		
1		signs of a threat to		
1		the patient's life and		
1		requiring		
1		emergency medical		
		care		

# **4. Volume of the academic discipline and types of academic work** Total labor intensity of the discipline is \_2\_ CU ( 72 AH)

Type of educational work	Labor i	ntensity	Labor intensity (AH		in
	volume in	volume in	sem	esters	
	credit	academic			
	units	hours			
	(CU)	(AH)			
Classroom work, including	2	44		44	
Lectures (L)		10		10	
Laboratory practicum (LP)*					
Practicals (P)		34		34	
Seminars (S)					
Student's individual work (SIW)		28		28	
Mid-term assessment					
credit/exam (specify the type)					
TOTAL LABOR INTENSITY	2	72		72	

№	Competence code	Section name of the discipline
1.	UC -1	History of the discovery of X-rays. Properties of x-rays. Laws of skiology-shadow formation.
2.	UC -4	Advantages and disadvantages of the main methods of radiation diagnostics.
3. 4	GPC -1 GPC -3	Interpretation of data obtained in the study of the organs of the chest cavity is normal.
5	GPC -5	Classifications of pneumonia. X-ray manifestations of pneumonia, depending on the stage. Round shadow syndrome in the lungs. Interpretation of radiographs with diseases of the gastrointestinal tract. Interpretation of radiographs with pathology of bones and joints.

### 5. Sections of the academic discipline and competencies that are formed