Summary of the working program of the academic discipline

« ONCOLOGY, RADIATION THERAPY » (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-4, GPC-1, GPC-4, PC-5, PC-9, PC-10.

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 "Oncology, radiation therapy" refers to the cycle "Professional cycle" of the basic part of the Federal State Educational Standard of Higher Professional Education in the specialty: 31.05.01 "Medical Care" (specialist level), approved by order of the Ministry of Science and Higher Education of the Russian Federation No. 988 dated August 12, 2020.

2.2 To study the discipline, knowledge, skills and abilities are required that are formed by previous disciplines: biology, physics, chemistry, histology, biochemistry, normal and pathological anatomy, normal and pathological physiology, topographic anatomy, as well as clinical disciplines: propaedeutics of internal diseases, general surgery, faculty therapy, faculty surgery, obstetrics and gynecology, ENT diseases, eye diseases, neurology.

2.3 The study of the discipline is necessary to acquire the knowledge, skills and abilities necessary for the subsequent passage of the primary accreditation of a specialist.

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	Code and name of	e discipline, ld:		
№	N₀ Competen ce code	competence (or its part)	the competence acquisition metric	know	be able to	possess
1.	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

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		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		l activities;
			express his thoughts	Russian		experience
			in Russian and	and		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
			in: compiling texts	language,		into
			in Russian and	requireme		Russian;
			foreign languages	nts for		experience
			related to	business		of speaking
			professional	communic		Russian
			activities;	ation,		and foreign
			experience in	modern		languages
			translating medical	means of		
			texts from a foreign	informatio		
			language into	n and		
			Russian;	communic		
				ation		
				technologi		
				es		
2.	GPC -1	Able to assess the	GPC 1.1 Knows the	etiology,	make a	methods
		condition of a	etiology,	pathogenes	preliminary	and
		patient requiring	pathogenesis and	is and	diagnosis	techniques
		medical care in	pathomorphology,	pathomorp	with	of radiation
		emergency or	clinical picture,	hology,	subsequent	examinatio
		emergency forms of	differential	clinical	referral to a	n of
			diagnosis, course	picture,	specialist	patients,
			features,	differential	doctor using	the
			complications and	diagnosis,	diagnostic	implement
			outcomes of	course	and	ation of
			diseases of internal	features,	differential	basic
			organs;	complicati	diagnostic	diagnostic
			methodology for	ons and	techniques,	measures
			collecting	outcomes	including the	in urgent
			0			
1			complaints and	of diseases	identification	and life-
			complaints and anamnesis; physical		identification of clinical	threatening
			complaints and anamnesis; physical examination	of diseases of internal organs;	identification of clinical signs of	
			complaints and anamnesis; physical examination technique	of diseases of internal organs; methodolo	identification of clinical signs of conditions	threatening
			complaints and anamnesis; physical examination technique (examination,	of diseases of internal organs; methodolo gy for	identification of clinical signs of conditions requiring	threatening
			complaints and anamnesis; physical examination technique (examination, palpation,	of diseases of internal organs; methodolo gy for collecting	identification of clinical signs of conditions	threatening
			complaints and anamnesis; physical examination technique (examination, palpation, percussion,	of diseases of internal organs; methodolo gy for	identification of clinical signs of conditions requiring	threatening
			complaints and anamnesis; physical examination technique (examination, palpation, percussion, auscultation); a list	of diseases of internal organs; methodolo gy for collecting	identification of clinical signs of conditions requiring emergency or emergency	threatening
			complaints and anamnesis; physical examination technique (examination, palpation, percussion, auscultation); a list of laboratory and	of diseases of internal organs; methodolo gy for collecting complaints and anamnesis;	identification of clinical signs of conditions requiring emergency or	threatening
			complaints and anamnesis; physical examination technique (examination, palpation, percussion, auscultation); a list of laboratory and instrumental	of diseases of internal organs; methodolo gy for collecting complaints and anamnesis; physical	identification of clinical signs of conditions requiring emergency or emergency	threatening
			complaints and anamnesis; physical examination technique (examination, palpation, percussion, auscultation); a list of laboratory and	of diseases of internal organs; methodolo gy for collecting complaints and anamnesis;	identification of clinical signs of conditions requiring emergency or emergency	threatening

	1			
		condition, the main	technique	
		medical indications	(examinati	
		for conducting	on,	
		research and	palpation,	
		interpreting the	percussion,	
		results in patients	auscultatio	
		requiring medical	n); a list of	
		care in emergency	laboratory	
		or emergency forms	and	
		GPC 1.2 Can	instrument	
		identify clinical	al research	
		signs of conditions	methods	
1		requiring	for	
		emergency or	assessing	
		emergency medical	the	
		care	condition,	
			the main	
			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	
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				clinical		
				signs of		
				conditions		
				requiring medical		
				care in		
				emergency		
				or		
				emergency		
				forms		
3.	GPC-4	Able to use	GPC-4.1	methods	collect	Has
		medical devices	methods of	of	complaints	practical
		provided for by	collecting	collectin	1	experienc
		the procedure for	anamnesis of life	g	anamnesis	e:
		the provision of	and diseases,	anamnesi	of life and	collecting
		medical care, as		s of life	disease	-
			complaints from			complaint
		well as to	patients (their	and	from	S,
		conduct	legal	diseases,	patients	anamnesi
		examinations of	representatives);	complain	(their legal	s of life
		the patient in	methods of	ts from	representat	and
		order to establish	examination and	patients	ives),	disease in
		a diagnosis	physical	(their	identify	patients
			examination;	legal	risk factors	(their
			clinical picture,	represent	and causes	legal
			methods of	atives);	of disease	represent
			diagnosis of the	methods	developme	atives),
			most common	of	nt; apply	identifyin
			diseases;	examinat	methods of	g risk
			methods of	ion and	examinatio	factors
			laboratory and	physical	n and	and
			instrumental	examinat	physical	causes of
			studies to assess	ion;	examinatio	disease
			the state of	clinical	n of	
						developm
			health, medical	picture,	patients;	ent;
			indications for	methods	interpret	examinati
			conducting	of	the results	on and
			research, rules	diagnosis	of	physical
			for interpreting	of the	examinatio	examinati
			their results; the	most	n and	on of
			International	common	physical	patients;
			Statistical	diseases;	examinatio	diagnosis
			Classification of	methods	n of	of the
			Diseases and	of	patients;	most
			Health Problems	laborator	diagnose	common
			(ICD);	y and	the most	diseases;
			conditions	instrume	common	identifica
			conditions	msuume	Common	nucitifica

		roquiring	ntol	nothology	tion of
		requiring	ntal	pathology	tion of
1		emergency modical core; the	studies to	in patients;	risk
1		medical care; the	assess	identify	factors
		procedure for the	the state	risk factors	for major
		use of medical	of health,	for cancer;	oncologic
		devices in	medical	formulate a	al
		accordance with	indicatio	preliminar	diseases;
		the current	ns for	У	formulati
		procedures for	conducti	diagnosis,	on of a
		the provision of	ng	draw up a	prelimina
		medical, clinical	research,	plan for	ry
		recommendation	rules for	laboratory,	diagnosis
		s (treatment	interpreti	instrument	, drawing
		protocols) on the	ng their	al and	up a plan
		provision of	results;	additional	for
		medical care,	the	studies in	conductin
		assistance taking	Internatio	patients in	g
		into account the	nal	accordance	instrumen
		standards of	Statistica	with the	tal,
		medical care	1	procedures	laborator
			Classific	for the	у,
			ation of	provision	additional
			Diseases	of medical	studies,
			and	care,	consultati
			Health	clinical	ons of
			Problems	recommen	specialist
			(ICD);	dations,	doctors;
			condition	taking into	referral
			S	account the	of
			requiring	standards	patients
			emergenc	of medical	to
			у	care; refer	instrumen
			medical	patients to	tal,
			care; the	laboratory,	laborator
			procedur	instrument	у,
			e for the	al and	additional
			use of	additional	studies,
			medical	studies in	consultati
			devices	accordance	ons of
			in	with the	specialist
			accordan	current	doctors in
			ce with	procedures	accordan
			the	for the	ce with
			current	provision	the
			procedur	of medical	current
L			r	Si mourour	Varivitt

		es for the	care,	procedure
		provision	clinical	s for the
		of	recommen	provision
		medical,	dations,	of
		clinical	taking into	medical
		recomme	account the	care,
		ndations	standards	clinical
		(treatmen	of medical	recomme
		t	care; refer	ndations,
		protocols	patients for	taking
) on the	consultatio	into
		provision	ns to	account
		of		the
			specialist	
		medical	doctors in	standards
		care,	accordance	of
		assistanc	with the	medical
		e taking	procedures	care;
		into	for the	interpreta
		account	provision	tion of
		the	of medical	data from
		standards	care	additional
		of		(laborator
		medical		y and
		care		instrumen
				tal)
				examinati
				ons of
				patients;
				making a
				prelimina
				ry
				diagnosis
				in
				accordan
				ce with
				the
				Internatio
				nal
				Statistical
				Classifica
				tion of
				Diseases
				and
				Related
				Health
				incanni

						Problems
						(ICD);
4.	PC -5	Able to collect	IPC 5.1 Legislation	the	collect	Has
		complaints, an	of the Russian	legislation	complaints, a	practical
		anamnesis of the	Federation in the	of the	history of	experience
		patient's life and	field of health care,	Russian	life and	in:
		illness, conduct a	regulatory legal acts	Federation	illness of the	collecting
		complete physical	and other	in the field	patient and	complaints,
		examination of the	documents that	of health	analyze the	anamnesis
		patient	determine the	protection,	information	of life and
		(examination,	activities of medical	regulatory	received;	diseases in
		palpation,	organizations and	legal acts	conduct a	children
		percussion,	medical workers;	and other	complete	and adults
		auscultation),	method of	documents	physical	(their legal
		formulate a	collecting	that	examination	representati
		preliminary	complaints,	determine	of the patient	ves),
		diagnosis and draw	anamnesis of life	the	(examination	identifying
		up a plan for	and disease of the	activities	, palpation,	risk factors
		laboratory and	patient; a technique	of medical	perkussia,	and causes
		instrumental	for a complete	organizatio	auskul-	of diseases;
		examinations of the	physical	ns and	tation) and	examinatio
		patient	examination of the	medical	inter-	n and
			patient	workers;	pretence its	physical
			(examination,	method of	results;	examinatio
			palpation,	collecting	determinatio	n of
			percussion,	complaints	n of volume,	children
			auscultation);	,	co-	and adults;
			etiology,	anamnesis	maintenance	diagnosis
			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 for a	internet the	and adults; identificati
			features,		interpret the data	on of risk
			complications and outcomes of	complete	obtained	factors for
			diseases of internal	physical examinatio	using	major
				n of the	various	cancers;
			organs; patterns of	patient	radiation	formulatin
			functioning of a	(examinati	diagnostic	
			healthy human body	on,	methods	g a preliminary
			and mechanisms for	palpation,	methous	diagnosis,
			ensuring health			drawing up
			from the standpoint	percussion, 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			studies,
			of the human body	pathomorp		consultatio
			in pathological	hology, clinical		ns with
			processes; methods			specialist
	I		processes, methods	picture,		specialist

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		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
		IPC 5.2 assessment	organs;	ns of
		of basic	patterns of	medical
		morphofunctional	functionin	specialists
		data, physiological	g of a	in
		conditions and	healthy	accordance
		pathological	human	with the
1		processes in the	body and	current
1		human body	mechanis	procedures
1		IPC 5.3 Has	ms for	for the
1		practical	ensuring	provision
1		experience:	health	of medical
1		assessment of basic	from the	care,
		morphological and	standpoint	clinical
		functional data,	of the	recommen
		physiological	theory of	dations,
		conditions and	functional	taking into
		pathological	systems;	account the
		processes in the	features of	standards
		human body when	the	of medical
		solving professional	regulation	care;
		problems;	of the	interpretati
		legislation of the	functional	on of data
		Russian Federation	systems of	from
		in the field of health	the human	additional
		protection,	body in	(laboratory
		regulations and	pathologic	and
		other documents	al	instrument
		that determine the	processes;	al)
		activities of medical	methods of	examinatio
		organizations and	laboratory	ns of
		medical workers; a	and	patients;
		method for	instrument	making a
		collecting	al studies	preliminary
		complaints, an	for	diagnosis
		anamnesis of life	assessing	in
		and illness of a	the state of	accordance
		patient with	health,	with the
		oncological	medical	internation
		diseases; a	indications	al
		technique for a	for	statistical
		complete physical	conducting	classificati
		examination of a	studies,	on of
		patient with cancer	rules for	diseases
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			(examination, palpation, percussion, auscultation); etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs;	interpretin g their results features of various methods of radiation diagnostics , the possibilitie s of domestic and foreign equipment for diagnostics		and related health problems (ICD); carrying out differential diagnostics of diseases; rarecogniti on of conditions arising from sudden acute diseases, exacerbatio n of chronic diseases, exacerbatio n of chronic diseases without obvious signs of a threat to the patient's life and requiring emergency medical care
5.	PC-9	Able to provide palliative care when interacting with medical specialists and other medical workers	IPC-9.1 The procedure for providing palliative care IPC-9.2 Prescribe medicines, medical devices and nutritional therapy, taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment	To prescribe medicines, medical devices and nutritional therapy to patients with oncologica l diseases, taking into account the diagnosis, age and clinical picture of	prescribe non-drug treatment taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical recommenda	evaluate the effectivene ss and safety of the use of medicines, medical devices and medical nutrition - the main medical diagnostic and therapeutic methods for

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			protocols) on the provision of medical care, taking into account the standards of medical care; prescribe non-drug treatment taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care; taking into account the standards of medical care; evaluate the effectiveness and safety of the use of medicines, medical devices and clinical nutrition. The providing palliative care to patients with cancer	the disease in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, taking into account the standards of medical care;	tions (treatment protocols) on the provision of medical care, taking into account the standards of medical care;	providing first aid in emergency and life- threatening conditions;
6.	PC-10	Able to organize personalized treatment of a patient, including pregnant women, elderly and senile patients, evaluate the effectiveness and safety of treatment	IPC-10.1 modern methods of using drugs, medical devices and clinical nutrition for diseases and conditions in a patient in accordance with with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the	in a patient with cancer in accordance with the current procedures for the provision of medical care, clinical recommen dations (treatment protocols) on the	mechanism of action of non-drug treatment; medical indications and contraindicat ions to its appointment; side effects, complication s caused by its use prescribe medications, medical	prescribe non-drug treatment taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision

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provision of	provision	devices and	of medical
medical care, taking	of medical	clinical	care,
into account the	care,	nutrition to	clinical
standards of	taking into	patients with	recommen
medical care; the	account	oncological	dations
mechanism of	the	diseases,	(treatment
action of drugs,	standards	taking into	protocols)
medical products	of medical	account the	on the
and medical	care; the	diagnosis,	provision
nutrition, medical	mechanis	age and	of medical
indications and	m of	clinical	care, taking
contraindications to	action of	picture of the	into
their use;	drugs,	disease in	account the
complications	medical	accordance	standards
caused by their use;	products	with the	of medical
modern methods of	and	current	care;
non-drug treatment	medical	procedures	evaluate
of diseases and	nutrition,	for the	the
conditions in a	medical	provision of	effectivene
patient in	indications	medical care,	ss and
accordance with the	and	clinical	safety of
current procedures	contraindic	guidelines	the use of
for the provision of	ations to	(treatment	medicines,
medical care,	their use;	protocols) on	medical
clinical		the provision	devices
recommendations		of medical	and clinical
(treatment		care taking	nutrition -
protocols) on the		into account	the skills of
provision of		the standards	interpreting
medical care, taking		of medical	the results
into account the		care;	of
standards of			laboratory,
medical care;			instrument
mechanism of			al
action of non-drug			
C C			diagnostic methods;
treatment; medical indications and			memous,
contraindications to			
its appointment;			
side effects,			
complications			
caused by its use			

4. Volume of the academic discipline and types of academic work Total labor intensity of the discipline is _3_ CU (108 AH)

Type of educational work	Labor intensity		Labor intensity (AH) in			in
	volume in volume in		semesters			
	credit	academic				
	units	hours				
	(CU)	(AH)				
Classroom work, including	3	66			66	

Lectures (L)		14	12
Laboratory practicum (LP)*			
Practicals (P)		52	
Clinical Practice (CP)			44
Seminars (S)			
Student's individual work (SIW)		42	34
Mid-term assessment			
credit/exam (specify the type)			
TOTAL LABOR INTENSITY	3	108	108

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

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N⁰	Competence code	Section name
		of the discipline
	UC-4,	Methods of radiation therapy Physical basis of radiation therapy of malignant
	00 1,	neoplasms
		Ionizing radiation. Types of ionizing radiation.
		Types of radiation used for therapeutic purposes in oncology, their characteristics.
		Principles and methods of dosimetry, methods of protection against exposure to
		ionizing radiation.
		Effects of ionizing radiation at the subcellular and cellular level.
		Stages of development of radiation damage in biological tissues. Effects of
1.		ionizing radiation at the tissue level.
		The concept of radiosensitivity. Factors affecting radiosensitivity.
		Effects of AI at the organism level
		The effects of AI on the organism as a whole. Long-term effects of irradiation.
		Features of the impact of AI on malignant neoplasms.
		Factors affecting the effectiveness of radiation therapy of tumors - reparation,
		repopulation, reoxygenation, redistribution in the cell cycle. radio-modifying
		influences.
	GPC-1,	Current state and prospects for the development of oncology. Purpose,
	GPC-4,	content and place of oncology in the system of physician training.
		Morbidity and mortality from malignant neoplasms. Dynamics and structure
		of morbidity. Regional features of the spread of malignant neoplasms.
		Factors contributing to the development of tumors. The significance of the
		nature of nutrition, smoking, endocrine disorders, viruses, radioactive and
2.		ultraviolet radiation, heredity, secondary immunodeficiency states. The
		concept of primary and secondary prevention. Socio-hygienic and
		individual measures of cancer prevention. Fight against smoking. Food
		hygiene.
		The most important scientific directions and modern technologies in
		oncology. Dynamics of indicators of cure of oncological patients.
	PC-5,	Organization of cancer care. Principles of oncological service in Russia. clinical
	PC-9,	groups. State registration system. Accounting documentation. Analysis of the
	PC-10	causes of neglect of malignant tumors.
3		Palliative care for patients with advanced forms of malignant neoplasms. The
		concept of the quality of life of cancer patients.
		Deontology in oncology. Tactics of a doctor in relation to an oncological patient.
		Rules of conduct for students in the oncology clinic. Curation of patients.
L	L	