

**THE MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION
Pirogov Russian National Research Medical University (RNRMU)**

«VALIDATE»

The Dean of the medical faculty
Dvornikov A.S./_____/

«___» _____ 20 ____ г.

WORKING PROGRAM OF THE DISCIPLINE

«LIFE SAFETY. DISASTER MEDICINE.»

Field of training (specialty): **31.05.01** Medical business

Focus of education
program Medical business

Form of education: full-time

The development of the working program of the discipline are based on:

- 1) Federal state educational standard of higher education in the direction of training (specialty) 31.05.01 Medical business, approved by the Ministry of education and science of Russian Federation « 9» February 2016 г. № 95
- 2) Curriculum in the specialty 31.05.01 Medical business

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The working program of the discipline was considered and approved at the meeting of the Department of disaster medicine, protocol № от « » 2018 г.

Head of department: _____ Levchuk I.P.

The working program of the discipline is considered and approved by the Council of the medical faculty, protocol № от « » 2018г.

Chairman of the Council of the medical faculty: Dvornikov A.S. / _____/

1. Generalities

1.1. The purpose and objectives of the discipline:

1.1.1. The purpose of the discipline "life Safety, disaster medicine" is:

- formation of culture of safety of life;
- preparedness and ability to work in peace and war-time emergencies;
- participation in liquidation of medical-sanitary consequences of emergency situations.

1.1.2. Tasks to be solved during the development of the discipline program:

The *main task* of training is to prepare graduates of medical schools to perform functional duties in special formations of health care and emergency medicine service in the elimination of medical and sanitary consequences of emergency situations.

The *objectives* of the discipline are the acquisition of:

- necessary knowledge about emergency situations of peace and war time, about the purpose and structure of the Unified state system of prevention and elimination of consequences of emergency situations and the all-Russian service of disaster medicine;
- ability to assess the problems and risks associated with the safety of human activity and education of a culture of safe behavior;
- practical skills to provide first aid, first aid and first aid to victims in various emergency situations and accidents;
- organizational skills and knowledge to justify decisions on the provision of medical assistance to victims in emergency situations;
- skills of organization of measures to protect the population from natural and man-made hazards;
- motivation and ability to independently improve the level of knowledge on life safety and disaster medicine.

1.2. Place of discipline in the structure of GEP:

Academic discipline is studied in the first, seventh and tenth semesters.

To study the discipline requires the following knowledge, skills and abilities formed by previous disciplines:

Philosophy

Skills: to reveal the natural scientific essence of the problems arising in the course of professional activity of a doctor.

Physics, Mathematics

Knowledge: Structure and functions of biological membranes. Mechanisms of transmembrane mass transfer. Transport of substances in multi-membrane systems of the body. Mechanisms of bioelectrogenesis. Biophysics of muscle contraction. Biomechanics of blood circulation. Mechanisms of information transformation in sensory system receptors.

Ionizing radiation. Basics of dosimetry. Elements of dosimetry. Elementary particles (exposure radiation dose, dose rate, absorbed dose; quantitative assessment of the biological action of ionizing radiation; equivalent dose; methods of registration of different types of ionizing radiation; dosimetric devices; units of measurement in radiology; protection against ionizing radiation.

Specificity of medical and biological measurements. Basic concepts of mathematical statistics.

Chemistry

Knowledge: safety regulations and work in chemical laboratories with reagents, devices. Fundamental laws of chemistry. Equilibrium in biological media (solutions, water and its physical and chemical properties, nonelectrolytes, electrolytes, osmosis, water-electrolyte balance; acid-base balance; equilibrium in complexes; electrochemical equilibrium, ionometry). Microheterogeneous system. Elements organogeny. Organic biomolecules. Metals in living systems. Modern methods of qualitative and quantitative analysis of chemicals.

Skills: use chemical equipment.

Biology

Knowledge: levels of organization of biological systems. Fundamental properties of living systems. Modern ideas about the structure of DNA and complexes, which include it. The role of DNA in the process of cell division. DNA replication.

Anatomy

Knowledge: Morphology of different parts and systems of the human body.

Histology, Embryology, Cytology

Knowledge: Structure and function aerogemateski barrier. Surfactant. Pulmonary macrophages. Alveocyte I, II and III types. The structure of the skin: the epidermis and the actual dermis. Layers of the epidermis: the basal layer, the prickly layer cells layer granular cells, aleinikovas layer, the stratum corneum. Structural and functional organization of the nervous system. Neuron, glial cells, the blood-brain barrier. Structure and functional biochemistry of synapses. Stem hematopoietic cells. Bone marrow cells, patterns of their proliferation, differentiation and maturation. The age structure of myelokaryocytes. Functional cells, the duration of their stay in the bone marrow and blood circulation. Upgrade system of the epithelium of the small intestine.

Morphology and physiology of the skin. Skin epithelium as a system of cellular self-renewal. Morphology and physiology of the mucous membranes of the oropharynx.

Skills: microscopy and analysis of histological preparations and electronic microphotography.

Normal physiology

Knowledge: functions of the respiratory system. The role of lungs in regulation of the coagulation — anticoagulation of the blood system. Patterns of hemo- and liquorodynamics in the lungs. Oxygen transport by hemoglobin and blood plasma. Characteristics of the hemoglobin and myoglobin saturation curve by oxygen, oxide and carbon dioxide. Endogenous formation of carbon monoxide in the body, the level of carboxyhemoglobin in the normal. Synthesis of methemoglobin in normal. Natural processes of methemoglobin reduction. Mechanisms of generation, conduction and transmission of nerve impulse. Mechanisms of bioelectrogenesis. Structure and functional biochemistry of synapses. The role of mediators in the transmission of nerve impulse. Mediators of inhibitory and excitatory processes in the nervous system. Structural and functional heterogeneity of nicotinic acetylcholine receptor. Localization of M- and N-cholinergic receptors, effects of their stimulation and blockade. The role of cholinergic effects in the regulation of the body's functional systems and intracellular metabolism. Their membrane structure and role in the life of cells. The process of hematopoiesis. Mechanisms that prevent the development of bleeding and provide hemostasis. Morphology and physiology of the skin and mucous membranes. Ways of thermoregulation of the human body.

Pathophysiology, Clinical pathophysiology

Knowledge: General nosology. Pathophysiology of peripheral circulation and microcirculation. Inflammation. Fever, hyperthermia. Acute phase response. Reactivity, immunopathology. Pathophysiology of hemostasis. Pathophysiology of metabolism. Pathophysiology of the endocrine system. Stress. Pathophysiology of tissue growth. Pathophysiology of the nervous system. Pathophysiology of blood. Pathophysiology of blood circulation. Pathophysiology of external respiration. Pathophysiology of

gy of digestion. Pathophysiology of the liver. Pathophysiology of the kidney. Pathophysiology of shock.

Pharmacology

Knowledge: laws of interaction of organism and medicinal substance (pharmacokinetics): ways of receipt, resorption and penetration through biological barriers, distribution, biotransformation and excretion.

Pharmacodynamics. Antidotes. Antibacterial and antiviral agents.

Skills: dispensing drugs.

Abilities: prescription.

Pathological anatomy, clinical pathological anatomy

Knowledge: Pathoanatomic picture of the main pathological processes, diseases and injuries (wounds).

Topographic anatomy and operative surgery

Knowledge: Topographic anatomy of different areas of the human body. Basics of surgery.

Biochemistry

Knowledge: Metabolism; biological oxidation, metabolism of carbohydrates, lipids, simple and complex proteins. Liver (role in metabolism, detoxification of various substances). Blood (chemical composition, plasma proteins and kinin system of the blood; electrolyte composition of plasma buffer systems of blood; transport of oxygen the blood forms of hypoxia; blood coagulation, methemoglobin in norma). Kidneys and urine (mechanisms of urine formation; role in hemostasis; general properties and components of urine). Nervous tissue. Muscle tissue. Connective tissue.

Microbiology, Virology

Knowledge: classification, morphology and physiology of microorganisms and viruses, their impact on human health, methods of microbiological diagnosis, the use of basic anti-bacterial, antiviral and biological agents;

Skills: microbiological and immunological diagnostics.

Hygiene

Knowledge: Hygienic assessment of the human environment, microclimate.

Hygienic assessment of drinking water and water sources. Methods to improve water quality. Sanitary examination of the objects of environment pollution by radioactive substances.

Hygienic assessment and sanitary examination of food products. Food poisoning, their investigation and prevention.

Hygienic requirements for placement and planning of medical institutions (hospitals).

Toxicity assessment of industrial poisons (toxicology). Hygienic evaluation of the production of dust.

Radiation safety when working with radioactive substances and sources of ionizing radiation (radiometry). Radiation control at facilities using sources of ionizing radiation (dosimetry).

Sanitary and hygienic problems of disaster medicine.

Skills: hygienic inspection of the area, objects and surrounding area.

Propaedeutics of internal diseases, radiation diagnosis

Knowledge: anatomical and physiological, age and sexual characteristics of a healthy and sick person; the causes of the main pathological processes in the body and the mechanisms of their development; the main clinical symptoms and syndromes of diseases of internal organs and mechanisms of their occurrence; methods of physical examination of the patient (questioning the patient inspection, palpation, percussion, auscultation), physical basis of palpation, percussion, auscultation.

The main instrumental and laboratory methods of research. The method of diagnosis. General and special issues of therapy.

Skills: questioning the patient; physical examination of the patient and identification of objective signs of the disease;

planning of additional laboratory and instrumental examination of the patient; diagnosis of the main clinical pathological syndromes and substantiation of the diagnosis; evaluation of the results of the General analysis of blood, urine, sputum, feces, analysis of gastric and duodenal contents, pleural effusion, and biochemical blood analysis;

emergency care in the most common pathological conditions;

resuscitation in cases of clinical death.

Abilities: Inquiry of the patient, medical history. General inspection. Anthropometric research. The thermometry of the body, the registration and interpretation of temperature curves.

Interpretation of the detected changes.

General surgery, Radiology

Knowledge: Modern means and technologies of care for surgical patients. Prevention of nosocomial infection and occupational safety of medical personnel. Surgical operation, operating mode of the operating unit. Preparation of patients for surgery and instrumental studies. Treatment of wounds, burns. Surgical infection.

Skills: blood type Determination. Treatment of the surgical field. Treatment of hands before surgery. Conductive anesthesia by Lukashevich - Oberst. Infiltration anesthesia. Selection of tools for primary surgical wound treatment. Catheterization of the bladder. Selection of drugs for infusion therapy (including hemodynamic, detoxification or parenteral nutrition). Temporary stop of external bleeding. The imposition of the harness. The imposition of bandages in the wound of various localizations. The imposition of triangular bandages. Assessment of blood (or its preparation) suitability for transfusion. Wearing sterile gloves with or without the help of an operating sister. Sample for individual compatibility of blood donor and recipient. Restoration of airway patency. Gas drainage from the colon. Selection of tools and preparations necessary for the final stop of bleeding. Determination of the presence of a fracture on the radiograph. Determination of blood group by ABO system. Conducting cleansing (drug, siphon, hypertensive) enema. Probe gastric lavage. Preparation of the system for intravenous infusion. Execution by intramuscular injection (subcutaneous, intravenous) injection, for intravenous infusion. Venipuncture, taking blood from a vein. Cardio-pulmonary resuscitation. Indirect heart massage. Mechanical ventilation. The introduction of air. Active-passive prevention of tetanus. Puncture of the pleural cavity. Removal of stitches from the wound. Front and rear nose swab. Measurement of central venous pressure.

Epidemiology

Knowledge: the doctrine of the epidemiological process, the epidemiological approach to the study of human diseases, types of epidemiological studies and their purpose;

epidemic process and non-infectious epidemiology, epidemiology of infectious and parasitic diseases, implementation of anti-epidemic measures, protection of the population in the centers of particularly dangerous infections, with the deterioration of the radiation situation and natural disasters.

Knowledge, abilities and skills, formed on discipline "LIFE SAFETY, DISASTER MEDICINE" will be used in subsequent disciplines:

- Faculty surgery, Urology,
- Faculty therapy, Occupational diseases,
- Pediatrics,
- Obstetrics and gynecology,
- Hospital surgery, Pediatric surgery,
- Hospital therapy, Endocrinology,
- Anesthesiology, resuscitation, intensive care,
- Public health and health care, with a health economy,
- Psychiatry, medical psychology,
- Neurology, Medical genetics, Neurosurgery,
- Forensic medicine,
- Infectious disease,

- Traumatology, orthopedics.

1.3. The list of planned results of training in the discipline (module), correlated with the planned results of the development of the educational program (FSES – 3+):

Planned learning outcomes for the discipline (module): (knowledge, abilities, skills)	Student's competence, the formation of which are aimed at the results of training in the discipline	Code of the competency
General cultural competence (OK)		
<p>Knowledge: basic methods of mental operations: comparison, analysis, synthesis, abstraction and concretization.</p> <p>Ability: to reveal essential objective connections and relations between objects, phenomena, facts in the field of safety of life and medicine of catastrophes.</p> <p>Skills: methods of analysis, synthesis, abstraction, generalization and concretization in practical medical and scientific activities</p>	Ability to abstract thinking, analysis, synthesis	OK-1
<p>Knowledge: the main provisions of constitutional, civil, labor, economic law; medical law in relation to the safety of life and medicine kata-stroph, moral and ethical standards and rules of professional medical practice and the rights of patients.</p> <p>Ability: to analyze non-standard situations in the conditions of disasters, to assess the factors affecting emergency situations, to make appropriate decisions.</p> <p>Skills: skills of analysis of information coming from the emergency zone, as well as related to the safety of life in health facilities; methods of reasoned discussion in the framework of social and ethi-</p>	Ability to act in non-standard situations, readiness to bear social and ethical responsibility for accepted decisions	OK-4

cal responsibility for decision-making.		
<p>Knowledge: conditions in which first aid is provided and the activities carried out in this case, the General principles and algorithm of first aid. basics of organization, activities and ways to protect the population from damaging factors of emergency situations.</p> <p>Ability: provide first aid at the site of injury, use personal protective equipment.</p> <p>Skills: skills of temporary stopping of external bleeding, cardiopulmonary resuscitation, transport immobilization, desmurgy.</p>	Ability to use first aid techniques, methods of protection in emergency situations	OK-7
General professional competence (ОПК)		
<p>Knowledge: the main parameters of physiological and pathological conditions of a person under the influence of damaging factors of emergency situations.</p> <p>Ability: to properly assess and analyze morphological, physiological and pathological state of the affected.</p> <p>Skills: the methodology of the survey, inspection, instrumental methods of research affected at the stages of medical evacuation.</p>	Ability to evaluate morpho-functional, physiological conditions and pathological processes in the human body for solving professional tasks	ОПК-9
<p>Knowledge: basics of organization of medical supply in an emergency, the classification of medical equipment.</p> <p>Ability: apply different types of medical equipment in the course of the practitioner-news on the implementation of the tasks of health care provision-tion of emergency situations.</p> <p>Skills:</p>	Readiness for use of medical devices, provided by the procedures of medical care	ОПК-11

skills in the use of field medical equipment, including kits and kits when deploying the stages of medical evacuation in the disaster area.		
Professional competence (IIK)		
Medical activity		
<p>Knowledge: basics of organization and Pro-conducting sanitary and anti-epidemic (preventive) measures in emergency situations of peace and military time; organization of medical and sanitary provision of the population in the liquidation of the consequences of emergency situations of natural, man-made nature.</p> <p>Ability: to identify the main environmental hazards, assess the risk of their occurrence; assess the medical and tactical situation in emergency situations.</p> <p>Skills: methods of application of anti-tidot and radioprotective means in the scope of first aid; methods of use of individual means of protection; methods of special treatment of neglected, coming from radiation, chemical and epidemic foci.</p>	Ability and readiness to carry out anti-epidemic measures, organization of protection of the population in the centers of especially dangerous infections, at deterioration of a radiation situation, natural disasters and other emergency situations	IIK-3
<p>Knowledge: the essence of the system of medical and evacuation support of the population in emergency situations of peace and war time; types of medical care; organization of the stages of medical evacuation.</p> <p>Ability: to carry out medical sorting at the stages of medical evacuation; to organize the provision of medical care and evacuation of the affected.</p> <p>Skills: methods of first aid, first aid and first aid.</p>	Readiness to participate in first aid in emergency situations, including participation in medical evacuation	IIK-13
Knowledge:	Readiness for educational ac-	IIK-16

basics of security of the individual, society and state; basics of life safety at health facilities. Ability: identify risk factors for a person in the process of his life; identify the threat of emergency situations in health care institutions. Skills: skills of educational work on elimination of risk factors and formation of a healthy life-style.	activities to eliminate risk factors and develop healthy life-style skills	
Organizational and management activities		
Knowledge: tasks, organization and modes of operation of the all-Russian service of disaster medicine; theoretical basis of the modern system of health care in emergency situations. Ability: assess medical and tactical situation in an emergency; organize the first, first aid and first aid to the affected and their evacuation. Skills: the basis of the decision-making methods for the organization of medical care; the method of deployment of the pre-hospital stage of medical evacuation.	Ability to organize medical assistance in emergency situations, including medical evacuation	ПК-19

2. Main part.

2.1. Volume (labor intensity) of discipline: General, by types of educational work, forms of interim certification

Full-time education:

Forms of work of students / Types of training	Total hours	The distribution of the complexity by semesters											
		1						7			10		
Contact classroom work of students with a teacher (CW), including:	144	48						48			48		
Lecture (L)	36	12						12			12		
Seminar (S)	16	16											
Practical training (PT)	86	17						33			36		

Laboratory practices (LP)																
Laboratory and practical classes (LPC)																
Clinical practice (CP)																
Group consultation (GC)																
Workshop (W)																
Colloquia (C)																
Final lesson (Credit)	6	3						3								
Other classroom activities																
Independent work of students (IW), including	72	24						24			24					
Preparation of medical records																
Preparation of course work																
Preparation of abstract		10						10			10					
Settlement and graphic works																
Preparation for classes		10						10								
Preparation for ongoing monitoring		4						4								
The preparation of interim control											12					
3. Interim certification of students (ICS), including:	36										36					
Exam											36					
The course work																
General Laboriousness of disciplines	in hours (GLH) ($GLH = CW + IW + ICS$)	252	72					72			108					
	in credits (GLC): ($GLC = GLH : 36$)	7														

(The list of activities in accordance with FSES HE section №7)

3. Content of the discipline (module)

3.1 List of sections and (or) subjects of the discipline and their didactic content

№ п/п	№ competences	Name of the section (topic) of the discipline	Section content (topics) in didactic units
1	2	3	4
	OK-1 OK-4	1. Life safety 1.1. Life safety	<p>Didactic units – 13.0 Didactic units – 8.0</p> <p><i>Methodological and legal basis of human life safety.</i> Definition, goals and objectives of the discipline " Life safety". Basic principles, regulations and legal acts to ensure safety-life news. Health protection and safety - news. Responsibility for violation of regulatory requirements for life safety.</p> <p><i>The impact of the environment on the safety of human life.</i> Human environment. Positive and negative environmental factors and their characteristics. Human adaptation. Security lifeguard-human news in the environment.</p> <p><i>Health and safety in health care organizations.</i> Safety of medical work. Characteristics of threats to the life and health of medical workers. The system of labor protection and safety in medical organizations. Safety of medical services. Characteristics of threats to life and health of patients. The system of ensuring the safety of patients in medical organizations.</p> <p><i>Life safety and healthy lifestyle.</i> Life safety is the basis of a healthy lifestyle. Formation of culture of safety of life. Characteristics of harmful factors dangerous to human health: drug addiction, alcoholism and Smoking.</p>
	OK-4 OK-7 ОПК-9 ОПК-11	1.2. First aid in accidents and emergency situations	<p>Didactic units – 5.0</p> <p><i>General principles of first aid.</i> The list of conditions in which first aid is provided and the list of first aid measures.</p>

	ПК-3 ПК-13		<p>Means used in first aid.</p> <p><i>First aid for injuries.</i> A brief description of the wounds and the algorithm of first aid for wounds. The main ways to temporarily stop external bleeding. Desmurgy: types of bandages and rules of their application.</p> <p><i>First aid for injuries of the musculo-skeletal system.</i> Fractures and dislocations. First aid algorithm for various injuries of the musculoskeletal system. Transport immobilization with the use of personnel and improvised means.</p> <p><i>Principles and methods of cardiopulmonary resuscitation.</i> Indications and algorithm of cardiopulmonary resuscitation. Practicing practical skills for external heart massage and artificial lung ventilation.</p> <p><i>First aid in case of accidents and acute diseases.</i></p> <p>First aid in case of accidents and acute diseases: asphyxia, drowning, electric trauma, poisoning, burns, frostbite, heart attacks, strokes and other conditions.</p>
	ОК-1 ОК-4	<p>2. Disaster medicine</p> <p>2.1. Objectives and organization of USSES and RDMS</p>	<p>Didactic units - 9.0</p> <p>Didactic units - 2.0</p> <p><i>Emergency situation. Unified state system of prevention and liquidation of emergency situations (USSES).</i></p> <p>Basic concepts, definitions, classification, health consequences of emergency situations. Damaging factors of emergency situations. Forecasting and assessment of emergency situations. Modes of functioning prevention and response system.</p>

			<p><i>Tasks, organizational structure and management bodies of the all-Russian disaster medicine service (RDMS).</i></p> <p>Tasks and organizational structure of RDMS. Formation and establishment. The legal basis for the functioning of RDMS.</p>
3.	<p>OK-4</p> <p>OK-7</p> <p>ОПК-9</p> <p>ОПК-11</p> <p>ПК-3</p> <p>ПК-13</p>	2.2. Health care in emergency situations	<p>Didactic units – 5.0</p> <p><i>Fundamentals of medical and evacuation support of the population in emergency situations of peace and war.</i></p> <p>The essence of the system of medical and evacuation support of the population in emergency situations. Types of medical care. Stages of medical evacuation. The organization and carrying out medical sorting. Medical evacuation.</p> <p>Fundamentals of air ambulance.</p> <p>Basic concepts of sanitary and aviation evacuation. Organization and methods of sanitary and aviation evacuation.</p> <p><i>Special features the health of the population at liquidation of consequences of emergency situations of natural, technogenic character and terrorist acts.</i></p> <p>Medical and tactical characteristics of natural disasters: earthquakes, floods, mudflows, landslides, etc.</p> <p>Medical and tactical characteristics of man-made emergencies centers: industrial, transport, environmental and other nature.</p> <p>Health care of the population in the aftermath of natural and man-made emergencies and terrorist acts.</p> <p><i>Sanitary and antiepidemic (prevention) measures in the emergencies.</i></p> <p>Definition, classification and maintenance of sanitary-hygienic and antiepidemic measures in emergency situations.</p> <p>Characteristics of the epidemic focus. The list of activities to prevent and eliminate epidemic foci.</p> <p><i>Preparation and organization of work of</i></p>

			<p><i>medical institutions in emergency situations.</i></p> <p>Ensuring the readiness of health facilities to work in emergency situations. Organization and implementation of measures to protect patients and medical personnel from the impact of damaging factors of emergency situations.</p> <p><i>Organization of medical supply in emergency situations.</i></p> <p>Tasks and principles of supply of medical equipment of formations and institutions of service of medicine of catastrophes. Classification and characteristics of medical property. Determination of the need for medical equipment. Organization of accounting and reporting on medical property.</p>
3.	ОК-4 ОПК-9 ОПК-11 ПК-3 ПК-13	2.3. Medical service of the Armed forces in emergency situations. Medical and psychological support of the population and rescuers in emergencies.	<p>Didactic units – 2.0</p> <p><i>Medical service of the Armed forces in emergency situations.</i></p> <p>Participation of the medical service of the Armed forces in emergency response. Characteristics of institutions and formations of the medical service of the Armed forces. Organization of medical support for the population in local armed conflicts.</p> <p><i>Basics of organization of medical and psychological support of the population and rescuers in emergency situations.</i></p> <p>Psychotraumatic factors of emergency situations. Organization of medical and psychological assistance to the population and rescuers in emergency situations.</p>
		3. Toxicology, radiology and medical protection 3.1. Toxicology	<p>Didactic units – 15.0</p> <p>Didactic units – 8.0</p>

	<p>OK-1</p> <p>OK-4</p> <p>OK-7 ОПК-9 ОПК-11</p> <p>ПК-3 ПК-13</p>		<p><i>Introduction to emergency toxicology</i></p> <p>Concept of poisons, Toxic Industrial Chemicals (TIC) and chemical warfare (CW) agents. Classification and general characteristics of chemicals, assessing their dangers to humans. Subject, goal and objectives of emergency toxicology. Main directions of its development as a scientific and academic discipline.</p> <p><i>Nerve agents</i></p> <p>The list and classification of chemicals that disrupt the generation, conduct and transmission of a nerve impulse. Organophosphorus compounds: mechanism of action. Effects on organs and organ systems. General treatment principles. Prevention of lesions. First aid in the hotbed of chemical contamination and medical care at the stages of medical evacuation.</p> <p><i>Toxic chemicals of mainly cytotoxic action.</i></p> <p>List and classification of substances. Mechanism of action, pathogenesis and manifestations of the toxic process. Prevention of lesions. First aid in the hotbed of chemical contamination and medical care at the stages of medical evacuation.</p> <p><i>Toxic chemicals are mainly blood actions.</i></p> <p>List and classification of substances. Features of the mechanism of action, pathogenesis and manifestations of the toxic process. Prevention of lesions. First aid in the hotbed of chemical contamination and medical care at the stages of medical evacuation.</p> <p><i>Pulmonotoxicity: Toxic Effects in the Lung.</i></p> <p>List and classification of substances. Features of the mechanism of action, pathogenesis and manifestations of the toxic process of pulmonotoxic agents. Toxic pulmonary edema. Prevention of lesions. First aid in the hotbed of chemical contamination and</p>
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			<p>medical care at the stages of medical evacuation.</p> <p><i>Incapacitating agents.</i></p> <p>List and classification of substances temporarily disabling. Irritant agents. psychotomimetic agents. Physical, chemical, and toxic properties of substances. Manifestations of the toxic process. Prevention of lesions. First aid in the hotbed of chemical contamination and medical care at the stages of medical evacuation.</p> <p><i>Toxic technical fluids.</i></p> <p>Physical, chemical, and toxic properties of ethyl and methyl alcohols, ethylene glycol, dichloroethane, tetraethyl lead. Mechanisms of toxic effects and pathogenesis of intoxication. The main manifestations of the toxic process. First aid and principles of treatment of lesions. Gastric Decontamination.</p> <p><i>Field oxygen equipment.</i></p> <p>Chemicals that impair oxygen transport Types of toxic hypoxia. Purpose, principles of the device and rules for working with the devices. Safety measures when using oxygen.</p>
	ОК-4 ОПК-9 ОПК-11 ПК-3 ПК-13	3.2. Radiology	<p>Didactic units – 2.0</p> <p><i>Introduction to emergency radiology.</i> Goals and objectives of radiology as a science and academic discipline. Fundamentals of the biological effect of ionizing radiation. Fundamentals of dosimetry. Units of measurement of ionizing radiation.</p> <p><i>Characteristic radiation losses in nuclear explosions, radiation accidents.</i></p> <p>Factors causing damage to people in nuclear explosions and radiation accidents at nuclear power plants. Radioactive contamination, centers of radiation damage. Protection of personnel and population. Acute radiation syndrome (ARS) and chronic radiation sickness. Classification, forms of ARS, periods, clinical manifestations. Principles of preventing and treatment ARS.</p>

	OK-4 ОПК-9 ОПК-11 ПК-3 ПК-13	3.3. Medical protection	<p>Didactic units – 5.0</p> <p><i>Means of individual and collective protection.</i></p> <p>Classification and general characteristics. Means of individual protection of respiratory organs, skin and eyes, their physiological and hygienic characteristics. Medical support of work with the use of personal respiratory protection and skin protection.</p> <p><i>Medical means of prevention and assistance in chemical and radiation injuries.</i></p> <p>Medical means of protection. First-aid kits are individual, basic attachments and their intended use. Radioprotectors. Means of long-term maintenance of increased radiore-sistance of body. Means of prevention of general primary reaction to irradiation and early (prehospital) treatment of acute radiation syndrome. Emergency iodine prophylaxis.</p> <p><i>Means and methods of chemical reconnaissance and control.</i></p> <p>Medico-tactical characteristics of foci of chemical warfare agents and emergency chemical hazardous substances. Chemical reconnaissance and control: mission, tasks, organization and procedure. Analytical Methods in Toxicology.</p> <p>Organization and procedure for the examination of water and food aimed to detect the contamination with toxic chemicals.</p> <p><i>Organization and conduct of radiation reconnaissance and control.</i></p> <p>Radiation exploration and control: mission, tasks, organization and procedure. Means and methods of radiation reconnaissance and control. Methods for measuring ionizing radiation. Devices for radiation reconnaissance and control: the purpose, device, operating procedure. Organization and procedure for the examination of water and food aimed to detect the contamination with radioactive substances.</p>

			<p><i>Organization and conduct of decontamination.</i></p> <p>Definition of the concept of decontamination, its purpose and types. Theoretical basis of degassing and deactivation. Partial decontamination, the means used to conduct it. Full special processing. Safety measures for the decontamination</p>
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3.2 Distribution of educational time by semester, section and (or) topics, types of training sessions, types of current monitoring of progress. (*see the legend)

Full-time education:

№	Occupation	Period of study (semester). The name of the section (topic) of the discipline. Topic of the training session	Number of hours	Forms of ongoing monitoring of progress					
				PH	O6c	IIp	KT	KII	KY
1 semester									
1	Life safety								
1	L,PT	Methodological and legal basis of human life safety.	8	+	+		+		+
2	L,PT	The impact of the environment on the safety of human life.	6	+	+		+		+
3	L,PT	Health and safety in health care organizations.	8	+	+		+		+
4	L,PT	Life safety and healthy lifestyle.	6	+	+		+		+
2	First aid in accidents and emergency situations								
1	L,PT	General principles of first aid.	4	+	+		+		+

2	PT	First aid for injuries.	4	+	+		+		+
3	PT	First aid for injuries of the musculoskeletal system.	4	+	+		+		+
4	PT	Principles and methods of cardiopulmonary resuscitation.	4	+	+		+		+
5	PT	First aid in case of accidents and acute diseases.	4	+	+		+		+
		The total for the semester: 48							
7 semester									
1	Objectives and organization of USSES and RDMS								
1	L,PT	Emergency situation. Unified state system of prevention and liquidation of emergency situations (USSES).	4	+	+		+		+
2	L,PT	Tasks, organizational structure and management of the Russian disaster medicine service (RDMS).	4	+	+		+		+
2	Health care in emergency situations								
1	L,PT	Fundamentals of medical and evacuation support of the population in emergency situations of peace and war.	10	+	+		+		+
2	PT	Features of medical and sanitary provision of the population at liquidation of consequences of emergency situations of natural, technogenic character and at acts of terrorism.	6	+	+		+		+
3	L,PT	Sanitary and antiepidemic (prevention) measures in the emergencies.	6	+	+		+		+
4	L,PT	Preparation and organization of work of medical institutions in emergency situations.	4	+	+		+		+
5	L,PT	Organization of medical supply in emergency situations.	6	+	+		+		+
3	Medical service of the Armed forces in emergency situations. Medical and psychological support of the population and rescuers in emergencies.								
1	PT	Medical service of the Armed forces in emergency situations. Organization of medical support for the population in local armed conflicts	4	+	+		+		+
2	PT	Medical and psychological support of the population and rescuers in emergencies.	4	+	+		+		+

		The total for the semester: 48							
10 semester									
1	Toxicology								
1	LP	<i>Introduction to emergency toxicology.</i>	2	+	+		+		+
2	PT	<i>Nerve agents.</i>	4	+	+		+		+
3	PT	<i>Toxic chemicals of mainly cytotoxic action.</i>	4	+	+		+		+
4	PT	<i>Toxic chemicals are mainly blood actions.</i>	4	+	+		+		+
5	PT	<i>Pulmonotoxicity: Toxic Effects in the Lung.</i>	4	+	+		+		+
6	PT	<i>Incapacitating agents.</i>	2	+	+		+		+
7	PT	<i>Toxic technical fluid.</i>	4	+	+		+		+
8	PT	<i>Field oxygen equipment.</i>	2	+	+		+		+
2	Radiology								
1	LP	<i>Introduction to emergency radiology.</i>	2	+	+		+		+
2	PT	<i>Characteristic radiation losses in nuclear explosions, radiation accidents.</i>	4	+	+		+		+
3	Medical protection								
1	PT	<i>Means of individual and collective protection.</i>	2	+	+		+		+
2	LP	<i>Medical means of prevention and assistance in chemical and radiation injuries.</i>	2	+	+		+		+
3	PT	<i>Means and methods of chemical reconnaissance and control.</i>	4	+	+		+		+
4	PT	<i>Organization and conduct of radiation reconnaissance and control.</i>	4	+	+		+		+
5	PT	<i>Organization and conduct of decontamination.</i>	2	+	+		+		+
		The total for the semester: 48							
		The total for the discipline: 144							

*** Forms of control (symbols)**

PH	Control of work with information
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Обс	Participation in discussion
Пп	Monitoring the results of the workshop
КТ	Test control
Кп	Written control
КУ	Control oral
РЗ	Case study solution

3.3 The types of independent work of the student

№	№ semes- mes- ter	Name of the section of the dis- cipline	The types of independent work of the student	Всего часов
1	2	3	4	5
1.	1	Life safety	An independent study of the topics: The impact of the environment on the safety of human life.	2
Health and safety in health care organizations.			4	
Life safety and healthy lifestyle.			2	
Preparation for the final lesson on the section			4	
2.		First aid in accidents and emergency situations	An independent study of the topics: General principles of first aid.	4
First aid in case of accidents and acute diseases.			4	
Preparation for the final lesson on the section			4	
The total for the semester:				24
3.	7	Objectives and organization of USSES and RDMS	An independent study of the topics: Emergency situation. Unified state system of prevention and liquidation of emergency situations.	2
Tasks, organizational structure and management of the all-Russian disaster medicine service.			2	
Preparation for the final lesson on the section			3	
4.		Health care in emergency situ-	An independent study of the topics: Fundamentals of medical and evacuation support of the population in emergency situations of peace and war.	2

		ations	Sanitary and antiepidemic (prevention) measures in the emergencies.	2
			Preparation and organization of work of medical institutions in emergency situations.	2
			Organization of medical supply in emergency situations.	2
			Preparation for the final lesson on the section	3
5.		Медицинская служба Вооруженных сил РФ в чрезвычайных ситуациях. Medical and psychological support of the population and rescuers in emergencies.	An independent study of the topics: Медицинская служба Вооруженных сил РФ в чрезвычайных ситуациях. Organization of medical support for the population in local armed conflicts	2
			Basics of organization of medical and psychological support of the population, medical workers and rescuers in emergency situations.	2
			Preparation for the final lesson on the section	2
The total for the semester:				24
6.	10	Toxicology	An independent study of the topics: Nerve agents.	2
			Toxic chemicals of mainly cytotoxic action.	2
			Toxic chemicals are mainly blood actions.	2
			Toxic technical fluids.	2
			Preparation for the final lesson on the section	4
7.		Radiology	An independent study of the topics: Introduction to emergency radiology.	2
			Characteristic radiation losses in nuclear explosions, radiation accidents.	2
			Preparation for the final lesson on the section	2

8.		Medical protection	An independent study of the topics: <i>Means of individual and collective protection.</i>	2
			<i>Organization and conduct of decontamination.</i>	2
			<i>Preparation for the final lesson on the section</i>	2
The total for the semester:				24
Subtotal:				72

4. Evaluation tools of the current monitoring of progress (*for the departments working in score-rating system of evaluation, SRSE*)

4.1 Abbreviations

Types of ongoing monitoring of progress (BK)

Disciplining	Д
Current	Т
Boundary	Р

Types of students activity (БД)

Type of activity		Type of evaluation
Performing	В	rank
The study of the EER	И	existence of an event
Attendance	П	existence of an event
Participation	У	rank

* EER — *electronic educational resources*

4.2. Structure and weights of the current monitoring of progress (*for each semester, the types and forms of control*)

1 semester

Current control structure

Types of classes		Form of control		ВД	БК	max	min	Шар
Lecture	Л	Control of work with information	ПИ	П	Д	1	0	0
				И	Т	1	0	0
Laboratory and practical	Л/П	Participation in discussion	Обс	У	Т	10	0	1
		Test control	КТ	В	Т	10	0	1
				П	Д	1	0	0
Colloquium	К	Test control	КТ	В	Р	50	0	1
				П	Д	1	0	0

Weight coefficients of the current control of progress (by types and forms of control)

Types of monitoring	Detail	Plan %	initially		Form of control	ВД	Plan %	initially		К
			score	%				score	%	
Disciplining		5	22	7,21						0,2273
Current	+	45	133	43,61	Participation in discussion	У	7	60	19,67	0,1167
					Control of work with information	И	3	13	4,26	0,2308
					Test control	В	35	60	19,67	0,5833
Boundary		50	150	49,18						0,3333
Max баллов		100	305							

7 semester

Current control structure

Types of classes		Form of control		ВД	БК	max	min	Шар
Lecture	Л	Control of work with information	ПИ	П	Д	1	0	0
Laboratory and practical	Л/П	Control oral	КУ	В	Т	10	0	1
		Participation in discussion	Обс	У	Т	10	0	1
				П	Д	1	0	0
		Control of work with information	ПИ	И	Т	1	0	0
Colloquium	К	Test control	КТ	П	Д	1	0	0
				В	Р	50	0	1

Weight coefficients of the current control of progress (by types and forms of control)

Types of monitoring	Detail	Plan %	initially		Form of control	ВД	Plan %	initially		К
			score	%				score	%	
Disciplining		5	25	6,49						0,2273
Current	+	45	260	67,53	Control oral	В	35	130	33,77	3,5
					Participation in discussion	У	9	130	33,77	0,0692

					Control of work with information	И	1			
Boundary		50	100	25,97						0,5
Max баллов		100	385							

10 semester

Current control structure

Types of classes		Form of control		ВД	БК	max	min	Шар
Lecture	Л	Control of work with information	РИ	И	Т	1	0	0
				П	Д	1	0	0
Laboratory and practical	Л/П	Participation in discussion	Обс	У	Т	10	0	1
				П	Д	1	0	0
		Test control	КТ	В	Т	10	0	1
				П	Д	1	0	0
Colloquium	К	Test control	КТ	В	Р	50	0	1
				П	Д	1	0	0
Exam	Э	Control oral	КУ	В	Т	10	0	1
				П	Д	1	0	0

Weight coefficients of the current control of progress (by types and forms of control)

Types of monitoring	Detail	Plan %	initially		Form of control	ВД	Plan %	initially		К
			score	%				score	%	
Disciplining		5	34	6,42						0,1471
Current	+	45	296	55,85	Participation in discussion	У	7	140	26,42	0,05
					Control of work with information	И	3	16	3,02	0,1875
					Test control	В	35	140	26,42	0,25
Boundary		50	200	37,74						0,25
Max score		100	530							

The order of evaluation for all types of current control and certification:

The assessment of current progress is carried out according to the forms of control in points according to paragraph 4.2.

5. List of basic and additional educational literature, as well as resources information and telecommunication network "Internet", required for the development of the discipline (module):

5.1 List of basic literature

№	Title	Author	Year and place of publication	Used in the study of sections	Semester	Number of copies	
						in the library	URL
1	2	3	4	5	6	7	8
1	Life safety (textbook)	I.P.Levchuk et al.	2016, М.:ГЭОТАР-Медиа	1-3	1	700	
2	Disaster medicine (course of lectures)	I.P.Levchuk, N.V.Tretyakov	2011, М.:ГЭОТАР-Медиа	4-6	7	700	http://www.studmedlib.ru/book/ISBN9785970433478.html
3	First Aid in Case of Accidents and Emergency Situation (Preparation Questions for a Modular Assessment)	I.P.Levchuk, M.V.Kostyuchenko	2015, М.:GEOTAR-Media	4-6	1	140	http://www.studmedlib.ru/book/ISBN9785970434505.html
4	First Aid in Case of Accidents and Emergency Situation (course book)	I.P.Levchuk, M.V.Kostyuchenko	2017, М.:GEOTAR-Media	4-6	1	140	
5	Life safety in medicine (course book)	I.P.Levchuk, M.V.Kostyuchenko	2018, М.:GEOTAR-Media	4-6	1	140	
6	Extreme toxicology (practical guide)	E.A.Luzhnikov et al.	2006, М.:ГЭОТАР-Медиа	7-9	10	813	
7	Extreme toxicology (textbook)	G.A.Safonov, M.V.Aleksandrov	2016, СПб.: ЭЛ-БИ-СПб	7-9	10	550	

5.2 List of additional literature

№	Title	Author	Year and place of publication	Used in the study of sections	Semester	Number of copies	
						In the library	In cathedral library
1	2	3	4	5	6	7	8
1	Disaster medicine (textbook)	I.I.Sahno, V.I.Sahno	2002, М.: ГОУ ВУНМЦ	4-6	7	700	10
2	Medical	E.A.Luzhni	2014,	7-9	10		2

	toxicology (national leadership)	kov et al.	М.:ГЭО ТАР- Медиа				
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5.3 The list of resources of information and telecommunication network "Internet", necessary for the development of the discipline (module):

1. <http://eor.edu.ru>
2. <http://www.elibrary.ru>
3. Electronic library system «Student consultant » www.studmedlib.ru

6. List of information and other educational technologies used in the implementation of the educational process on the subject (module), including a list of software and information and reference systems (if necessary):

1. Interactive video lectures on discipline at *EES*
2. A set of test items on the discipline at *EES*
3. Microsoft Office Word.
4. Microsoft Office Excel.
5. Microsoft Office Power Point.

7. List of educational and methodological support for independent work student on discipline (module):

1. The textbook "Life safety» - М.:ГЭОТАР-Медиа, 2016 г.
2. A course of lectures « Disaster medicine » - М.:ГЭОТАР-Медиа, 2011 г., I.P.Levchuk, N.V.Tretyakov.
3. First Aid in Case of Accidents and Emergency Situations - М.:ГЭОТАР-Медиа, 2015г., I.P.Levchuk, M.V.Kostyuchenko
4. Extreme toxicology (textbook)- СПб.: ЭЛБИ-СПб, 2012 г. G.A.Safronov.
5. Collection of tests and situational problems in the discipline.
6. Methodological developments on the topics of practical training (at the Department).

All of the above materials are available on the website of the Department.

8. Material and technical support of the discipline (module)

Standard equipment of classrooms for practical training and lectures: video projector, laptop, wall screen. Printing demonstration grant:

1. Sets of tables on the sections of the discipline.
2. Sets of situational tasks, test tasks on the topics studied.
3. Thematic classrooms, equipped with fixed multimedia systems.
4. Electronic educational resource of the University.

9. Methodical instructions for students on the development of the discipline

Training consists of classroom activities (144 hours), including a lecture course and practical classes, independent work (72 hours), as well as intermediate control – (36 hours).

In accordance with the requirements of the FSES HE in the direction of training, the implementation of the competence approach should provide for the widespread use in the educational process of active and interactive forms of training (computer simulations, case and role-playing games, solving situational problems, group discussions) in combination with extracurricular work in order to form and develop professional skills of the students. Independent work of students involves preparation for practical training and includes the study of special literature on the topic (recommended textbooks, manuals, familiarization with the materials published in monographs, specialized journals, recommended medical sites). Work with educational literature is considered as a kind of educational work on the discipline and is performed within the hours allotted for its study. Each student is provided with access to the library collections of the Department and the University, as well as electronic resources.

For each section of the Department developed guidelines for students, as well as guidelines for teachers.

Forms of work that form the student's General cultural competence.

The student's work in the group creates a sense of collectivism and sociability. Independent work with literature, writing abstracts form the ability to analyze medical and social problems, the ability to use in practice natural science, medical, biological and clinical Sciences in various types of professional and social activities.

DESIGN RULES ABSTRACT.

Requirements for the title page: at the top of the page in the center indicates the name of the institution (Pirogov Russian National Research Medical University (RNRMU)), or on the centre name of the Department (Department of Disaster medicine).

In the middle of the page in the center in capital letters is written the title of the abstract (topics of the abstract should be agreed with the teacher). Below the title to the right is written the surname and initials of the contractor with indication of the faculty and a group number, below the name and initials of the teacher. At the bottom of the page in the center - the city and the year of writing.

Page number is not put on the title page.

Abstract plan: next after the title page should be a plan of the essay. The plan of the abstract includes the semantic division of the text into sections, paragraphs, etc., the appropriate name is indicated in the plan (not allowed to include in the plan of the word "introduction", "conclusion»).

Requirements for the content of the abstract: abstract includes introduction, main part and final part.

Introduction requirements: the introduction provides a brief rationale for the relevance of the topic, scientific and practical value for the relevant industry.

Requirements to the main part: the main part of the abstract contains the material selected by the student for consideration of the problem. In a General sense, the main in the abstract should be the disclosure of the topic, the achievement of the result, which is set by the goal.

Requirements for visual materials: visual materials can be drawings, photographs, graphs, charts, tables, etc. All of the above must be numerated and binding references in the text. The sources cited are indicated in the footnotes.

Requirements for conclusion: in conclusion, the author formulates conclusions on the sections of the abstract or sums up the work as a whole. The conclusion should be clear, brief, arising from the main part of the abstract.

Requirements to the list of used literature: when preparing the abstract, it is necessary to use literary sources not earlier than 2000, reference to the normative documents approved during the Soviet Union (except for historical references) is not allowed, reference to Internet resources is not allowed without specifying the author and the title of the article or textbook. Sources should be listed in alphabetical order (by the first letters of the author's name or the title of the collection). You must specify the publisher, city and year of publication. The list should include at least 5 sources.

Various types of educational work, including independent work of the student, contribute to the mastery of the culture of thinking, writing and speaking; development of the ability to logically correct the results of the work; formation of a systematic approach to the analysis of medical information, the perception of innovation; form the ability and readiness for self-improvement, self-realization, personal and subject reflection.

Various types of educational activities form the ability in the conditions of development of science and practice to re-evaluate the experience, analysis of their capabilities, the ability to acquire new knowledge, to use various forms of training, information and educational technologies.

10. The organization of interim certification in the discipline (module)

First semester.

- 1) Form of interim certification according to the curriculum-credit
- 2) Form of organization of interim certification-written testing and oral interview.
- 3) List of topics and questions to prepare for the interim certification:

Life safety:

1. Life safety. Definition and main tasks.
2. Basic principles of life safety.
3. Inhabitancy. Definition and basic concepts.
4. Characteristics of the main types of life safety.
5. Labour protection. The definition of the main directions of state policy.
6. The legal basis of life safety. Basic concept.
7. Harmful factors affecting the activities of medical workers in the performance of their professional duties.
8. Occupational health and safety system in health facilities.
9. Duties of the employee as an important element of the system of labor protection and safety.
10. Requirements for the safety of medical personnel.
11. Characteristics of threats to life and health of patients in medical institutions.
12. Ensure patient safety.
13. What is the technosphere?
14. Types of human impact in the environment.
15. Natural hazards, their characteristics.
16. Anthropogenic hazards, their characteristics.
17. Man-made hazards, their characteristics.
18. Life safety, give a definition, what are the main tasks.
19. Environmental protection, give a definition, what are the main tasks.
20. Healthy lifestyle. Basic concept.
21. Life safety as the basis of a healthy lifestyle.
22. Environmental factors affecting health.
23. Smoking and human health.
24. The effect of alcohol on the human body.

25. Drugs addiction. General concept.
26. Mobilization, definition, purpose.
27. Mobilization training, definition, purpose.
- ...
28. Basic formation of health care for medical support of military operations.
29. Observational points: definition, history, tasks, base of creation, order of work.
30. Operational beds: definition, history of the name, the base of creation, tasks.
31. Rear hospital: definition, purpose, classification.
32. Definition and list of first aid measures.
33. List of conditions for first aid.
34. General rules for first aid.
35. General principles of first aid
36. The contents of first aid measures in case of thermal lesions.
37. The content of first aid measures for lesions of toxic substances.
38. Means of first aid for injuries.
39. First aid treatment for bleeding.
40. First aid equipment for bone fractures.

Typical test tasks

(see the list of test tasks on the website of the Department)

1. An ordered set of bodies, officials and organizational relationships designed to manage activities to preserve the life and health of workers in the process of work is called ...
 - A) occupational health and safety system
 - B) employee safety system
 - B) labor protection rules
 - Г) production discipline
2. Habitat is divided into species ...
 - A) natural and technogenic
 - B) technogenic and man-made
 - B) natural and rural
 - Г) production and household

Seventh semester.

- 1) Form of interim certification according to the curriculum-credit
- 2) Form of organization of interim certification-written testing and oral interview.
- 3) List of topics and questions to prepare for the interim certification:

Disaster medicine:

1. Tasks and organizational structure of the Unified state system of prevention and liquidation of emergency situations.
2. General description of emergency situations.
3. Damaging factors of emergency sources.
4. The order of functioning of the Unified state system of prevention and liquidation of emergency situations.
5. Tasks and organizational structure of the all-Russian disaster medicine service.
6. Formation and establishment of the service of disaster medicine, the order of their functioning.

7. Basics of organization of medical and evacuation support of the population in emergency situations.
8. Types and scope of medical care.
9. Medical evacuation stage, basic concepts, deployment concept.
10. Medical triage of the affected in emergency situations.
11. First aid, basic measures and procedures.
12. Pre-hospital (medical assistant) medical care, basic measures and procedure of rendering.
13. Medical aid, basic measures and procedure of rendering.
14. Medical evacuation of affected persons in emergency situations.
15. Features of medical support in the aftermath of emergency situations of transport and road transport.
16. Features of medical support in the aftermath of explosions and fires.
17. Organization of medical support for the population in the aftermath of earthquakes.
18. Goals and objectives of sanitary and antiepidemic provision of the population in emergency situations.
19. Characteristics of factors contributing to the development of epidemics in the emergency zone.
20. Organization of medical support for the population in the aftermath of floods.
21. Organization of antiepidemic measures in the epidemic hotbed of emergency.
22. Preparation and organization of work of medical institutions in emergency situations.
23. Evacuation of medical institutions to a safe area.
24. Characteristics and classification of medical property.
25. Organization of medical supply in case of emergency response.
26. Psychotraumatic factors of emergency situations.
27. Features of development of neuropsychiatric disorders in rescuers in emergency situations.
28. Medical and psychological protection of the population and rescuers in emergency situations.
29. Features of development of neuropsychiatric disorders in the population in emergency situations.
30. General characteristics of the forces and means of military medical service involved in the elimination of emergency situations.

Typical test tasks

(see the list of test tasks on the website of the Department)

1. The pediatric surgical team of emergency medical care does not include:
 - A). neurosurgeon
 - Б). surgeon
 - В). doctor-the traumatologist-orthopedist
 - Г). anesthesiologist-resuscitator
2. Earthquake refers to one of the types of disasters:
 - A). natural
 - Б). technogenic
 - В). antropogenic
 - Г). social

- 1). Form of interim certification according to the curriculum-exam.
- 2). Form of organization of interim certification-written testing and oral interview on tickets.
- 3). List of topics, questions, practical tasks for preparation for the interim certification:

Life safety, disaster medicine, toxicology:

1. Life safety. Definition and main tasks.
2. Basic principles of life safety.
3. Inhabitancy. Definition and basic concepts.
4. Characteristics of the main types of life safety.
5. Labour protection. The definition of the main directions of state policy.
6. The legal basis of life safety. Basic concept.
7. Harmful factors affecting the activities of medical workers in the performance of their professional duties.
8. Occupational health and safety system in health facilities.
9. Duties of the employee as an important element of the system of labor protection and safety.
10. Requirements for the safety of medical personnel.
11. Characteristics of threats to life and health of patients in medical institutions.
12. Ensure patient safety.
13. What is the technosphere?
14. Types of human impact in the environment.
15. Natural hazards, their characteristics.
16. Anthropogenic hazards, their characteristics.
17. Man-made hazards, their characteristics.
18. Life safety, give a definition, what are the main tasks.
19. Environmental protection, give a definition, what are the main tasks.
20. Healthy lifestyle. Basic concept.
21. Life safety as the basis of a healthy lifestyle.
22. Environmental factors affecting health.
23. Tobacco smoking and human health.
24. The effect of alcohol on the human body.
25. Addiction to drugs. General concept.
26. Mobilization, definition, purpose.
27. Mobilization training, definition, purpose.
28. Basic formation of health care for medical support of military operations.
29. Observational points: definition, history, tasks, base of creation, order of work.
30. Operational beds: definition, history of the name, the base of creation, tasks.
31. Rear hospital: definition, purpose, classification.
32. Definition and list of first aid measures.
33. List of conditions for first aid.
34. General rules for first aid.
35. General principles of first aid.
36. Basic cardiopulmonary resuscitation.
37. The contents of first aid measures in case of thermal lesions.
38. The content of first aid measures for lesions of toxic substances.
39. Means of first aid for injuries.
40. First aid treatment for bleeding.
41. First aid equipment for bone fractures.
42. Tasks and organizational structure of the Unified state system of prevention and liquidation of emergency situations.
43. General description of emergency situations.
44. Damaging factors of emergency sources.

45. The order of functioning of the Unified state system of prevention and liquidation of emergency situations.
46. Formation and establishment of the service of disaster medicine, the order of their functioning.
47. Basics of organization of medical and evacuation support of the population in emergency situations.
48. Types and scope of medical care.
49. Medical evacuation stage, basic concepts, deployment concept.
50. Medical triage of the affected in emergency situations.
51. First aid, basic measures and procedures.
52. Pre-hospital (medical assistant) medical care, basic measures and procedure of rendering.
53. The first specialized medical care, the main activities.
54. Medical evacuation of affected persons in emergency situations.
55. Features of medical support in the aftermath of emergency situations of transport and road transport.
56. Features of medical support in the aftermath of explosions and fires.
57. Organization of medical support for the population in the aftermath of earthquakes.
58. Goals and objectives of sanitary and antiepidemic provision of the population in emergency situations.
59. Characteristics of factors contributing to the development of epidemics in the emergency zone.
60. Organization of anti-epidemic measures in the epidemic hotbed of emergency.
61. Regime-restrictive measures carried out in the epidemic focus, their brief description.
62. Preparation and organization of work of medical institutions in emergency situations.
63. Evacuation of medical institutions to a safe area.
64. Characteristics and classification of medical property.
65. Organization of medical supply in case of emergency response.
66. Psychotraumatic factors of emergency situations.
67. Features of development of neuropsychiatric disorders in the population in emergency situations.
68. Medical and psychological protection of the population in emergency situations.
69. Features of development of neuropsychiatric disorders in rescuers in emergency situations.
70. Medical and psychological protection of rescuers in emergency situations.
71. First aid and principles of treatment at poisonings with methanol, ethylene glycol, tetraethyl lead and a dichloroethane.
72. Factors causing damage to people in nuclear explosions and radiation accidents at nuclear power plants. Means of prevention of general primary reaction to irradiation and early (prehospital) treatment of acute radiation syndrome.
73. Medical control of holding trainings in gas masks. Rules of use of filtering and isolating gas masks.
74. Organization and conducting of radiation control. Doses of external radiation which aren't leading to decrease in efficiency of people.
75. Clinical presentation of the injury of incapacitating agents. Emergency aid.
76. Principles of mechanical ventilation and oxygen therapy in the field conditions.
77. Clinical presentation of the injury of emergency hazardous chemical substances with mainly cytotoxic action.
78. Mechanism of action and pathogenesis of the injury by carbon monoxide. Justification of antidotal therapy.
79. Antidotal and symptomatic therapy struck with cyanides.
80. Toxic chemicals of mainly cytotoxic action: first aid in the hotbed of chemical contamination and medical care at the stages of medical evacuation.
81. Organophosphorus compounds: main physical and chemical properties, medico-tactical characteristic of the hotbed of chemical contamination.

82. Clinical presentation of the injury of organophosphorus compounds, complication and consequence of the injury.
83. Subject and problems of emergency toxicology
84. Tasks and order of assessment of a radiation situation. Radiation detectors.
85. Order of assessment of chemical situation, methods and means of indication of toxic chemicals.
86. Clinical presentation of the injury of phosgene and chlorine.
87. Mechanism of action and pathogenesis of the injury of cyanides. Justification of antidotal therapy.
88. Clinical presentation of the injury by cyanides.
89. Organization and conduct of decontamination in the hotbed of chemical and radiation contamination and medical care at the stages of medical evacuation.
90. Mechanism of action and pathogenesis of the injury of organophosphorus compounds.
91. Clinical presentation of the injury of skin by yperite and lewisite. Differential diagnostics.
92. Organization and order of carrying out radiometric research. Admissible extents of pollution of radionuclides of various objects.
93. Means of individual protection of respiratory organs, their physiological and hygienic characteristics.
94. Acute intoxication of organophosphorus compounds: volume of medical care in the hotbed of chemical contamination and at the stages of medical evacuation.
95. Main physical, chemical, and toxic properties of hydrocyanic acid.
96. Clinical presentation of the injury of toxic chemicals of mainly cytotoxic action depending on applique.
97. Main physical, chemical, and toxic properties of toxic chemicals of mainly cytotoxic action.
98. Medico-tactical characteristics of foci of chemical warfare agents and emergency chemical hazardous substances.
99. Acute intoxication of organophosphorus compounds: principles of antidotal therapy.
100. Means of individual protection of skin, their physiological and hygienic characteristics.

Typical test tasks

(see the list of test tasks on the website of the Department)

1. The term «lethal synthesis» means ...
 - A) full denaturation of toxic connection;
 - B) strengthening of toxicity at metabolism;
 - C) reduction of toxicity at metabolism;
 - D) kind of the mechanism of effect of toxic substance.
2. Clinical manifestations of the initial stage of percutaneous of organophosphorus compounds poisonings include...
 - A) dryness of skin, exophthalmos, accommodation paralysis;
 - B) formation of «a pearl necklace» from bubbles on the affected area of skin;
 - C) intensive inflammatory reaction;
 - D) local muscle twitching and local hyperhydrosis.

Typical case tasks

(see the list of tasks in the collection of situational problems on the website of the Department)

1. Terrorist attack in the metro of Moscow. 5 people were killed and 8 injured. One of them, a 45-year-old male, has a right foot tear, ongoing external bleeding as a result of mine-explosive trauma.

The wound was received by the woman on the 7th month of pregnancy. In the minds. On the front right half of the chest there is a wound size of 6 by 8 cm, visible ribs, wound bleeding. Complaints of severe pain in the wound and lower abdomen. The first medical helicopter equipped with a medical helicopter module for the evacuation of one seriously injured arrived.

Task:

A) Make a preliminary diagnosis;

B) Make a sorting decision.

2. The injured person was brought from the hotbed of chemical contamination. There were: attacks of breathlessness, muscle twitching, vomiting, diarrhea, abdominal pain. The following symptoms occurred in a few minutes after drinking water from an open water source. While examining: cyanosis, miosis, hypersalivation, expiratory dyspnea, dry rattles. The tongue is coated, the palpation of the stomach is very painful. The pulse is 76 per minute, arterial pressure - 90/40 mm Hg.

Task:

A) Make the diagnosis.

B) Define the main medical actions at the stages of medical evacuation.

11. Fund of estimated means for carrying out intermediate certification on discipline.

11.1 Control of competences and indication of stages of their formation in the process of development of the educational program.

1) the list of competencies, the formation of which is aimed at the study of the discipline in the 1st semester:

п/№	№ competences	Name of the section, topics of the discipline
1	2	3
1.	OK-1 OK-4	1. Life safety
2.	OK-4 OK-7 ОПК-9 ОПК-11 ПК-3 ПК-13	2. First aid

2) the list of competencies, the formation of which is aimed at the study of the discipline in the 7th semester:

п/№	№ competences	Name of the section, topics of the discipline
1	2	3
4.	OK-1 OK-4	1. 42. Tasks and organizational structure of the Unified state system of prevention and liquidation of emergency situations and RDMS
5.	OK-4 OK-7 ОПК-9	2. Health care in emergency situations

	ОПК-11 ПК-3 ПК-13	
6.	ОК-4 ОПК-9 ОПК-11 ПК-3 ПК-13	3. Медицинская служба Вооруженных сил РФ в чрезвычайных ситуациях. Medical and psychological support of the population and rescuers in emergencies.

3) the list of competencies, the formation of which is aimed at the study of the discipline in the 10th semester:

п/№	№ competences	Name of the section, topics of the discipline
1	2	3
7.	ОК-1 ОК-4 ОК-7 ОПК-9 ОПК-11 ПК-3 ПК-13	1. Toxicology
8.	ОК-4 ОПК-9 ОПК-11 ПК-3 ПК-13	2. Radiology
9.	ОК-4 ОПК-9 ОПК-11 ПК-3 ПК-13	3. Medical protection

11.2. Indicators and criteria, assessment of competencies (learning outcomes) in the discipline, description of the scales of assessment.

(for departments working in SRSE)

11.2.1 Indicators of assessment of competencies (learning outcomes) in the discipline within the interim certification:

- the results of the current monitoring of progress (the work of the student in the semester);
- results of the exam: test results plus the results of an oral interview on the ticket for the test / exam degree (level) of mastering the theoretical educational material on the discipline and the level of formation of skills.

11.2.2 Criteria for evaluating the results of training in the discipline:

- 1) Criteria that determine the results of the current progress
- 2) The criterion that determines the test result in the exam
- 3) Criteria for determining the results of an oral interview in the exam:

3.1 The criteria that determine the degree (level) of mastering the theoretical educational material in the discipline of the exam:

- the correctness of the answer to the theoretical question (the lack of theoretical errors in coverage, consistency, consistency and clarity presentation of material);
- volume (completeness) of theoretical knowledge within the program material;
- ability to highlight the main points in the studied material.
- culture of speech (literate or illiterate);

3.2 Criteria that determine the level of formation of skills (ability to solve practical problems, the ability to calculate and use indicators in practice ... etc.) exam:

- the correctness of the implementation of the algorithm for solving a practical problem (calculation of indicators, or manipulation, compliance with the method of solving practical problems, etc.);
- correct interpretation of the results;
- the ability to draw conclusions from the values obtained.

11.3 Scale of assessment of the student on the basis of the current monitoring of progress (for work in the semester):

- according to the results of the current progress, students can gain from 0 to 100%;
- at repeated passing of intermediate certification in the form of credit
the student can get the number of points corresponding to the weight (points) of the current monitoring activities (see paragraph 4.2)

11.4 The order of evaluation of the discipline on the results of the interim certification in the form of credit:

The General assessment for the development of knowledge, skills, competencies in the discipline in the semester is set by the results of the current monitoring of performance.

Student scored 70% or more points on the results of the current monitoring of performance, the assessment «*зачтено*» (*passed*)

If the student scored less than 70% of the total points in the discipline, he is given an assessment «*не зачтено*» (*not passed*).

11.5 The scale of the assessment of the student for mastering the theoretical material, the ability and skills in the discipline for the exam:

As a result of passing the exam, the student can score, for completing the test task from 0 to 50 points and for the oral part of the exam 10 points.

- to obtain "**10 points**" requires a solid deep, comprehensive knowledge in the volume of the course passed against the background of its understanding in the system of this science and interdisciplinary relations, competent and logically coherent presentation of the material in response, knowledge of current trends in the field of life safety and disaster medicine, as well as the ability to clearly express.

- to get the "**9 points**" requires a deep knowledge in the volume of the course in accordance with the training program, competent and logically coherent presentation of the material in response, knowledge of current trends, there may be shortcomings in the definition of concepts corrected by the student independently in the process of response. The ability to clearly state the procedure for the provision of medical care and measures to eliminate the health consequences of emergency situations.

- to obtain "**8 points**" requires a solid and sufficiently complete knowledge in the volume of the course, minor errors in the coverage of questions, a clear presentation of the material. The findings are not sufficiently substantiated.

- to obtain "**7 points**" is exposed in the presence of knowledge in the volume of the course, illogical and inconsistent presentation of the material, the presence of errors, confidently corrected

after leading questions. Conclusions are made with errors, the decision to organize health care emergency situations formulated briefly has no justification.

- from **"4 – 6 points"** the student is exposed in the presence of gross errors in the response, the misunderstanding of the essence of the presented issue, the inaccuracy of the responses to additional probing questions. The learner uses unauthorized materials in preparation for the response.

- **"0 – 3 points"** not received answers on the basic questions of discipline, or refuses to answer questions.

11.6 The order of admission to the exam student:

Student scored 70% or more on the results of the semester is certified and allowed to the exam.

Student scored less than 70% is not certified and the exam is not allowed.

11.7 The order and scale of the General assessment, the student on the basis of the study of the discipline.

The General assessment for the development of knowledge, skills, competencies in the discipline is exposed on the results of training in three semesters and passing the intermediate certification in the form of an exam.

To obtain an "excellent" grade, the student must score a rating of 90% or more on the basis of the current academic performance monitoring and passing the interim certification.

To receive a rating of "good" student needs for the current control of progress or the result of on-going monitoring of progress and passing of interim attestation in the form of examination type rating from 80% to 89.9 percent.

To obtain a "satisfactory" grade, a student must, based on the results of the current academic performance monitoring or the results of the current academic performance monitoring and passing an interim assessment in the form of an exam, score a rating from 70% to 79.9%.

The "unsatisfactory" student receives a rating if the results of the current monitoring of progress and passing the interim certification in the form of an exam scored a rating of less than 70%.

Discipline	Life safety. Disaster medicine.			
Number of semesters	3			
Load distribution by semester, 3ET	2	2	2	
The distribution of ratings for each semester, points	100	100	100	
Weight of semester rating, %	45,000	45,000	45,000	
Semester weights	0,450000	0,450000	0,450000	
The weight of the exam grade, %	10			
Total rating, points	100			
Exem	Points	%	K	P- pions
Control oral	10	60	0,600000	6,000000
Test control	50	40	0,080000	4,000000
Attendance	1	0	0,000000	0,000000
		100		100

11.8 Typical control tasks or other materials necessary for the assessment of knowledge, skills and (or) experience of activities that characterize the stages of formation of competencies in the process of development of the educational program

Pirogov Russian National Research Medical University (RNRMU)
Department of Disaster medicine

Examination ticket № 1
for the exam in the discipline

Life safety. Disaster medicine
specialty “Medical business”

1. Life safety. Definition and main tasks.
2. Mobilization, definition, purpose.

Case problem

In a crowded cafe there was a fire, there are dozens of affected.

Task:

- A) What are the damaging factors of the emergency;
- B) Teams of which medical specialists will be required for medical sorting and subsequent treatment of the affected in medical institutions.

Head of department

Levchuk I.P.

Test tasks for the interim certification in the form of an exam.
(a fragment of the test task)

1. The situation in a certain area, formed as a result of an accident, disaster, natural hazard, natural or other disaster that could cause or caused human casualties, damage to human health is called
A) Emergency situation.
B) State of emergency.
C) Emergency.
D) Extraordinary incident.

2. A dangerous man-made accident that creates a threat to life and health of people on the object, the defined territory, leading to the destruction of buildings, structures that damage human health and the environment is called
A) Accident.
B) Disaster.
C) Natural disaster.
D) Extraordinary incident.

3. A sudden, fleeting event that caused human casualties, damage to human health, destruction or destruction of objects and other material assets in large quantities, as well as causing serious damage to the environment is called
A) Disaster.
B) Accident.
C) Natural disaster.
D) Extraordinary incident.

Application:

Control and measuring materials (tickets, tests, etc.) for the interim certification of students in the discipline in accordance with the curriculum of the educational program.

(Control and measuring materials are available only for teachers of the Department)