Ministry of Health of the Russian Federation

federal state budgetary educational institution
higher education
"North-Western State Medical University named after I.I. Mechnikov"

Ministry of Health of the Russian Federation

(Federal State Budgetary Educational Institution of Higher Education North-Western State Medical University named after I.I. Mechnikov of the Ministry of Health of Russia)

DISCIPLINE WORK PROGRAM

"Life Safety"

Specialty: 31.05.01 General Medicine

Specialization: **Organization and provision of primary health care to the adult population in medical organizations**

Implementation language: Russian, English

2021

Подлинник электронного документа, подписанного ЭП, хранится в системе электронного документооборота ФГБОУ ВО СЗГМУ им. И.И.Мечникова Минздрава России
СВЕДЕНИЯ О СЕРТИФИКАТЕ ЭП
Сертификат 00CDEE3BD65A19B375D4FAEE2ABC26F298
Владелец Сайганов Сергей Анатольевич
Действителен с 03.12.2025 12:23:25 по 26.02.2027 12:23:25

The work program of the discipline "Life Safety" is compiled on the basis of the Federal State Educational Standard of Higher Education - specialty in the specialty 31.05.01 General Medicine, approved by Order of the Ministry of Science and Higher Education of the Russian Federation dated August 12, 2020 No. 988 "On approval of the Federal State Educational Standard of Higher Education - specialty in 31.05.01 General Medicine."

Compilers of the work program of the discipline:
Shilov V.V. head Department of Toxicology, Extreme and Diving Medicine FSBEI HE North-Western State Medical University named after. I.I. Mechnikova, professor, doctor of medical sciences; Chernobrovin A.D., Associate Professor of the Department of Toxicology, Extreme and Diving Medicine FSBEI HE North-Western State Medical University named after. I.I. Mechnikova, candidate of medical sciences.

Reviewer:
Scientific Secretary of the North-Western Scientific Center for Hygiene and Public Health, Doctor of Medical Sciences. Frolova N.M.

The work program of the discipline was discussed at a department meeting
toxicology, extreme and diving medicine FSBEI HE North-Western State Medical University named after. I.I. Mechnikov
April 28, 2021, Minute no.

Head of the department _____ / Shilov V.V./
(signature) (full name)

Approved by the Methodological Commission for the specialty 31.05.01 General Medicine
May 11, 2021

Chairman _____ / Bakulin I.G./
(signature) (full name)

Reviewed by the Methodological Council and recommended for approval by the Academic Council
May 20, 2021

Chairman _____ / Artyushkin S.A. /
(signature) (full name)

Date of update:

CONTENTS

1.The purpose of mastering the discipline 4
2. The place of discipline in the structure of the educational program 4
3.List of planned learning outcomes in the discipline, correlated with the planned results of mastering the educational program 4
4.Scope of discipline and types of academic work 6
5. Contents of the discipline, structured by sections (topics) indicating the number of academic hours and types of training sessions 7
6.Guidelines for students on mastering the discipline 13
7.Evaluation materials 15
8.List of educational literature and Internet resources necessary for mastering the discipline 15
9.List of information technologies used to master the discipline, including a list of software, professional databases and information reference systems 17
10. Logistics support for discipline 19
Appendix 19

1. The purpose of mastering the discipline

The purpose of mastering the discipline "Life Safety" is to develop the student's competencies, based on ideas about the damaging factors of emergency situations in peacetime and war, to form in a graduate of the specialty "General Medicine" a culture of safety, a holistic understanding, readiness and ability to act in forecasting, assessing and organizing measures to provide medical care (up to specialized) to victims and liquidation of the consequences of natural emergencies and technogenic nature.

2. The place of discipline in the structure of the educational program

The discipline "Life Safety" refers to the mandatory part of Block 1 "Disciplines (modules)" of the main professional educational program in the specialty 31.05.01 General Medicine (specialty level of education), focus: Organization and provision of primary health care to the adult population in medical organizations. The discipline is mandatory to study.

3. List of planned learning outcomes in the discipline, correlated with the planned results of mastering the educational program

Code and name of competency	Code and name of the competency achievement indicator
UK-8 Able to create and maintain safe living conditions in everyday life and professional activities to preserve the natural environment, ensure sustainable development of society, including in the event of the threat and occurrence of emergencies and military conflicts	ID-1 UK-8 analyzes factors of harmful influence on the life of elements of the environment (technical means, technological processes, materials, hazardous chemicals, buildings and structures, natural and social phenomena); ID-2 UK-8 identifies dangerous and harmful factors in everyday life and in professional activities; ID-3 UK-8 complies with and explains the rules of behavior in the event of emergencies of natural and man-made origin; ID-4 UK-8 participates in rescue and emergency measures in cases of emergencies or military conflicts; ID-5 –UK-8 provides first aid;
OPK-6 Able to organize patient care, provide primary health care, ensure organization of work and make professional decisions in emergency conditions at the prehospital stage, in emergency situations, epidemics and in areas of mass destruction	ID-1 – OPK-6 organizes care for sick and injured people at the prehospital stage; ID-2 – OPK-6 provides primary health care at the prehospital stage, including in emergency situations, epidemics and in areas of mass destruction; ID-3 – OPK-6 ensures the organization of work and making professional decisions in emergency situations in emergency situations, epidemics and in areas of mass casualties;

Competency achievement indicator code	Learning outcomes (assessment indicators)	Evaluation tools
ID-1 UK-8.1	Knows the main factors of harmful influence on the life of elements of the environment (technical means, technological processes, materials, hazardous chemicals, buildings and structures, natural and social phenomena), their manifestation, degree of danger;	test questions, test tasks, situational tasks, abstract

	Able to analyze factors of harmful influence on the life of elements of the environment (technical means, technological processes, materials, hazardous chemicals, buildings and structures, natural and social phenomena), identify them and determine the degree of danger to humans.	test questions, test tasks, situational tasks,
	has the skill of calculating the degree of danger and the likely impact of factors of harmful influence on human life from elements of the environment, in order to predict the development of emergencies and plan the actions of the medical service.	test questions, situational tasks,
ID-2 UK-8.2	Knows the signs of the main dangerous and harmful factors encountered in everyday life and in professional activities.	test questions, test tasks, abstract,
	Able to identify dangerous and harmful factors encountered in everyday life and in professional activities.	test questions, test tasks, situational tasks,
	has the skill of identifying dangerous and harmful factors in everyday life and in professional activities, and the degree of danger	test questions, situational tasks,
ID-3 UK-8.3	Knows the rules of behavior in the event of emergencies of natural and man-made origin;	test questions, test tasks, abstract
	is able to - implement and explain the rules of behavior in the event of emergencies of natural and man-made origin;	test questions, test tasks, situational tasks,
	has the skill of independently implementing and explaining to others the rules of behavior in the event of emergencies of natural and man-made origin;	test questions, situational tasks,
ID-4 UK-8.4	Knows the principles of organizing and conducting rescue and emergency measures in cases of emergencies or military conflicts;	test questions, test tasks, situational tasks, abstract,
	Able to - organize and independently carry out a number of rescue and emergency measures in cases of emergencies or military conflicts;	test questions, test tasks, situational tasks,
	has the skill of performing an algorithm for rescue and emergency measures in cases of emergencies or military conflicts;	test questions, situational tasks, demonstration of practical skills,
ID-5 UK-8.5	Knows the types of medical care, indications for its implementation, a list of medical procedures and techniques, the sequence of actions for providing first aid;	test questions, test tasks, abstract,
	Able to – identify the main life-threatening signs, the order and sequence of actions when providing first aid;	test questions, test tasks, situational tasks,
	has the skill to - perform basic first aid techniques, including basic CPR;	test questions, situational tasks, demonstration of practical skills,
ID-1 OPK-6.1	Knows the basic principles and procedure for caring for sick and injured patients at the prehospital stage;	test questions, test tasks, test work,, abstract,
	Able to organize and independently provide care for sick	test questions,

	and injured patients at the prehospital stage;	test tasks, , situational tasks, demonstration of practical skills
	has the skill of an algorithm for organizing and independently performing basic techniques and manipulations for caring for sick and injured patients at the prehospital stage	test questions, situational tasks, demonstration of practical skills
ID-2 OPK-6.2	Knows the basic provisions and rules for conducting and organizing primary health care at the prehospital stage, including in emergency situations, epidemics and in areas of mass destruction;	test questions, test tasks, abstract,
	Able to organize and independently provide primary health care at the prehospital stage, including in emergency situations, epidemics and in areas of mass destruction;	test questions, test tasks, situational tasks, demonstration of practical skills,
	has the skill to perform manipulations and techniques (including basic CPR) included in primary health care at the prehospital stage	test questions, situational tasks, demonstration of practical skills,
ID-3 OPK-6.3	Knows the basic principles and organization of work and making professional decisions (including evacuation and intra-point triage, the order and priority of evacuation of the wounded and injured) in emergency conditions in emergency situations, epidemics and in areas of mass casualties	test questions, test tasks, abstract,
	Able to organize and independently perform work and make professional decisions (including evacuation and intra-point triage, the order and priority of evacuation of the wounded and injured) in emergency conditions in emergency situations, epidemics and in areas of mass casualties	test questions, test tasks, situational tasks, demonstration of practical skills,
	has the skill of an algorithm for conducting basic types of medical care, evacuation and intra-point triage, sequencing and evacuation of the wounded and injured in compliance with the rules of medical evacuation in case of emergency conditions in emergency situations, epidemics and in areas of mass casualties	test questions, situational tasks, demonstration of practical skills,

4. Scope of discipline and types of academic work

Type of educational work	Labor intensity	Semesters	
		3	4
Contact work between students and teachers	**72**	**36**	**36**
Classroom work:	70	36	34
Lectures (L)	24	12	12
Practical exercises (PP)	46	24	22
Independent work:	**36**	**16**	**20**
during theoretical training	32	16	16
preparation for the test	4		4
Intermediate assessment: test, including delivery and group consultations	2		2
Total labor intensity: academic hours	**108**		
credit units	**3**		

5. The content of the discipline, structured by sections (topics) indicating the number of academic hours and types of training sessions

5.1.Content of discipline sections

No.	Name of discipline section	Annotated content of the discipline section	List of competencies formed in the process of mastering the section
1	Life Safety	Section “Life Safety”, discipline “Life Safety”, based on ideas about the damaging factors of peacetime and wartime emergencies, forms in a graduate of the specialty “General Medicine” a culture of safety, holistic understanding, readiness and ability to take action to predict, evaluate and organize measures to provide medical care to victims and eliminate the consequences of natural and man-made emergencies. When passing this section, the student studies theoretical issues, the organizational and legal side, medical aspects of working in peacetime and wartime emergencies, receives the necessary practical skills in identifying hazards, working with medical devices for radiochemical reconnaissance, means of technical and medical protection from damaging factors, methods of providing medical care in life-threatening conditions, organizing and conducting medical evacuation and preparing units of health care facilities to work in emergency conditions.	UK-8, OPK-6
2	Toxicology	The section “Toxicology”, discipline “Life Safety”, based on ideas about the damaging factors of chemical emergencies, forms in the graduate of the specialty “General Medicine” a holistic understanding, readiness and ability to take action to predict, evaluate and organize measures to provide medical care to victims and eliminate the consequences of chemical emergencies. When passing this section, the student studies theoretical issues, the organizational and legal side, medical aspects of work in case of chemical emergencies, receives the necessary practical skills in identifying various toxicants (primarily hazardous substances and chemical agents), means of technical and medical protection against damaging factors of chemical etiology, the peculiarities of providing medical care in acute poisoning, organizing and conducting medical evacuation, special and sanitary treatment of the wounded, injured and medical personnel.	UK-8, OPK-6

3	Radiobiology	Section “Radiobiology”, discipline “Life Safety”, based on ideas about the damaging factors of radiation emergencies, forms in the graduate of the specialty “General Medicine” a holistic understanding, readiness and ability to take action to predict, evaluate and organize measures to provide medical care to victims and eliminate the consequences of radiation emergencies. When passing this section, the student studies theoretical issues, the organizational and legal side, medical aspects of working in radiation emergencies, receives the necessary practical skills in identifying the radiation situation, means of technical and medical protection from radiation damaging factors, the peculiarities of providing medical care for various types and forms of radiation injury, organizing and conducting medical evacuation, preventive and therapeutic measures, special and sanitary treatment of the wounded, injured and medical personnel.	UK-8, OPK-6

5.2.Thematic plan of lectures

No.	Name of discipline section	Lecture topics	Active forms of learning*	Labor intensity (academic hours)
1.	Life safety (3rd semester)	L.1 The concept of human life and his habitat. Methodological and legal foundations of Life Safety	LD	1
		L.2 Medical and tactical characteristics of emergencies of a natural, man-made and biological-social nature.	LD	1
		L.3 All-Russian Service for Disaster Medicine. Fundamentals of mobilization preparation and organization of medical supplies in emergencies.	LD	1
		L.4 Fundamentals of organization and measures for protecting the population in peacetime and war. Organization of medical and evacuation measures in case of emergency	LD	1
		L.5 Fundamentals of life safety in medical organizations.	LD	1
		L.6 Methods and means of detecting chemical and radiation contamination of the environment in	LD	1

		emergencies.		
		L.7 Sanitary and epidemiological provision of the population in the emergency zone and during evacuation.	LD	1
		L.8 Assessment of the victim's condition and medical and psychological assistance in the emergency zone	LD	1
		L.9 Principles and methods of first aid for life-threatening conditions in emergencies.	LD	2
		L.10 Organizational and legal aspects of providing first aid in emergencies. Providing first aid in the absence of consciousness, breathing, blood circulation.	LD	2
		TOTAL:		24

4th semester

No.	Name of discipline section	Lecture topics	Active forms of learning*	Labor intensity (academic hours)
2.	Toxicology (4th semester)	L.1 Subject and tasks of toxicology. Classification of toxic chemicals	LD	1
		L.2 General principles in toxicology (Toximetry, toxicokinetics, toxicodynamics).	LD	1
		L.3 Principles of diagnosis and treatment of acute poisoning. Characteristics of modern antidotes.	LD	1
		L.4 Problems of chemical safety during peacetime and wartime emergencies. Chemical weapons, chemical terrorism.	LD	1
		L.5 Selective toxicity of xenobiotics (pulmonotoxicants, general toxicants).	LD	1
		L.6 Selective toxicity of xenobiotics (neurotoxicants, cytotoxicants).	LD	1
		L.7 Environmental toxicology. Characteristics of individual ecotoxicants.	LD	1
3.	Radiobiology (4th semester)	L.8 Introduction to radiobiology. Fundamentals of the biological effects of ionizing radiation.	LD	1

		L.9 Radiation injuries..	LD	2
		L.10 General principles of medical care	LD	2
		TOTAL:		24

*LD – lecture-discussion

5.3.Thematic plan for practical classes

3rd semester

№ p/p	Name of discipline section	Topics of practical classes	Active forms of learning	Current control forms	Labor intensity (academic hours)
1.	Life Safety (3rd semester)	PZ.1 The concept of human life and his habitat. Risk assessment in emergency situations	DI	test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.2 General and medical-tactical characteristics of emergencies of a natural, man-made and biological-social nature.	DI	test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.3 Radiation and chemical reconnaissance and control	IT	test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.4 Technical means of protection	IT	test questions, test tasks, , situational tasks, demonstration of practical skills,	2
		PZ.5 Medical protective equipment.	IT	test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.6 Preparing health care facilities for work in emergency conditions.	RI	test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.7. Medical triage at the scene of an emergency and in health care facilities.	IT	test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.8 Special and sanitary treatment		test questions, test tasks, situational tasks, demonstration of	2

				practical skills,	
		PZ.9 Means and methods of first aid in emergencies during respiratory and circulatory arrest.	IT	test questions, test tasks, situational tasks, demonstration of practical skills,	4
		PZ.10 First aid methods in emergencies for life-threatening conditions.	IT	test questions, test tasks, situational tasks, demonstration of practical skills,	4
				TOTAL:	24

4th semester

№ p/p	Name of discipline section	Topics of practical classes	Active forms of learning	Current control forms	Labor intensity (academic hours)
2.	Toxicology (4th semester)	PZ.1 Subject and tasks of toxicology		test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.2 Toxicokinetics, toxicodynamics, toxicometry.		test questions, test tasks, situational tasks,	2
		PZ.3 Organization of specialized toxicological care. General principles of diagnosis and medical care in toxicology.		test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.4 Toxicants have predominantly pulmonary toxic and irritant effects.		test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.5 Toxicants with predominantly general toxic and cytotoxic effects		test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.6 Toxicants with predominantly neurotoxic and psychomimetic effects.		test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.7 Toxic technical liquids. Principles of medical care		test questions, test tasks, situational tasks, demonstration of practical skills	2
3.	Radiobiology	PZ.8 Subject and		test questions,	2

	(4th semester)	tasks of radiobiologists. Fundamentals of the biological effects of ionizing radiation.		test tasks, situational tasks,	
		PZ.9 Radiation injuries as a result of external irradiation. General principles of medical care.		test questions, test tasks, situational tasks, demonstration of practical skills,	2
		PZ.10 Radiation injuries as a result of internal exposure. Medical protective equipment. General principles of medical care.		test questions, test tasks, situational tasks, demonstration of practical skills,	4
				TOTAL:	22

IT - simulation training
DI – business game

5.4. Thematic plan of seminars – not provided

5.5.Thematic plan of laboratory work – not provided

5.6. Independent work:

No.	Name of discipline section	Types of independent work*	Current control forms	Labor intensity (academic hours)
1.	Life Safety	Working with lecture material Working with academic documents Working with regulatory documents and literature Preparation of an abstract	test questions, test tasks, situational tasks, abstract	12
2	Toxicology	Working with lecture material Working with academic documents Working with regulatory documents and literature Preparation of an abstract	test questions, test tasks, situational tasks, abstract	10
3	Radiobiology	Working with lecture material Working with academic documents Working with regulatory	test questions, test tasks, situational tasks, abstract	10

		documents and literature Preparation of an abstract		
			Preparation for the test:	4
			TOTAL:	36

5.6.1. List of regulatory documents:

1. Federal Law of the Russian Federation dated December 21, 1994 No. 68-FZ "On the protection of the population and territories from natural and man-made emergencies."
2. Resolution of the Government of the Russian Federation dated 26.08.2013 No. 734 "On approval of the regulations on the All-Russian Disaster Medicine Service."
3. Order of the Ministry of Health of the Russian Federation dated 04.03.2003 No. 73 "On approval of instructions for determining the criteria and procedure for determining the moment of death of a person."

5.6.2. Abstract topics:

Life Safety:
1.Characteristics and classification of emergencies of a natural, man-made and biological-social nature.
Toxicology:
1. Toxicants have predominantly pulmonary toxic effects (POS).
Radiobiology:
1. General principles of medical care for radiation injuries resulting from internal exposure.

6. Guidelines for students on mastering the discipline

An important condition for successful mastery of the discipline is the creation of a system of proper organization of work that allows you to distribute the educational load evenly in accordance with the schedule of the educational process. Drawing up a work plan for the semester, month, week, day can be of great help in this. Its presence will allow you to subordinate your free time to study purposes and work more successfully and efficiently. In the evening you should always distribute work for tomorrow.

At the end of each day, it is advisable to summarize the work: carefully check whether everything was completed according to plan, whether there were any deviations, and if there were, for what reason they occurred. It is necessary to exercise self-control, which is a necessary condition for successful study. If something remains undone, you need to find time to complete this part of the work without reducing the volume of the weekly plan. It is recommended to complete all tasks for practical classes, as well as tasks assigned for independent work, immediately after the corresponding topic of the lecture course, which contributes to better assimilation of the material, allows you to promptly identify and eliminate "gaps" in knowledge, systematize previously covered material, and on its basis begin to master new knowledge and skills.

The university education system is based on a rational combination of several types of training sessions (primarily lectures and practical classes), the work of which has a certain specificity.

Preparing for lectures

Introduction to the discipline occurs already at the first lecture, where you are required not only to pay attention, but also to independently prepare notes. When working with lecture notes, it is necessary to take into account the fact that some lectures provide answers to specific questions on the topic, while others only reveal the relationships between phenomena, helping the student understand the deep processes of development of the subject being studied, both in history and at the present time.

Lecture note-taking is a complex type of classroom work that involves intensive mental activity of the student. A note is useful when the most essential things are written down and done by the student himself. There is no need to try to write down the entire lecture verbatim. This kind of "note-taking" does more harm than good. It is advisable to first understand the main idea presented by the lecturer and then write it down. It is advisable to record on one page of the sheet or leave fields on which later, when working independently with notes, you can make additional notes and mark unclear places.

It is better to divide the lecture notes into points, observing the red line. This will be greatly facilitated by the lecture plan questions proposed to the teachers. You should pay attention to the accents and conclusions that the lecturer makes, marking the most important points in the lecture material with the remarks "important", "well remember", etc. You can also do this using colorful markers or pens, emphasizing terms and definitions.

It is advisable to develop your own system of abbreviations, abbreviations and symbols. However, when further working with notes, it is better to replace the symbols with ordinary words for quick visual perception of the text.

When working on lecture notes, it is always necessary to use not only the textbook, but also the literature that was additionally recommended by the lecturer. It is this kind of serious, painstaking work with the lecture material that will allow you to deeply master the theoretical material.

Preparation for practical exercises

Careful thinking and study of the plan's issues is based on studying the current material of the lecture, and then studying the required and additional literature recommended for this topic. All new concepts on the topic being studied must be memorized and included in a glossary, which should be kept from the very beginning of the course.

The result of such work should be manifested in the ability to freely answer theoretical questions of the workshop, speak and participate in a collective discussion of issues on the topic being studied, and correctly complete practical assignments and tests.

In the preparation process, it is necessary to pay special attention to independent study of the recommended literature. Despite the completeness of the lecture notes, it is impossible to present all the material in it due to the limit of classroom hours. Therefore, independent work with textbooks, teaching aids, scientific and reference literature, materials from periodicals and the Internet is the most effective method of obtaining additional knowledge, allows you to significantly intensify the process of mastering information, promotes a deeper assimilation of the material being studied, and forms the correct attitude to a specific problem.

Recommendations for working with literature

It is advisable to start working with literature by studying general works on the topic, as well as textbooks and teaching aids. Next, it is recommended to move on to the analysis of monographs and articles that consider individual aspects of the problems studied in the course, as well as official materials and unpublished documents (research papers, dissertations), which may contain the main issues of the problem being studied.

Working with sources should begin with introductory reading, i.e. view the text, highlighting its structural units. During introductory reading, bookmarks mark those pages that require more careful study.

Depending on the results of the introductory reading, a further method of working with the source is selected. If solving the problem requires studying some fragments of the text,

then the selective reading method is used. If the book does not have a detailed table of contents, the student should pay attention to the subject and name indexes.

7. Evaluation materials

Evaluation materials for the discipline for ongoing monitoring of progress and intermediate certification of students include examples of evaluation tools (Appendix A to the work program of the discipline), procedure and assessment criteria.

8. List of educational literature and Internet resources necessary for mastering the discipline

8.1. Educational literature:

8.1.1. Educational and periodicals available in the University library collection:

1. Life safety: textbook / I. P. Levchuk, G. B. Bogoslovov, M. V. Kostyuchenko, A. P. Nazarov; ed. I. G. Levchuk. - St. Petersburg. : GEOTAR-Media, 2016. - 295 p. : ill., color. ill. - Bibliography: p. 288-289. - ISBN 978-5-9704-3876-3.
2. Kutsenko S.A. Military toxicology, radiobiology and medical protection: Textbook / S. A. Kutsenko, N. V. Butomo, A. N. Grebenyuk; ed. S. A. Kutsenko; Military Medical Academy named after. S. M. Kirov. - St. Petersburg. : Foliot, 2004. - 526, [1] p. : ill. - ISBN 5-93929-082-5.
3. Levchuk I.P. Disaster Medicine: course of lectures: textbook. allowance for medical universities / I. P. Levchuk, N. V. Tretyakov. - M: GEOTAR-Media, 2015. - 240 p. : table - Bibliography: p. 239 (14 titles). - ISBN 978-5-9704-3347-8.
4. Organization of the medical service of civil defense of the Russian Federation: Textbook / P. V. Avitisov, L. A. Apollonova, M. I. Gogolev [etc.]; ed. Yu. I. Pogodin, S. V. Trifonov. - M.: Ministry of Health of the Russian Federation, 2002. - 168 p.
5. Toxicology and medical protection: textbook [for students and medical cadets. and pharma. universities (facts)] / A. N. Grebenyuk, N. V. Aksenova, A. E. Antushevich and others; ed. A. N. Grebenyuk. - St. Petersburg. : Foliot, 2018. - 672 p. : ill., table.

8.1.2. Educational electronic publications placed in Electronic Library Systems:

Levchuk, I. P. Life safety: textbook / I. P. Levchuk [et al.]; edited by I. P. Levchuk. - Moscow: GEOTAR-Media, 2016. - 304 p. - ISBN 978-5-9704-3876-3. - Text: electronic // URL: http://www.studmedlib.ru/book/ISBN9785970438763.html

Kolesnichenko, P. L. Disaster Medicine: textbook / P. L. Kolesnichenko [etc.]. - Moscow: GEOTAR-Media, 2018. - 448 p. : ill. - 448 p. - ISBN 978-5-9704-4641-6. - Text: electronic // URL: http://www.studmedlib.ru/book/ISBN9785970446416.html

8.1.3. Educational materials:

TOXICOLOGICAL CHARACTERISTICS OF SUBSTANCES WITH PRIMARILY IRRITATING EFFECTS: Educational and methodological manual/E. V. Polozova, A. S. Bogacheva, R. A. Narzikulov, I. N. Klyushkin. - 2017 Hyperlink 76.35.45/76.35.31+

TOXIC CHEMICALS OF GENERALLY TOXIC ACTION (clinical, diagnostic, treatment): Educational and methodological manual/E. V. Polozova, A. S. Bogacheva, I. N. Klyushkin. - 2018 File 76.35.45 K

POISONING BY ETHANOL AND ALIPHATIC ALCOHOLS (clinic, diagnosis, treatment): Educational manual/R. A. Narzikulov, E. V. Polozova, A. S. Bogacheva. - 2018 File 76.35.45 K

TOXIC CHEMICALS OF CYTOTOXIC ACTION: Textbook / V. A. Kolobyanin, R. A. Narzikulov, V. N. Erokhin. – 2019. File 76.35.45/76.35.31 K

TOXIC TECHNICAL FLUIDS. MECHANISM OF TOXIC ACTION, MAIN MANIFESTATIONS OF THE TOXIC PROCESS, PRINCIPLES OF PROVIDING MEDICAL CARE: Textbook / V. N. Erokhin et al. - 2019. File 76.35.45

Life safety: textbook / I. P. Levchuk [et al.]; edited by I. P. Levchuk. - Moscow: GEOTAR-Media, 2016. - 304 p. - ISBN 978-5-9704-3876-3. - Text: electronic // Electronic Library System "Student Consultant": [website]. - URL : https://www.studentlibrary.ru/book/ISBN9785970438763.html

Levchuk, I. P. Disaster Medicine: textbook / Levchuk I. P., Tretyakov N. V. - Moscow: GEOTAR-Media, 2021. - 288 p. - ISBN 978-5-9704-6014-6. - Text: electronic // Electronic Library System "Student Consultant": [website]. - URL : https://www.studentlibrary.ru/book/ISBN9785970460146.html

Extreme toxicology: Textbook / ed. G. A. Sofronova, M. V. Alexandrova. – St. Petersburg. : Elbi – St. Petersburg, 2012. – 256 p.

Kolesnichenko, P. L. Disaster Medicine: textbook / P. L. Kolesnichenko [etc.]. - Moscow: GEOTAR-Media, 2021. - 448 p. - ISBN 978-5-9704-7838-7. - Text: electronic // Electronic Library System "Student Consultant": [website]. - URL : https://www.studentlibrary.ru/book/ISBN9785970478387.html

Lomov, O. P. Health risk assessment as the basis for life safety: educational method. manual [for students studying in the specialty “General Medicine”] / O. P. Lomov, V. V. Shilov; Ministry of Health of Russia. Federation, FSBEI HE North-Western State Medical University named after I.I. Mechnikov, Department of Toxicology, Extreme and Diving Medicine. – St. Petersburg. : North-Western State Medical University Press, 2020. – 60 p. https://sdo.szgmu.ru/pluginfile.php/783327/mod_resource/content/2/%D0%9B%D0%BE%D0%BC%D0%BE%D0%B2_%D0%9E%D1%86%D0%B5%D0%BD%D0%BA%D0%B0%20%D1%80%D0%B8%D1%81%D0%BA%D0%B0%20%D0%B7%D0%B4%D0%BE%D1%80%D0%BE%D0%B2%D1%8C%D1%8E.pdf

Lomov O.P. Radiation safety in medicine: textbook. manual / O. P. Lomov, R. A. Narzikulov, V. V. Shilov; Ministry of Health of Russia. Federation, FSBEI HE North-Western State Medical University named after I.I. Mechnikov, Department of Toxicology, Extreme and Diving Medicine. – St. Petersburg. : North-Western State Medical University Press, 2020. – 72 p. https://sdo.szgmu.ru/pluginfile.php/783310/mod_resource/content/4/%D0%9B%D0%BE%D0%BC%D0%BE%D0%B2_%D0%A0%D0%B0%D0%B4%D0%B8%D0%B0%D1%86%D0%B8%D0%BE%D0%BD%D0%BD%D0%B0%D1%8F%20%D0%B1%D0%B5%D0%B7%D0%BE%D0%BF%D0%B0%D1%81%D0%BD%D0%BE%D1%81%D1%82%D1%8C.pdf

First aid for victims in emergency situations: educational method. allowance / V.V. Shilov, S.A. Vasiliev, I.A. Sobol, A. D. Chernobrovin; Ministry of Health of Russia. Federation, FSBEI HE North-Western State Medical University named after I.I. Mechnikov, Department of Toxicology, Extreme and Diving Medicine. – St. Petersburg. : North-Western State Medical University Press, 2020. – 80 p. https://sdo.szgmu.ru/pluginfile.php/512551/mod_resource/content/1/%D0%A8%D0%B8%D0%BB%

D0%BE%D0%B2_%D0%9F%D0%B5%D1%80%D0%B2%D0%B0%D1%8F%20%D0%BF%D0%BE%D0%BC%D0%BE%D1%89%D1%8C%20%D0%B2%20%D0%A7%D0%A1.pdf

Special forms of the toxic process: educational method. manual / A. S. Bogacheva, E. V. Polozova, V. V. Konev, M. A. Yudin; Ministry of Health of Russia. Federation, FSBEI HE North-Western State Medical University named after I.I. Mechnikov, Department of Toxicology, Extreme and Diving Medicine. – St. Petersburg. : North-Western State Medical University Press, 2020. – 96 p.

8.2. Resources of the Internet information and telecommunications network:

Name of Internet resource	Email address of the resource
Research Institute of General Reanimatology: fundamental basis	http://www.niiorramn.ru/zhur.htm
VTsMK "Zashchita"	http://www.vcmk.ru/
State Directorate of the EMERCOM of Russia in the constituent entities of the Russian Federation	https://www.mchs.gov.ru
Ministry of Health of the Russian Federation	https://www.rosminzdrav.ru/ru
Federal Service for Surveillance in Healthcare - Roszdravnadzor	https://www.roszdravnadzor.ru
Scientific electronic library	eLIBRARY.RU -https://elibrary.ru/project_orgs.asp
EastView Medicine and healthcare in Russia	https://dlib.eastview.com/
Legal Aspect	http://www.mechnik.spb.ru
MEDLINE.RU	http://www.medline.ru/public/monografy/toxicology
Research Institute of OR named after V.A. Negovsky Research Institute of General Reanimatology: fundamental basis	http://www.niiorramn.ru/zhur.htm

9. List of information technologies used for mastering disciplines, including a list of software, professional databases and information reference systems

9.1. List of information technologies used in the educational process:

No.	Name of discipline section	Information technology
	Life Safety Toxicology Radiobiology	posting of educational materials in EIEE FSBEI HE North-Western State Medical University named after I.I. Mechnikov of the Ministry of Health of Russia, https://sdo.szgmu.ru/mod/forum/view.php?id

9.2. List of software used in the educational process (licensed and freely distributed software, including domestically produced):

No.	Software product name	License validity period	Documents confirming right to use software products
licensed software			
1.	ESET NOD 32	1 year	Government contract № 07/2020
2.	MS Windows 8 MS Windows 8.1 MS Windows 10 MS Windows Server 2012 Datacenter - 2 Proc MS Windows Server 2012 R2 Datacenter - 2 Proc MS Windows Server 2016 Datacenter Core	Unlimited	State contract No. 30/2013-O; Government contract No. 399/2013-OA; Government contract No. 07/2017-EA.
3.	MS Office 2010 MS Office 2013	Unlimited	Government contract No. 30/2013-OA; Government contract No. 399/2013-OA.
4.	Academic LabVIEW Premium Suite (1 User)	Unlimited	Government contract № 02/2015
licensed software of domestic production			
1.	Anti-plagiarism	1 year	Government contract № 2409
2.	“WEBINAR (WEBINAR)” VERSION 3.0	1 year	Contract No. 347/2020-M
3.	"3KL e-learning environment"	1 year	Contract No. 348/2020-M
4.	TrueConf Enterprise	1 year	Contract No. 396/2020-EA
free software			
1.	Google Chrome	Unlimited	Open License Agreement GNU GeneralPublicLicense
2.	NVDA	Unlimited	Open License Agreement GNU GeneralPublicLicense
freely distributed software of domestic production			
1.	Moodle	Unlimited	Open License Agreement GNU GeneralPublicLicense

9.3. List of professional databases and information reference systems:

No.	Name software product	License validity period	Documents confirming right to use software products	Mode access for disabled students and persons with limited health capabilities
1.	Consultant Plus	1 year	Agreement No. 655/2020-EA	-
2.	EBS “Student Consultant”	1 year	Contract No. 307/2020-EA	http://www.studmedlib.ru/
3.	EMB “Doctor	1 year	Contract	http://www.rosmedlib.ru/

	Consultant”		No. 281/2020-EA	
4.	EBS "Ibooks.ru/ibooks.ru"	1 year	Contract № 06/2020	https://ibooks.ru
5.	EBS “IPRBooks”	1 year	Contract No. 08/2020-ZK	http://www.iprbookshop.ru/special
6.	Electronic library system “Bukap”	1 year	Contract № 05/2020	https://www.books-up.ru/
7.	EBS "Lan Publishing House"	1 year	Contract No. 395/2020-EA	https://e.lanbook.com/

10. Material and technical support of discipline

Classrooms for conducting lecture-type training sessions, group and individual consultations, ongoing monitoring of progress and intermediate certification of students, equipped with equipment and technical means of teaching: St. Petersburg, Piskarevsky Prospekt, 47, lit AL (building 26), room. No. 5,8,12,13,14,15,16,20,21,23 FSBEI HE North-Western State Medical University named after. I.I. Mechnikov of the Ministry of Health of Russia;
Equipment: board (chalk); teacher's table, teacher's chair, student tables, student chairs.;
Technical teaching aids: multimedia projector, teacher’s laptop, system unit, monitor.
Special technical teaching aids: Roger Pen (Roger personal wireless transmitter in the form of a pen), Roger MyLink (Roger Pen system signal receiver) (for students with hearing impairments); IntelliKeys (wired keyboard with Russian Braille with a matte black finish), (St. Petersburg, Piskarevsky Prospekt, 47, lit. R (building 9), room No. 18.19, Federal State Budgetary Educational Institution of Higher Education North-Western State Medical University named after I.I. Mechnikov of the Ministry of Health of Russia).

Classrooms for conducting seminar-type training sessions, group and individual consultations, ongoing monitoring of progress and intermediate certification of students, equipped with equipment and technical means of training: St. Petersburg, Piskarevsky Prospekt, 47, (building 26), room. No. 5,8,12,13,14,15,16,20,21,23 FSBEI HE North-Western State Medical University named after. I.I. Mechnikov of the Ministry of Health of Russia;
Equipment: teacher's desk, teaching tables, chairs, blackboard, screen, portable equipment and devices for demonstrating and practicing practical skills.
Technical teaching aids: multimedia projector, teacher’s laptop, system unit, monitor.
Special technical teaching aids: Roger Pen (Roger personal wireless transmitter in the form of a pen), Roger MyLink (Roger Pen system signal receiver) (for students with hearing impairments); IntelliKeys (wired keyboard with Russian Braille with a matte black finish), (St. Petersburg, Piskarevsky Prospekt, 47, lit. R (building 9), room No. 18.19, Federal State Budgetary Educational Institution of Higher Education North-Western State Medical University named after I.I. Mechnikov of the Ministry of Health of Russia).

Premises for independent work of students, equipped with computer equipment with the ability to connect to the Internet and provided with access to the electronic information and educational environment of the University: St. Petersburg, Piskarevsky Prospekt, 47, lit. AE (building 32),
aud. No. 1, lit. R (building 9), room. No. 18.19 FSBEI HE North-Western State Medical University named after. I.I. Mechnikov of the Russian Ministry of Health.

Appendix A

Ministry of Health of the Russian Federation

federal state budgetary educational institution
higher education
"North-Western State Medical University
named after I.I. Mechnikov"
Ministry of Health of the Russian Federation

(Federal State Budgetary Educational Institution of Higher Education North-Western State Medical University named after I.I. Mechnikov of the Ministry of Health of Russia)

EVALUATION MATERIALS

(for ongoing monitoring of progress and intermediate certification of students)

Specialty:	31.05.01 General medicine
Direction:	Organization and provision of primary health care to the adult population in medical organizations
Name of discipline:	Life Safety

St. Petersburg – 2021

1. List of planned learning outcomes in the discipline

Competency achievement indicator code	Learning outcomes (assessment indicators)	Evaluation tools
ID-1 UK-8.1	**Knows the main factors of harmful influence on the life of elements of the environment (technical means, technological processes, materials, hazardous chemicals, buildings and structures, natural and social phenomena), their manifestation, degree of danger;**	test questions, test tasks, situational tasks, abstract
	Able to analyze factors of harmful influence on the life of elements of the environment (technical means, technological processes, materials, hazardous chemicals, buildings and structures, natural and social phenomena), identify them and determine the degree of danger to humans.	test questions, test tasks, situational tasks,
	has the skill of calculating the degree of danger and the likely impact of factors of harmful influence on human life from elements of the environment, in order to predict the development of emergencies and plan the actions of the medical service.	test questions, situational tasks,
ID-2 UK-8.2	**Knows the signs of the main dangerous and harmful factors encountered in everyday life and in professional activities.**	test questions, test tasks, abstract,
	Able to identify dangerous and harmful factors encountered in everyday life and in professional activities.	test questions, test tasks, situational tasks,
	has the skill of identifying dangerous and harmful factors in everyday life and in professional activities, and the degree of danger	test questions, situational tasks,
ID-3 UK-8.3	**Knows the rules of behavior in the event of emergencies of natural and man-made origin;**	test questions, test tasks, abstract
	is able to - implement and explain the rules of behavior in the event of emergencies of natural and man-made origin;	test questions, test tasks, situational tasks,
	has the skill of independently implementing and explaining to others the rules of behavior in the event of emergencies of natural and man-made origin;	test questions, situational tasks,
ID-4 UK-8.4	**Knows the principles of organizing and conducting rescue and emergency measures in cases of emergencies or military conflicts;**	test questions, test tasks, situational tasks, abstract,
	Able to - organize and independently carry out a number of rescue and emergency measures in cases of emergencies or military conflicts;	test questions, test tasks, situational tasks,
	has the skill to perform a number of rescue and emergency measures in cases of emergencies or military conflicts;	test questions, situational tasks, demonstration of practical skills,
ID-5 UK-8.5	**Knows the types of medical care, indications for its implementation, a list of medical procedures and techniques, the sequence of actions for providing first aid;**	test questions, test tasks, abstract,

	Able to – identify the main life-threatening signs, the order and sequence of actions when providing first aid;	test questions, test tasks, situational tasks,
	has the skill to - perform basic first aid techniques, including basic CPR;	test questions, situational tasks, demonstration of practical skills,
ID-1 OPK-6.1	**Knows the basic principles and procedure for caring for sick and injured patients at the prehospital stage;**	test questions, test tasks, test work,, abstract,
	Able to organize and independently provide care for sick and injured patients at the prehospital stage;	test questions, test tasks, , situational tasks, demonstration of practical skills
	has the skill of an algorithm for organizing and independently performing basic techniques and manipulations for caring for sick and injured patients at the prehospital stage	test questions, situational tasks, demonstration of practical skills
ID-2 OPK-6.2	**Knows the basic provisions and rules for conducting and organizing primary health care at the prehospital stage, including in emergency situations, epidemics and in areas of mass destruction;**	test questions, test tasks, abstract,
	Able to organize and independently provide primary health care at the prehospital stage, including in emergency situations, epidemics and in areas of mass destruction;	test questions, test tasks, situational tasks, demonstration of practical skills,
	has the skill to perform manipulations and techniques (including basic CPR) included in primary health care at the prehospital stage	test questions, situational tasks, demonstration of practical skills,
ID-3 OPK-6.3	**Knows the basic principles and organization of work and making professional decisions (including evacuation and intra-point triage, the order and priority of evacuation of the wounded and injured) in emergency conditions in emergency situations, epidemics and in areas of mass casualties**	test questions, test tasks, abstract,
	Able to organize and independently perform work and make professional decisions (including evacuation and intra-point triage, the order and priority of evacuation of the wounded and injured) in emergency conditions in emergency situations, epidemics and in areas of mass casualties	test questions, test tasks, situational tasks, demonstration of practical skills,
	has the skill of an algorithm for conducting basic types of medical care, evacuation and intra-point triage, sequencing and evacuation of the wounded and injured in compliance with the rules of medical evacuation in case of emergency conditions in emergency situations, epidemics and in areas of mass casualties	test questions, situational tasks, demonstration of practical skills,

2. Examples of assessment tools and assessment criteria for ongoing monitoring

2.1. Examples of incoming control

1. Danger as the central concept of Life Safety. Sources of danger formation.
Hazard classification. Hazard identification
2. Radioactive contamination of the area. On what factors does the degree depend?
radioactive contamination of the area.
3. Biological emergencies: definition, classification.
Main sources, causes, main damaging factors.

Evaluation criteria, grading scale pass/fail

Rating	Description
"passed"	Demonstrates a thorough understanding of the problem. All requirements for the task have been met
"not passed"	Demonstrates a lack of understanding of the problem. Many requirements for the assignment have not been met. No answer.

2.2. Examples of test tasks:

ID-1 UK-8.1
Question title: The military chemical reconnaissance device is designed to detect toxic agents and highly toxic substances:

1. In human biological fluids
2. In water samples
3. In the air, on the ground, on the surface of various objects
4. In bulk materials

ID-2 UK-8.2
Question title: indicate the factor affecting the health of the evacuated population:

1. location of reception points for the evacuated population.
2. type of vehicle for evacuation of the population
3. deterioration of the sanitary and epidemiological situation
4. great physical activity

ID-3 UK-8.3
Question title: indicate the factor affecting the health of the evacuated population:

1. location of reception points for the evacuated population.
2. type of vehicle for evacuation of the population
3. deterioration of the sanitary and epidemiological situation
4. great physical activity

ID-4 UK-8.4
Question title: When performing CPR with one rescuer, the ratio of inhalation to chest compression is:

1. 2:30
2. 2:15
3. 1:15
4. 1:30

ID-5 UK-8.5
Question title: In the system of staged treatment of the wounded, there is the following type of assistance:

1. first aid
2. emergency care
3. ambulance
4. all answers are wrong

ID-1 OPK-6.1
Question title: Reduced assistance includes:

1. providing assistance only to the wounded
2. providing only surgical care
3. providing only therapeutic assistance
4. Providing assistance aimed at saving the lives of the wounded and sick

ID-2 OPK-6.2
Question title:
Indicate the initial signs of OP poisoning when taken orally:

1. Vomiting
2. Spasm of accommodation
3. Difficulty breathing
4. Myofibrillation at the application site

ID-3 OPK-6.3
Question title:
What refers to sorting characteristics:

1. lack of consciousness in the victim
2. presence of external bleeding
3. danger to others
4. all answers are wrong

Evaluation criteria, test assignment grading scale

Rating		**Description**
"excellent"	5	Completed in full – 91%-100%
"good"	4	Not fully implemented – 81%-90%
"satisfactory"	3	Completed with deviation – 71%-80%
"unsatisfactory"	2	Partially completed – 70% or less correct answers

2.3. Examples of algorithms for demonstrating practical skills

ID-4 UK-8.4
1. Algorithm for demonstrating practical skills

No.	Student action
1	Remove the syringe tube from the first aid kit
2	Grip the cannula by the ribbed rim with one hand, the body with the other and turn the body clockwise until it stops to pierce the membrane
3	Holding the syringe tube by the cannula, remove the cap protecting the needle
4	Holding the syringe tube by the ribbed rim of the cannula and without squeezing the tube body with your fingers, insert the needle into the soft tissues of the thigh, buttock or shoulder (possibly through clothing) to the cannula
5	Squeeze out the contents of the tube by squeezing its body
6	Without unclenching your fingers, remove the needle
7	Using a needle, attach the used syringe tube to the victim's clothing or bandage

ID-5 UK-8.5

1. Algorithm for demonstrating practical skills

No.	Student action
1	Secure the victim's cervical spine with one hand, place the other on his forehead and straighten the head with a smooth movement
2	Move both hands to the victim's lower jaw with the 4th and 5th fingers to grab the corners of the lower jaw and place the thumbs in the chin area and move the lower jaw forward
3	Press the thumbs on the chin to open the victim's mouth
4	Assess whether the victim has begun to breathe independently, and if so, evaluate its effectiveness
5	Inspect the oropharynx for foreign bodies

ID-1 OPK-6.1

1. Algorithm for demonstrating practical skills

No.	Student action
1	As indicated, anesthetize the victim using the AI first aid kit
2	Prepare a shield for transporting the victim
3	On command, move the victim to the shield
4	Bend the victim's legs at the knees and spread them apart
5	Put a service roller or a roller made from improvised materials under your knees

ID-2 OPK-6.2

1. Algorithm for demonstrating practical skills

No.	Student action
1	Established contact with patient
2	Properly examined the patient's chest
3	Correctly opened the PPI
4	Properly using the outer shell of the PPI closed the wound hole
5	Using the contents of the PPI correctly, I applied a fixing bandage over the outer shell of the PPI

ID-3 OPK-6.3

1. Algorithm for demonstrating practical skills

No.	Student action
1	Selected the sorting marks and RHR devices necessary for the work
2	In arriving patients and/or accompanying persons, by interviewing and/or testing the degree of their infection with BOV, AOXV, RV using RHR devices, I found out whether the victims had the triage criterion “Danger to others”
3	When the victim’s sorting sign “Danger to others” was identified, he designated his sorting decision with the corresponding sorting mark.
4	Indicated the path for further routing of this victim

Evaluation criteria, scale for demonstrating practical skills

Rating		**Description**
"excellent"	5	Knows the methodology for performing practical skills, indications and contraindications, possible complications, standards, etc., independently demonstrates the implementation of practical skills without errors
"good"	4	Knows the methodology for performing practical skills, indications and contraindications, possible complications, standards, etc., independently demonstrates the implementation of practical skills, allowing for some

Rating		Description
		inaccuracies (minor errors), which he independently detects and quickly corrects
"satisfactory"	3	Knows the basic principles of the methodology for performing practical skills, indications and contraindications, possible complications, standards, etc., demonstrates the implementation of practical skills, making some mistakes that can be corrected when corrected by the teacher
"unsatisfactory"	2	Does not know the methodology for performing practical skills, indications and contraindications, possible complications, standards, etc., cannot independently demonstrate practical skills or performs them making gross mistakes

2.4. Examples of essay topics

ID-1 UK-8.1
1. Emergency situations of man-made nature. Classification, causes, main damaging factors.

ID-2 UK-8.2
1. Nuclear weapons, definition, classification. Types of nuclear explosions. History of the use of nuclear weapons. Damaging factors of a nuclear explosion.

ID-3 UK-8.3
1. Preparation and organization of health care facilities in high readiness mode.

ID-4 UK-8.4
1. Organization of medical and evacuation measures in emergency situations.
Basic sorting principles.

ID-5 UK-8.5
1. Types of medical care: definition, place of provision, forces and means.

ID-1 OPK-6.1
1. First medical aid (self- and mutual aid): goals and objectives, scope
activities, sequence of assistance. Usage
available means for carrying it out.

ID-2 OPK-6.2
1. Basic legal documents regulating the procedure for providing first aid and defining a list of conditions, general principles, and a list of measures for providing first aid.

ID-3 OPK-6.3
1. Determining the order of first aid at the site of the lesion.
Criteria for evacuation from the affected area in the first place.

Evaluation criteria, abstract grading scale

Rating		Description
"excellent"	5	All requirements for writing and defending an abstract are met: the problem is identified and its relevance is justified, a brief analysis of various points of view on the problem under consideration is made and one’s own position is logically presented, conclusions are formulated, the topic is fully

Rating		Description
		disclosed, the scope is maintained, the requirements for external design are met, the correct answers to additional questions are given
"good"	4	The basic requirements for the abstract and its defense have been met, but there are some shortcomings; in particular, there are inaccuracies in the presentation of the material; there is no logical consistency in judgments; the scope of the abstract is not maintained; there are omissions in design; Incomplete answers were given to additional questions during the defense
"satisfactory"	3	There are significant deviations from the abstracting requirements; in particular: the topic is only partially covered; there were factual errors in the content of the abstract or in answering additional questions; no output during protection
"unsatisfactory"	2	The topic of the abstract is not disclosed, a significant misunderstanding of the problem is revealed, or the abstract is not presented at all

2.5. Sample checklist:

ID-1 UK-8.1
1. Chemical accident: causes, main damaging factors.

ID-2 UK-8.2
1. Zone of chemical contamination and focus of chemical damage. Basic physical and chemical properties of substances that are important for the formation of zones of chemical contamination.

ID-3 UK-8.3
1. Organization of work of health care facilities in emergency mode.

ID-4 UK-8.4
1. Collective technical means of protection

ID-5 UK-8.5
1. The main causes of obstruction of the upper respiratory tract. Methods and techniques for their
elimination.

ID-1 OPK-6.1
1. Toxicological characteristics of chlorine. Characteristics of the lesion. Providing assistance in the outbreak and during the stages of medical evacuation.

ID-2 OPK-6.2
1. General principles of treatment of acute poisoning.

ID-3 OPK-6.3
1. Medical means of anti-radiation protection. Stable iodine preparations, mechanism of protective action.

Evaluation criteria, assessment scale for control questions

Rating		Description
"excellent"	5	Knows all the educational material, understands it perfectly and has thoroughly mastered it. Gives correct, conscious and confident answers to questions (within the program). In oral answers he uses literary correct language and does not make mistakes.
"good"	4	Knows all the required educational material, understands it well and has mastered it firmly. Answers questions (within the program) without difficulty. In oral answers he uses literary language and does not make gross mistakes
"satisfactory"	3	Knows basic educational material. Answers questions (within the limits of the program) with difficulty. In oral answers, he makes mistakes when presenting the material and in constructing his speech.
"unsatisfactory"	2	Does not know most of the educational material, answers, as a rule, only to the teacher's leading questions, hesitantly. Makes frequent and serious mistakes in oral answers

2.6. Examples of situational tasks:

ID-1 UK-8.1

Main part

A patient who had been in the area of a nuclear explosion for 3 hours was brought to the medical station. Complains of general weakness, headache, thirst, dry and bitter mouth, nausea, and repeated frequent vomiting. The patient is lethargic, the skin of the face and neck is hyperemic. According to the personal dosimeter, I received 4.5 Gy.

Questions:

1. Will the patient develop radiation sickness, what is the minimum absorbed dose of radiation for its development?
2. If it develops, what is the clinical form?
3. Period of illness?
4. The mechanism (pathogenesis) of the development of this form of radiation sickness?

ID-2 UK-8.2

Main part

When working with chemicals, a serviceman dropped several drops of an oily liquid onto the skin of his hand, which was not protected by gloves. He washed his hands with water and applied an aseptic bandage.

After 8 hours, he showed the first signs of intoxication - headache, chest pain, fever, and at the site of the liquid contact appeared: skin hyperemia, blisters with hemorrhagic fluid, sharp pain, burning and itching.

Questions:

1. Your conclusion on the nature, type and extent of the lesion.
2. Mechanism of action of the toxicant.
3. Procedure for providing first aid; first aid.
4. Justify the presence or absence of the possibility of antidote therapy.

ID-3 UK-8.3

Main part

A 30-year-old man participated in repair and restoration work in the area of organophosphorus compounds (OPC) contamination. They used the following protective equipment - a filter-type personal respiratory protection device - a PG-7 gas mask, personal skin protective equipment - an isolating type general-arms protective kit (OZK) in the form of

overalls. After an hour of work at an ambient temperature of + 38 0C, the employee lost consciousness.
The partners administered a self- and mutual-aid antidote from AI-2 - Athens 1 ml, after which the victim was taken to a medical center, where he was given special treatment with replacement of underwear and clothing.
Upon examination: the body is dry and hot on palpation, the mucous membranes of the mouth and nose are dry, the face is red, puffy, the pupils are constricted, nystagmus, breathing is uneven, shallow, the pulse is weak, rapid, twitching of muscle fibers is noticeable on the torso and thighs.

Questions:

1. Your conclusion on the nature, type and extent of the lesion.
2. The mechanism of action of the damaging factor.
3. Procedure for providing first aid; first aid.
4. Method and direction of evacuation

ID-4 UK-8.4

Main part

As a result of a large-scale accident at a nuclear facility, a nuclear reactor was destroyed. Nuclear fuel and fission products accumulated during reactor operation were released into the environment.
In 20 minutes, emergency rescue team specialists will have to enter the source formed as a result of a radiation accident to carry out rescue operations lasting 1 hour, while the absorbed dose may exceed 1 Gy

Questions:

1. Are there indications for the use of prophylactic anti-radiation agents in this case? If so, what kind of prophylactic anti-radiation agents would you use?
2. What radioprotectors should be used in this situation? Justify their purpose. What is the order of use?
3. What means of preventing the general primary reaction to radiation should be prescribed in this situation? Justify their purpose. What is the order of use?
4. What drugs intended to protect the thyroid gland from damage by radioactive iodine are advisable to prescribe in this situation? What is the procedure for using them?

ID-5 UK-8.5

Main part

The 22-year-old victim was pulled out from under the destroyed building in a moderate condition, conscious, but somewhat lethargic. Blood pressure 100/70 mm Hg, pulse 108 per minute, rhythmic, weak filling. The abdomen is sharply painful on palpation in the navel and lower parts, positive Shchetkin-Blumberg sign. In all parts of the abdomen, muscle tension is detected, in sloping areas - dullness of percussion sound. Intestinal motility is sluggish, he did not urinate.

Questions

1. Your conclusion on the nature, type and extent of the lesion.
2. The mechanism of action of the damaging factor.
3. Procedure for providing first aid; first aid.
4. Method and direction of evacuation.

ID-1 OPK-6.1

Main part

The wounded man is conscious and restless. Complaints about lack of air. Breathing is frequent and shallow. Facial cyanosis. Pulse is frequent. In the left subscapular region there is

a moderately bleeding wound 3x2 cm. Severe subcutaneous emphysema of the trunk, upper limbs, and head. Air temperature -5*C.

Questions

1. Your conclusion on the nature, type and extent of the lesion.
2. The mechanism of action of the damaging factor.
3. Procedure for providing first aid; first aid.
4. Method and direction of evacuation.

ID-2 OPK-6.2

Main part

As a result of a technological accident at a chemical plant, phosgene was released into the atmosphere of a production area where several workers were located.

Questions:

1. Approximately how long will it take for workers to show signs of phosgene poisoning.
2. Toxicological characteristics of this substance.
3. Mechanisms of toxic action.
4. Main clinical manifestations of poisoning.
5. First aid for poisoning

ID-3 OPK-6.3

Main part

The victim, 49 years old, was in a residential building during the accident at the nuclear power plant. Complaints of headache, weakness, nausea, single vomiting, dizziness, irritability. Indications of an individual dosimeter 2 Gy

Upon examination: consciousness is clear, the skin is clean, of normal color.

Pulse 72 beats per minute, blood pressure 110/55 mmHg, respiratory rate - 18 per minute.

Questions:

1. Your conclusion on the nature, type and extent of the lesion.
2. The mechanism of action of the damaging factor.
3. Procedure for providing first aid; first aid.
4. Sequence and method of evacuation.

Evaluation criteria, rating scale for situational tasks

Rating		**Description**
"excellent"	5	Explanation of the process of solving a situational problem is detailed, consistent, competent, with theoretical justifications, with the necessary schematic images and visual demonstrations, with correct and fluent use of terminology; answers to additional questions are correct and clear
"good"	4	Explanation of the process of solving a situational problem is detailed, but not logical enough, with isolated errors in details, some difficulties in theoretical justification, schematic images and visual demonstrations, answers to additional questions are correct, but not clear enough
"satisfactory"	3	Explanation of the process of solving a situational problem is insufficiently complete, inconsistent, with errors, weak theoretical justification, with significant difficulties and errors in schematic images and visual demonstrations, answers to additional questions are not clear enough, with errors in details

"unsatisfactory"	2	The explanation of the process of solving a situational problem is given incompletely, inconsistently, with gross errors, without theoretical justification, without the ability to provide schematic images and visual demonstrations or with a large number of errors, answers to additional questions are incorrect or missing

3. Current control procedure

Current monitoring of academic performance in the discipline is carried out in the form of: test control, control questions (orally or in writing), writing and defending an abstract, solving situational problems, performing practical skills.

4. Examples of assessment tools and assessment criteria for intermediate certification

4.1. Sample checklist of questions to prepare for the exam:

ID-1 UK-8.1

Organization of population protection during emergencies: basic principles, methods, activities. Protective structures: classification, characteristics. Shelters: characteristics, organization.

ID-2 UK-8.2

1. Zone of chemical contamination and focus of chemical damage. Basic physical and chemical properties of substances that are important for the formation of zones of chemical contamination.

ID-3 UK-8.3

1. Organization of work of health care facilities in emergency mode.

ID-4 UK-8.4

1. Collective technical means of protection

ID-5 UK-8.5

1. The main causes of obstruction of the upper respiratory tract. Methods and techniques for their
elimination.

ID-1 OPK-6.1

1. Toxicological characteristics of chlorine. Characteristics of the lesion. Providing assistance in the outbreak and during the stages of medical evacuation.

ID-2 OPK-6.2

1. Medical means of protection and first aid in case of injury from radioactive substances.

ID-3 OPK-6.3

1. Medical and tactical characteristics of foci of organophosphorus toxic-agent exposure. Structure of losses, procedure for providing first medical and first aid at the source of damage and at the stages of medical evacuation

Evaluation criteria, assessment scale for control questions

Rating	Description

Rating		Description
"excellent"	5	Knows all the educational material, understands it perfectly and has thoroughly mastered it. Gives correct, conscious and confident answers to questions (within the program). In oral answers he uses literary correct language and does not make mistakes.
"good"	4	Knows all the required educational material, understands it well and has mastered it firmly. Answers questions (within the program) without difficulty. In oral answers he uses literary language and does not make gross mistakes
"satisfactory"	3	Knows basic educational material. Answers questions (within the limits of the program) with difficulty. In oral answers, he makes mistakes when presenting the material and in constructing his speech.
"unsatisfactory"	2	Does not know most of the educational material, answers, as a rule, only to the teacher's leading questions, hesitantly. Makes frequent and serious mistakes in oral answers

4.2. Examples of situational tasks:

ID-1 UK-8.1

Main part

A patient who had been in the area of a nuclear explosion for 3 hours was brought to the medical station. Complains of general weakness, headache, thirst, dry and bitter mouth, nausea, and repeated frequent vomiting. The patient is lethargic, the skin of the face and neck is hyperemic. According to the personal dosimeter, I received 4.5 Gy.

Questions:

4. Will the patient develop radiation sickness, what is the minimum absorbed dose of radiation for its development?
5. If it develops, what is the clinical form?
6. Period of illness?

4. The mechanism (pathogenesis) of the development of this form of radiation sickness?

ID-2 UK-8.2

Main part

When working with chemicals, a serviceman dropped several drops of an oily liquid onto the skin of his hand, which was not protected by gloves. He washed his hands with water and applied an aseptic bandage.

After 8 hours, he showed the first signs of intoxication - headache, chest pain, fever, and at the site of the liquid contact appeared: skin hyperemia, blisters with hemorrhagic fluid, sharp pain, burning and itching.

Questions:

1. Your conclusion on the nature, type and extent of the lesion.
2. Mechanism of action of the toxicant.
3. Procedure for providing first aid; first aid.
4. Justify the presence or absence of the possibility of antidote therapy.

ID-3 UK-8.3

Main part

A 30-year-old man participated in repair and restoration work in the area of organophosphorus compounds (OPC) contamination. They used the following protective equipment - a filter-type personal respiratory protection device - a PG-7 gas mask, personal skin protective equipment - an isolating type general-arms protective kit (OZK) in the form

of overalls. After an hour of work at an ambient temperature of + 38 0C, the employee lost consciousness.

The partners administered a self- and mutual-aid antidote from AI-2 - Athens 1 ml, after which the victim was taken to a medical center, where he was given special treatment with replacement of underwear and clothing.

Upon examination: the body is dry and hot on palpation, the mucous membranes of the mouth and nose are dry, the face is red, puffy, the pupils are constricted, nystagmus, breathing is uneven, shallow, the pulse is weak, rapid, twitching of muscle fibers is noticeable on the torso and thighs.

Questions:

1. Your conclusion on the nature, type and extent of the lesion.
2. The mechanism of action of the damaging factor.
3. Procedure for providing first aid; first aid.
4. Method and direction of evacuation

ID-4 UK-8.4

Main part

As a result of a large-scale accident at a nuclear facility, a nuclear reactor was destroyed. Nuclear fuel and fission products accumulated during reactor operation were released into the environment.

In 20 minutes, emergency rescue team specialists will have to enter the source formed as a result of a radiation accident to carry out rescue operations lasting 1 hour, while the absorbed dose may exceed 1 Gy

Questions:

1. Are there indications for the use of prophylactic anti-radiation agents in this case? If so, what kind of prophylactic anti-radiation agents would you use?
2. What radioprotectors should be used in this situation? Justify their purpose. What is the order of use?
3. What means of preventing the general primary reaction to radiation should be prescribed in this situation? Justify their purpose. What is the order of use?
4. What drugs intended to protect the thyroid gland from damage by radioactive iodine are advisable to prescribe in this situation? What is the procedure for using them?

ID-5 UK-8.5

Main part

The 22-year-old victim was pulled out from under the destroyed building in a moderate condition, conscious, but somewhat lethargic. Blood pressure 100/70 mm Hg, pulse 108 per minute, rhythmic, weak filling. The abdomen is sharply painful on palpation in the navel and lower parts, positive Shchetkin-Blumberg sign. In all parts of the abdomen, muscle tension is detected, in sloping areas - dullness of percussion sound. Intestinal motility is sluggish, he did not urinate.

Questions

1. Your conclusion on the nature, type and extent of the lesion.
2. The mechanism of action of the damaging factor.
3. Procedure for providing first aid; first aid.
4. Method and direction of evacuation.

ID-1 OPK-6.1

Main part

The wounded man is conscious and restless. Complaints about lack of air. Breathing is frequent and shallow. Facial cyanosis. Pulse is frequent. In the left subscapular region there

is a moderately bleeding wound 3x2 cm. Severe subcutaneous emphysema of the trunk, upper limbs, and head. Air temperature -5*C.

Questions

1. Your conclusion on the nature, type and extent of the lesion.
2. The mechanism of action of the damaging factor.
3. Procedure for providing first aid; first aid.
4. Method and direction of evacuation.

ID-2 OPK-6.2

Main part

As a result of a technological accident at a chemical plant, phosgene was released into the atmosphere of a production area where several workers were located.

Questions:

5. Approximately how long will it take for workers to show signs of phosgene poisoning.
6. Toxicological characteristics of this substance.
7. Mechanisms of toxic action.
8. Main clinical manifestations of poisoning.

5. First aid for poisoning

ID-3 OPK-6.3

Main part

The victim, 49 years old, was in a residential building during the accident at the nuclear power plant. Complaints of headache, weakness, nausea, single vomiting, dizziness, irritability. Indications of an individual dosimeter 2 Gy

Upon examination: consciousness is clear, the skin is clean, of normal color. Pulse 72 beats per minute, blood pressure 110/55 mm Hg, respiratory rate – 18 per minute.

Questions:

1. Your conclusion on the nature, type and extent of the lesion.
2. The mechanism of action of the damaging factor.
3. Procedure for providing first aid; first aid.
4. Sequence and method of evacuation.

Evaluation criteria, rating scale for situational tasks

Rating		**Description**
"excellent"	5	Explanation of the process of solving a situational problem is detailed, consistent, competent, with theoretical justifications, with the necessary schematic images and visual demonstrations, with correct and fluent use of terminology; answers to additional questions are correct and clear
"good"	4	Explanation of the process of solving a situational problem is detailed, but not logical enough, with isolated errors in details, some difficulties in theoretical justification, schematic images and visual demonstrations, answers to additional questions are correct, but not clear enough
"satisfactory"	3	Explanation of the process of solving a situational problem is insufficiently complete, inconsistent, with errors, weak theoretical justification, with significant difficulties and errors in schematic images and visual demonstrations, answers to additional questions are not clear enough, with errors in details
"unsatisfactory"	2	The explanation of the process of solving a situational

		problem is given incompletely, inconsistently, with gross errors, without theoretical justification, without the ability to provide schematic images and visual demonstrations or with a large number of errors, answers to additional questions are incorrect or missing

4.3. Examples of algorithms for demonstrating practical skills

ID-4 UK-8.4

1. Algorithm for demonstrating practical skills

No.	Student action
1	Remove the syringe tube from the first aid kit
2	Grip the cannula by the ribbed rim with one hand, the body with the other and turn the body clockwise until it stops to pierce the membrane
3	Holding the syringe tube by the cannula, remove the cap protecting the needle
4	Holding the syringe tube by the ribbed rim of the cannula and without squeezing the tube body with your fingers, insert the needle into the soft tissues of the thigh, buttock or shoulder (possibly through clothing) to the cannula
5	Squeeze out the contents of the tube by squeezing its body
6	Without unclenching your fingers, remove the needle
7	Using a needle, attach the used syringe tube to the victim's clothing or bandage

ID-5 UK-8.5

1. Algorithm for demonstrating practical skills

No.	Student action
1	Secure the victim's cervical spine with one hand, place the other on his forehead and straighten the head with a smooth movement
2	Move both hands to the victim's lower jaw with the 4th and 5th fingers to grab the corners of the lower jaw and place the thumbs in the chin area and move the lower jaw forward
3	Press the thumbs on the chin to open the victim's mouth
4	Assess whether the victim has begun to breathe independently, and if so, evaluate its effectiveness
5	Inspect the oropharynx for foreign bodies

ID-1 OPK-6.1

1. Algorithm for demonstrating practical skills

No.	Student action
1	As indicated, anesthetize the victim using the AI first aid kit
2	Prepare a shield for transporting the victim
3	On command, move the victim to the shield
4	Bend the victim's legs at the knees and spread them apart
5	Put a service roller or a roller made from improvised materials under your knees

ID-2 OPK-6.2

1. Algorithm for demonstrating practical skills

No.	Student action
1	Established contact with patient
2	Properly examined the patient's chest
3	Correctly opened the PPI
4	Properly using the outer shell of the PPI closed the wound hole
5	Using the contents of the PPI correctly, I applied a fixing bandage over the outer shell of the PPI

ID-3 OPK-6.3

1. Algorithm for demonstrating practical skills

No.	Student action
1	Selected the sorting marks and RHR devices necessary for the work
2	In arriving patients and/or accompanying persons, by interviewing and/or testing the degree of their infection with BOV, AOXV, RV using RHR devices, I found out whether the victims had the triage criterion “Danger to others”
3	When the victim’s sorting sign “Danger to others” was identified, he designated his sorting decision with the corresponding sorting mark.
4	Indicated the path for further routing of this victim

Evaluation criteria, scale for demonstrating practical skills

Rating		**Description**
"excellent"	5	Knows the methodology for performing practical skills, indications and contraindications, possible complications, standards, etc., independently demonstrates the implementation of practical skills without errors
"good"	4	Knows the methodology for performing practical skills, indications and contraindications, possible complications, standards, etc., independently demonstrates the implementation of practical skills, allowing for some inaccuracies (minor errors), which he independently detects and quickly corrects
"satisfactory"	3	Knows the basic principles of the methodology for performing practical skills, indications and contraindications, possible complications, standards, etc., demonstrates the implementation of practical skills, making some mistakes that can be corrected when corrected by the teacher
"unsatisfactory"	2	Does not know the methodology for performing practical skills, indications and contraindications, possible complications, standards, etc., cannot independently demonstrate practical skills or performs them making gross mistakes

Evaluation criteria, final grading scale

Rating		**Description**
"excellent"	5	The student answered the theoretical question(s) correctly. Demonstrated excellent knowledge of the training material. Completed the practical task(s) correctly. Demonstrated excellent skills and proficiency in applying acquired knowledge and skills when solving problems within the framework of the educational material. Answered all additional questions
"good"	4	The student answered the theoretical question(s) with minor inaccuracies. Demonstrated good knowledge of the training material. Completed the practical task(s) with minor inaccuracies. Demonstrated good skills and proficiency in applying acquired knowledge and skills when solving problems within the framework of the educational material. Answered most additional questions
"satisfactory"	3	The student answered the theoretical question(s) with significant inaccuracies. Demonstrated satisfactory knowledge of the course material. Completed the practical task(s) with significant inaccuracies. Demonstrated satisfactory skills and abilities to apply the acquired knowledge and skills when solving problems within the framework of the educational material. Made many inaccuracies when answering additional questions

Rating		Description
"unsatisfactory"	2	The student, when answering the theoretical question(s) and performing the practical task(s), demonstrated an insufficient level of knowledge and skills in solving problems within the educational material. There were many incorrect answers when answering additional questions.

5. Intermediate assessment procedure

Intermediate assessment in the discipline is carried out in the form of a credit test. The test includes: an interview on test questions, solving situational problems, and demonstration of practical skills.