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MINISTRY OF EDUCATION AND SCIENCE OF RUSSIA

Federal State Budgetary Educational Institution
of higher education

«I.N. Ulianov Chuvash State University»
(FSBEI of HE «I.N. Ulianov Chuvash State University»)

Medical Faculty

Department of Traumatology, Orthopedics and Extreme Medicine

«APPROVE»

Vice-rector for Academic Affairs


I.E. Poverinov

« 13 » 04 2022

Working programs of the discipline (module) «Медицина катастроф / Disaster Medicine»

Direction of training / specialty 31.05.03 Стоматология / Dentistry
Graduate's qualification Врач-стоматолог / Dental Practitioner

Direction (profile) / specialization «Dentistry»

Form of training – очная / intramural

Course – 3

Term – 6

Total academic hours/credit points – 108/3

The year of beginning the training – 2022

The fundamental document for compiling the working program of the discipline (module)
Федеральный государственный образовательный стандарт высшего образования -
специалитет по специальности 31.05.03 Стоматология (приказ Минобрнауки России от
12.08.2020 г. № 984)

Approved by:

Associate Professor, Candidate of Medical Sciences A.V. Lushin

The working program was approved at the meeting of the Department of Traumatology,
Orthopedics and Extreme Medicine,

25.03.2022, protocol № 7

Head of the department N.S. Nikolaev

Approved by

Dean of the Medical Faculty V.N. Diomidova

Acting Head of the Educational and Methodological Department E.A. Shirmanova

1. The purpose and objectives of training in the discipline (module)

The purpose of the discipline - Prepare the student to provide medical assistance to the affected population, taking into account the specifics of providing assistance to children in emergency situations (emergencies) of a natural and man-made nature.

The objectives of the discipline - • training in the basics of organizing medical care at the stages of medical evacuation to victims during the elimination of the medical and sanitary consequences of emergency situations in conditions of lack of time, diagnostic and therapeutic capabilities;

- mastering students' knowledge and practical skills that allow them to act effectively in emergency situations.

- preparation of students receiving professional education in the specialty for the practical performance of their functional duties in specialized clinics and medical institutions of general and specialized profile.

- consolidation of knowledge and skills on the organization of medical support of the population in emergencies of peacetime and wartime and the solution of medical and tactical tasks for medical support of the population in emergencies.

2. The place of practical training in the structure of the educational program of higher education

The discipline «Медицина катастроф / Disaster Medicine» относится к обязательной части учебного плана refers to the mandatory part in the curriculum of the educational program of higher education (hereinafter referred to as the EP of HE) in the field of training / specialty 31.05.03 Стоматология, direction (profile) / specialization of the program «Dentistry».

Previous academic disciplines (modules) and (or) practices that form the knowledge, skills and abilities necessary for training in the discipline (module):

Knowledge, skills and abilities formed as a result of training in a discipline (module) are necessary when teaching in the following disciplines (modules) and (or) practices:

3. Planned learning outcomes in the discipline (module), correlated with the planned learning outcomes

Planned learning outcomes in the discipline (module), correlated with the planned learning outcomes

Code and name of the competence	Code and name of the competence achievement	Descriptors for the indicator of competence achievement (learning)
УК-8 Способен создавать и поддерживать в повседневной жизни и в профессиональной деятельности безопасные условия жизнедеятельности для сохранения природной среды, обеспечения устойчивого развития общества, в том числе при угрозе и возникновении	УК-8.1 Способен выявлять и анализировать природные и техногенные факторы вредного влияния на среду обитания, социальной жизни и профессиональной деятельности, доводить информацию до компетентных структур /	

<p>чрезвычайных ситуаций и военных конфликтов / He/she is able to create and maintain safe living conditions in everyday life and in professional activities to preserve natural environment, ensuring sustainable development of society, including in the face of a threat and advent of emergencies and military conflicts</p>	<p>He/she is able to identify and analyze natural and man-caused factors of harmful influence on the environment, social life and professional activities, bring information to responsible authorities</p>	
<p>УК-8 Способен создавать и поддерживать в повседневной жизни и в профессиональной деятельности безопасные условия жизнедеятельности для сохранения природной среды, обеспечения устойчивого развития общества, в том числе при угрозе и возникновении чрезвычайных ситуаций и военных конфликтов / He/she is able to create and maintain safe living conditions in everyday life and in professional activities to preserve natural environment, ensuring sustainable development of society, including in the face of a threat and advent of emergencies and military conflicts</p>	<p>УК-8.2 Способен создавать и поддерживать безопасные условия жизни и профессиональной деятельности, соблюдать правила безопасности / He/she is able to create and maintain safe living and professional conditions, comply with safety rules</p>	
<p>УК-8 Способен создавать и поддерживать в повседневной жизни и в профессиональной деятельности безопасные условия жизнедеятельности для сохранения природной среды, обеспечения устойчивого развития общества, в том числе при угрозе и возникновении чрезвычайных ситуаций и военных конфликтов /</p>	<p>УК-8.3 Способен действовать в соответствии с имеющимися инструкциями и рекомендациями, знаниями, опытом; способен оказать первую медицинскую помощь пострадавшим при возникновении чрезвычайных ситуаций / He/she is able to act in accordance with</p>	

<p>He/she is able to create and maintain safe living conditions in everyday life and in professional activities to preserve natural environment, ensuring sustainable development of society, including in the face of a threat and advent of emergencies and military conflicts</p>	<p>available instructions and recommendations, knowledge, experience; he/she is able to provide first aid to victims in emergency situations</p>	
<p>ОПК-7 Способен организовывать работу и принимать профессиональные решения при неотложных состояниях, в условиях чрезвычайных ситуаций, эпидемий и в очагах массового поражения / He/she is able to organize work and make professional decisions in urgent conditions, in emergency situations, epidemics and in foci of mass destruction</p>	<p>ОПК-7.1 Способен применить алгоритм оказания первичной медико-санитарной помощи при неотложных состояниях / He/she is able to apply the algorithm of primary health care in emergency conditions</p>	<ol style="list-style-type: none"> 1. ways and means of protecting the population, patients, medical personnel and property of medical institutions in an emergency situation; 2. fundamentals of the organization of medical evacuation measures in emergency situations; 3. medical forces and means designed to provide medical assistance to the affected population in emergency situations; 4. fundamentals of the organization and implementation of sanitary and anti-epidemic measures in emergency situations; 5. fundamentals of the organization of medical supply of formations and institutions designed to eliminate the consequences of an emergency; 6. goals, objectives and basic concepts of toxicology and medical protection; 7. characteristics of chemical and radiation lesions; 8. fundamentals of chemical and radiation situation assessment; 9. medical means of prevention and medical care of those affected by ionizing radiation, THV and BS; 10. the basics of organizing and conducting special treatment of the population and territory; 11. radiation damage as a result of external and internal irradiation; 12. the order of interaction of medical units and institutions in

		<p>the elimination of consequences in the lesions ;</p> <ol style="list-style-type: none"> 1. use medical protective equipment; 2. to carry out sanitary and hygienic and anti-epidemic measures in the lesions; 3. assess the chemical and radiation situation; 4. to use medical and other types of property that are provided by formations and institutions of the medical service of disaster medicine. <ol style="list-style-type: none"> 1. To carry out measures to provide primary health care in emergency conditions 2. Perform basic cardiopulmonary resuscitation in combination with electro-pulse therapy (defibrillation) 3. Use of medicines and medical devices when providing medical care in emergency or urgent forms
<p>ОПК-7 Способен организовывать работу и принимать профессиональные решения при неотложных состояниях, в условиях чрезвычайных ситуаций, эпидемий и в очагах массового поражения / He/she is able to organize work and make professional decisions in urgent conditions, in emergency situations, epidemics and in foci of mass destruction</p>	<p>ОПК-7.2 Способен выявлять состояния, требующие оказания первичной медико-санитарной помощи, в том числе клинические признаки внезапного прекращения кровообращения и дыхания / He/she is able to identify conditions requiring primary health care, including clinical signs of sudden cessation of circulation and breathing</p>	<ol style="list-style-type: none"> 1. goals, objectives and basic concepts of toxicology and medical protection; 2. characteristics of chemical and radiation lesions; 3. fundamentals of chemical and radiation situation assessment; 4. medical means of prevention and medical care for those affected by ionizing radiation, harmful toxic substances and bacterial agents; 5. Clinical signs of sudden cessation of blood circulation and/or respiration 6. Rules of basic cardiopulmonary resuscitation <ol style="list-style-type: none"> 1. Identify conditions requiring emergency medical care, including clinical signs of sudden cessation of blood circulation and respiration 2. To identify clinical signs of conditions requiring urgent medical care <ol style="list-style-type: none"> 1. To carry out measures to provide medical care in an emergency form

		<p>2. Perform basic cardiopulmonary resuscitation in combination with electro-pulse therapy (defibrillation)</p> <p>3. Use of medicines and medical devices when providing medical care in emergency or urgent forms</p>
<p>ОПК-7 Способен организовывать работу и принимать профессиональные решения при неотложных состояниях, в условиях чрезвычайных ситуаций, эпидемий и в очагах массового поражения / He/she is able to organize work and make professional decisions in urgent conditions, in emergency situations, epidemics and in foci of mass destruction</p>	<p>ОПК-7.3 Способен оказывать первичную медико-санитарную помощь пациентам при состояниях, представляющих угрозу жизни пациентов, в том числе клинической смерти (остановка жизненно важных функций организма человека (кровообращения и (или) дыхания) / He/she is able to provide primary health care to patients in conditions that represent a threat to the life of patients, including clinical death (cessation of the vital human body functions (blood circulation and (or) breathing)</p>	<p>1. Issues of organization of sanitary and antiepidemic (preventive) measures in order to prevent the occurrence and spread of infectious diseases</p> <p>1. Fundamentals of resuscitation: basic methods of resuscitation in case of sudden circulatory arrest, acute respiratory failure syndromes, allergic, comatose states, hanging, drowning, when exposed to physical factors, features of resuscitation and intensive care in children and newborns;</p> <p>2. fundamentals of diagnostics and emergency care when exposed to high doses of radiation, acute radiation sickness</p> <p>3. fundamentals of diagnosis and emergency care for acute exogenous poisoning.</p> <p>4. fundamentals of diagnostics and emergency care for high-temperature and cold injury</p> <p>5. fundamentals of diagnostics and emergency care for injuries of the musculoskeletal system;</p> <p>1. to provide first, pre-medical and first medical aid to the affected population in emergency situations of peacetime and wartime;</p> <p>2. perform their functional duties when working as part of formations and institutions of the disaster medicine service;</p> <p>3. to carry out basic measures to protect the population, patients, medical personnel and property from damaging factors of various types of weapons and in emergency situations;</p> <p>1. elements of general anesthesia</p>

		used at the prehospital stage. 2. aspiration of fluid from the respiratory tract by oro- and nasotracheal methods; 3. artificial ventilation of the lungs without devices and with the help of specialized devices, including high-frequency ventilation; 4. cardiopulmonary resuscitation 5. puncture and catheterization of peripheral veins and arteries, including central veins (external jugular, subclavian, femoral); 6. oxygen inhalation; 7. gastric lavage; 8. methods of temporary stopping of bleeding; 9. transport immobilization; 10. applying bandages;
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4. Structure, scope and content of the discipline (module)

Educational activities in the discipline (module) are carried out:

- in the form of students' face-to-face work with the teaching staff of the organization and (or) persons involved by the organization to implement the educational programs on other terms (hereinafter - contact work);

- in the form of students' independent work.

Face-to-face work can be classroom-based, extramural, as well as it can be conducted in an electronic information and educational environment (EIEE).

Learning sessions in the discipline (module) and interim assessment of students are conducted in the form of face-to-face work and in the form of students' independent work.

During learning sessions in the discipline (module) face-to-face work includes: lecture-type classes, seminar-type classes and (or) group consultations, and (or) individual work of students with the teaching staff of the organization and (or) persons involved by the organization to implement the educational programs on other terms (including individual consultations).

Legend:

Lec – lectures, Lab – laboratory work, Pr – practical classes, ICW – individual face-to-face work, IW – independent work.

4.1. Content of the discipline (module)

Section name	The section's content	Formed competences	Competence achievement indicator
Section 1. Organization of the Disaster Medicine Service in the Russian Federation	Tasks and fundamentals of the organization of a unified state system for the prevention and liquidation of emergency situations	ОПК-7	ОПК-7.1, ОПК-7.2, ОПК-7.3
Section 1. Organization of the Disaster Medicine	Tasks, organizational structure and fundamentals		

Service in the Russian Federation	of the All-Russian Disaster Medicine Service		
Section 1. Organization of the Disaster Medicine Service in the Russian Federation	Medical and sanitary provision of the population during the elimination of the consequences of man-made and natural emergencies	ОПК-7	ОПК-7.1, ОПК-7.2, ОПК-7.3
	Preparation of a medical and preventive institution for work in emergency situations		
Section 2 Principles of diagnosis of diseases and methods of providing medical assistance at the stages of evacuation to victims of emergencies	Principles of medical sorting of victims at the stage of pre-medical and first aid		
	Modern diagnostic methods and assistance at the stages of medical evacuation for bleeding.		
	Diagnosis and assistance at the stages of medical evacuation in case of thermal injuries (high temperature and cold injury)		
	Principles of assistance at the stages of medical evacuation in case of mine-explosion injury.		
	Principles of assistance at the stages of medical evacuation when exposed to a large dose of radiation. Acute and chronic radiation sickness		
	Toxicology. Poisoning of AHS and BOV. Diagnostics. Emergency care for poisoning at the stages of medical evacuation.		
Section 2 Principles of diagnosis of diseases and methods of providing medical assistance at the	Injuries and closed injuries to the head and neck. Diagnosis and assistance at the stages of medical		

stages of evacuation to victims of emergencies	evacuation.		
Section 2 Principles of diagnosis of diseases and methods of providing medical assistance at the stages of evacuation to victims of emergencies	Wounds and injuries of the thoracic cavity and abdomen. Diagnosis and assistance at the stages of medical evacuation	ОПК-7	ОПК-7.1, ОПК-7.2, ОПК-7.3

4.2. Scope of the discipline and types of academic work

Forms of control and types of academic work	Labor intensity of the discipline (module)		
	6	total	
1. Face-to-face work:	48,2	48,2	
In-class learning in total, including:	48	48	
Лекционные занятия (Лек)	16	16	
Лабораторные занятия (Лаб)	32	32	
Индивидуальная контактная работа (ИКР)	0,2	0,2	
2. Independent work of the student:	59,8	59,8	
3. Intermediate certification (exam) (зачет)	3а	3а	
Total:	academic hours	108	108
	credit units	3	3

№ item	The section's (theme's) name	Face-to face work, including in the electronic information and educational environment, academic hours				IW, academic hours	Total, academic hours
		Lect.	Pr.	Lab.	ICW		
	Section 1. Organization of the Disaster Medicine Service in the Russian Federation						
1	Tasks and fundamentals of the organization of a unified state system for the prevention and liquidation of emergency situations	2		2		8	12

2	Tasks, organizational structure and fundamentals of the All-Russian Disaster Medicine Service	2				9	11
3	Medical and sanitary provision of the population during the elimination of the consequences of man-made and natural emergencies	2		2		9	13
4	Preparation of a medical and preventive institution for work in emergency situations	2		2		9	13
	Section 2 Principles of diagnosis of diseases and methods of providing medical assistance at the stages of evacuation to victims of emergencies						
5	Principles of medical sorting of victims at the stage of pre-medical and first aid	2		2		8,8	12,8
6	Modern diagnostic methods and assistance at the stages of medical evacuation for bleeding.			4	0,2		4,2
7	Diagnosis and assistance at the stages of medical evacuation in case of thermal injuries (high temperature and cold injury)			4		8	12
8	Principles of assistance at the stages of medical evacuation in case of mine-explosion injury.			4		8	12
9	Principles of assistance at the stages of medical evacuation when exposed to a large dose of radiation. Acute and chronic radiation sickness	2		4			6
10	Toxicology. Poisoning of AHS and BOV. Diagnostics. Emergency care for poisoning at the stages of medical evacuation.	2		2			4
11	Injuries and closed injuries to the head and neck. Diagnosis and assistance at the stages of medical evacuation.	2		4			6
12	Wounds and injuries of the thoracic cavity and abdomen. Diagnosis and assistance at the stages of medical evacuation			2			2

Total academic hours	16		32	0,2	59,8	108
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4.3. Summary of the discipline (module), structured by sections (topics)

Раздел 1. Section 1. Organization of the Disaster Medicine Service in the Russian Federation

Тема 1. Tasks and fundamentals of the organization of a unified state system for the prevention and liquidation of emergency situations

Лекционное занятие. Tasks and fundamentals of the organization of the Unified State system of prevention and liquidation of emergency situations.

General characteristics of peacetime emergencies:

- definition of basic concepts and classification of emergencies;
- medical and sanitary consequences of emergency situations: definition of the concept, time-consuming factors of emergency situations, the concept of human losses in emergency situations, elements of medical and tactical characteristics of emergency situations.

Definition, tasks and basic principles of the construction and functioning of the Unified State System for the Prevention and Liquidation of Emergency Situations (RSChS).

Organization of a Unified State system for the prevention and liquidation of emergency situations:

- territorial and functional subsystems and management levels of emergency situations;
- list of federal emergency prevention and liquidation services;
- the concept of permanent day-to-day management bodies, operational management support bodies (control points),

Лабораторное занятие. Tasks and fundamentals of the organization of the Unified State system of prevention and liquidation of emergency situations.

1) Control of the initial level of knowledge of students on test questions.

2) Analysis with the teacher of complex issues of the topic that remained unclear after self-preparation for a practical lesson.

General characteristics of peacetime emergencies.

Classification of peacetime and wartime emergencies by occurrence and scale of consequences. Stages of emergency development. The main reasons for their occurrence. Damaging factors in emergency situations.

Definition, tasks and basic principles of the construction and functioning of the Unified State System for the Prevention and Liquidation of Emergency Situations (RSChS).

Organization of the Unified State System of prevention and liquidation of emergency situations:

Tasks, forces and means of emergency response in emergency response.

4) Solving situational problems on the topic.

5) Control and evaluation by the teacher of the skills and abilities acquired by students on the topic under study

Тема 2. Tasks, organizational structure and fundamentals of the All-Russian Disaster Medicine Service

Лекционное занятие. Tasks, organizational structure and fundamentals of the All-Russian Disaster Medicine Service.

A brief history of the development of the All-Russian Disaster Medicine Service.

Definition, objectives and basic principles of the VSMK organization.

VSMK Organization:

- federal level;

- regional level;
- territorial level;
- local and object level.

Disaster Medicine Service Management:

- definition;
- VSMK management system, principles of interaction organization;
- management of VSMK in the course of emergency response.

Disaster Medicine Service of the Ministry of Health of Russia:

- formation of the Disaster Medicine Service of the Ministry of Health of Russia;
- field multidisciplinary hospital;
- Specialized medical care teams (BSMP);
- medical and nursing teams (VSB);
- medical field teams of emergency medical care;
- pre-medical teams and paramedic field ambulance teams.

Tasks and organizational structure of the sanitary and epidemiological service for work in emergency situations:

- organization of sanitary and epidemiological service to work in emergency situations;
- tasks and organization of specialized formations of the Federal Service for Supervision in the Field of Consumer Rights Protection and Human Well-being;
- sanitary and epidemiological detachments (SEA);
- Sanitary and epidemiological brigades (SEB);
- specialized anti-epidemic brigades (SPEB);
- surveillance groups.

Disaster Medicine Service of the Russian Ministry of Defense. Forces and means of eliminating the medical and sanitary consequences of emergencies of the Ministry of Internal Affairs of Russia and the Ministry of Internal Affairs of Russia.

Тема 3. Medical and sanitary provision of the population during the elimination of the consequences of man-made and natural emergencies

Лекционное занятие. Organization of medical and evacuation support of the population in emergency situations of man-made and natural nature.

Conditions defining the system of medical evacuation support.

The essence of the medical evacuation support system:

- basic requirements and the basic scheme of medical evacuation support;
- stages of medical evacuation;
- types and volumes of medical care.

Features of medical sorting of affected (patients) in emergency situations.

Features of medical evacuation of the affected (patients) in emergency situations:

Features of the organization of medical care for children in emergency situations.

Medical examination and rehabilitation of emergency response participants. Basic concepts of medical examination and rehabilitation of participants in the elimination of the consequences of an emergency:

Лабораторное занятие. Организация лечебно-эвакуационного обеспечения населения при чрезвычайных ситуациях technogenic and natural character.

1) Control of the initial level of knowledge of students on test questions.

2) Analysis with the teacher of complex issues of the topic that remained unclear after self-preparation for a practical lesson.

Features of medical sorting of affected (patients) in emergency situations.

Features of medical evacuation of the affected (patients) in emergency situations:

Measures to prevent and eliminate the consequences of emergencies in health care institutions.

Protection of medical personnel, patients and property.

Organization of the hospital's work in emergency situations.

4) Solving situational problems on the topic.

5) Control and evaluation by the teacher of the acquired skills and abilities of students on the topic under study.

Тема 4. Preparation of a medical and preventive institution for work in emergency situations

Лекционное занятие. Preparation of a medical and preventive institution to work in emergency situations.

Measures to improve the stability of the functioning of health facilities in emergency situations.

Modes of functioning of medical institutions in case of emergency.

Measures to prevent and eliminate the consequences of emergencies in medical institutions of healthcare.

Protection of medical personnel, patients and property.

Organization of the hospital's work in emergency situations.

Evacuation of medical institutions.

Лабораторное занятие. Preparation of a medical and preventive institution to work in emergency situations.

1) Control of the initial level of knowledge of students on test questions.

2) Analysis with the teacher of complex issues of the topic that remained unclear after self-preparation for a practical lesson.

Measures to prevent and eliminate the consequences of emergencies in medical institutions of healthcare.

Measures to improve the stability of the functioning of health facilities in emergency situations.

Organization of the hospital's work in emergency situations.

Modes of functioning of medical institutions in case of emergency.

Protection of medical personnel, patients and property.

Evacuation of medical institutions.

4) Solving situational problems on the topic.

5) Control and evaluation by the teacher of the acquired skills and abilities of students on the topic under study.

Раздел 2. Section 2 Principles of diagnosis of diseases and methods of providing medical assistance at the stages of evacuation to victims of emergencies

Тема 5. Principles of medical sorting of victims at the stage of pre-medical and first aid

Лекционное занятие. Medical sorting of victims at the stage of pre-medical and first aid.

The concept of medical evacuation measures (LEM). The basic principles of the organization of the LEM system.

Medical evacuation stage: definition, tasks and deployment scheme.

Types of medical care (definition, place of provision, optimal timing of its various types, the forces and means involved). The volume of medical care, the content of events, its dependence on the prevailing situation. Medical sorting of the affected (definition, purpose, types, sorting groups, organization of work of sorting teams).

Medical evacuation (definition, purpose, principles of organization, methods, requirements). Preparation of the affected for evacuation, terms of non-transportability of the affected, depending on the type of transport. Definition of concepts: the path of medical evacuation, medical evacuation direction.

Features of the organization of LEM in the foci of chemical and bacteriological contamination.

Fundamentals of the management of the forces and means of MSGO in the foci of

defeat (infection) and at the stages of evacuation. Organization of interaction with other civil defense services.

Лабораторное занятие. Principles of medical sorting of victims. Intra-point sorting.

1) Control of the initial level of knowledge of students on test questions.

2) Analysis with the teacher of complex issues of the topic that remained unclear after self-preparation for a practical lesson

Medical evacuation stage: definition, tasks and deployment scheme.

Types of medical care (definition, place of rendering, optimal terms of rendering of its various types, the forces and means involved). The volume of medical care, the content of events, its dependence on the prevailing situation. Medical sorting of the affected (definition, purpose, types, sorting groups, organization of work of sorting teams).

Fundamentals of the management of the forces and means of MSGO in the foci of defeat (infection) and at the stages of evacuation. Organization of interaction with other civil defense services.

3) Solving situational problems..

4) Control and evaluation by the teacher of the skills and abilities acquired by students on the topic under study.

Тема 6. Modern diagnostic methods and assistance at the stages of medical evacuation for bleeding.

Лабораторное занятие. Modern diagnostic methods and assistance at the stages of medical evacuation for bleeding

1) Control of the initial level of knowledge of students on test questions.

2) Analysis with the teacher of complex issues of the topic that remained unclear after self-preparation for a practical lesson.

Conditions and causes of occurrence, clinical manifestations of bleeding

Features of medical care and treatment of victims with internal and external bleeding.

Features of providing assistance for arterial bleeding.

3) Practicing the skills of stopping bleeding of various origins.

4) Solving situational problems in the absence of a patient on the topic.

5) Control and evaluation by the teacher of the acquired skills and abilities of students on the topic under study.

Лабораторное занятие. Aseptics and antiseptics.

The concept of asepsis and antiseptics Types of asepsis (disinfection, sterilization) and antiseptics. What is sterilization, methods of sterilization.

Mechanical, physical chemical, biological and mixed antiseptics.

Processing of surgical instruments, processing stages.

Treatment of the surgeon's hands, treatment methods.

Sterilization of the dressing material.

Methods of sterility control

Тема 7. Diagnosis and assistance at the stages of medical evacuation in case of thermal injuries (high temperature and cold injury)

Лабораторное занятие. Diagnosis and assistance at the stages of medical evacuation in case of thermal lesions.

1) Control of the initial level of knowledge of students on test questions.

2) Analysis with the teacher of complex issues of the topic that remained unclear after self-preparation for a practical lesson.

Burn. Definition. Classification. Local and general pathological manifestations of thermal burns. Degrees of burns. Determination of the total area of burns and foci. Periods of burn disease. Burn shock.

Providing assistance for burns at the stages of medical evacuation.

General hypothermia, frostbite. Conditions of occurrence. Clinical picture. Assistance at the stages of medical evacuation.

Defeat by the light radiation of a nuclear explosion, incendiary mixtures. Medical care in the centers of mass destruction. Medical assistance at the stages of medical evacuation.

3) Demonstration of patients or case histories of patients with thermal lesions.

4) Solving situational problems on the topic.

5) Control and evaluation by the teacher of the acquired skills and abilities of students on the topic under study.

Тема 8. Principles of assistance at the stages of medical evacuation in case of mine-explosion injury.

Лабораторное занятие. Assistance at the stages of medical evacuation in case of mine-explosion injury.

1) Control of the initial level of knowledge of students on test questions.

2) Analysis with the teacher of complex issues of the topic that remained unclear after self-preparation for a practical lesson.

Mine explosion injury. Definition. Causes of occurrence. Classification. Local and general pathological manifestations. The concept of primary and secondary projectiles.

Assistance in case of mine-explosion injury at the stages of medical evacuation.

3) Demonstration of patients or case histories of patients with mine-blast trauma.

4) Solving situational problems on the topic.

5) Control and evaluation by the teacher of the acquired skills and abilities of students on the topic under study.

Тема 9. Principles of assistance at the stages of medical evacuation when exposed to a large dose of radiation. Acute and chronic radiation sickness

Лекционное занятие. The effect on the body of a large dose of radiation. Acute radiation sickness.

The concept of ionizing radiation. Types of ionizing radiation. Effects on the body. Pathogenesis of radiation complications. Nosological units.

Acute radiation sickness. Definition.

Classification of acute radiation sickness by the type of radiation and the nature of its distribution, by clinical form and severity, by the period of the disease, by leading syndromes and complications, by types of combined lesions.

Clinical manifestations of acute radiation sickness.

Prognostic medical sorting in case of mass admission of the irradiated. The standard of medical care in radiation disasters.

Лабораторное занятие. Acute and chronic radiation sickness.

1) Control of the initial level of knowledge of students on test questions.

2) Analysis with the teacher of complex issues of the topic that remained unclear after self-preparation for a practical lesson.

Acute radiation sickness. Definition. Pathogenesis of direct and indirect damaging effects of ionizing radiation. Classification.

Criteria for assessing the severity of acute radiation sickness during the primary reaction period, the latent period and the peak period.

Clinical syndromes of the stage of the height of the bone marrow form of acute radiation sickness. Principles of therapy at the stages of evacuation in different periods of acute radiation sickness. General care of patients with radiation damage. Outcomes of the disease

Forms of chronic radiation sickness. Severity and periodization of the clinical course of the disease. Criteria for assessing the severity of the disease. Principles of therapy of chronic radiation sickness. Forecast. Features of chronic radiation sickness that occurs during the incorporation of radioactive substances (internal irradiation). Medical assistance at the stages of evacuation in case of damage by radioactive substances. Methods of removal of radionuclides from the body of patients with incorporation of radionuclides.

3) Solving situational problems on the topic.

4) Control and evaluation by the teacher of the skills and abilities acquired by students on the topic under study.

Тема 10. Toxicology. Poisoning of AHS and BOV. Diagnostics. Emergency care for poisoning at the stages of medical evacuation.

Лекционное занятие. Toxicology. Poisoning of AHS and BOV. Help with poisoning at the stages of medical evacuation.

Toxicology. Definition. The main types.

The concept of a harmful chemical. Classification of harmful chemicals. Emergency chemical hazardous substances. Chemical warfare agents. Acute and chronic poisoning. The dose of the substance. Dose level. Toxicity, danger of the substance. Maximum permissible concentration. The stages of interaction of a harmful chemical substance with a biological object.

The concept of antidote therapy. Direct and indirect antidotes. Principles of assistance at the stages of medical evacuation

Poisoning with neurotoxic substances. Emergency care at the stages of medical evacuation. Neurotoxicants. Classification. Organophosphate poisoning (FOS). The mechanism of toxic action of FOS. The clinical picture of poisoning. Antidote therapy at the stages of medical evacuation. Gastric lavage by probe and non-probe method.

Poisoning with botulinum toxin, saxitoxin, tetrodotoxin. Conditions for the occurrence of poisoning. The mechanism of toxic action. Poisoning clinic. Assistance during the evacuation stages. Antidote therapy. Anti-botulinum serum.

Лабораторное занятие. Poisoning with substances of pulmonotoxic and general poisonous action. Assistance at the stages of medical evacuation.

Pulmonotoxicants. Classification. Poisoning with phosgene, diphosgene, triphosgene, chlorine. The mechanism of toxic action. The clinical picture of poisoning. Toxic pulmonary edema. Antidote therapy at the stages of medical evacuation. Bicillinum: composition, application. Features of providing assistance in the threat of chlorine poisoning.

Carbon monoxide poisoning. Conditions for the occurrence of poisoning. The mechanism of toxic action. Poisoning clinic. Assistance during the evacuation stages. Antidote therapy.

Cyanide poisoning (prussic acid and chlorocyanin). Conditions for the occurrence of poisoning. The mechanism of toxic action. The clinical picture of poisoning. Lightning-fast and slow-motion forms. Assistance at the stages of medical evacuation. Antidote therapy.

Тема 11. Injuries and closed injuries to the head and neck. Diagnosis and assistance at the stages of medical evacuation.

Лекционное занятие. Injuries and closed injuries to the head and neck. Diagnosis and assistance at the stages of medical evacuation

The frequency of closed injuries of the skull and brain, their classification. Clinical manifestations of bruising, concussion and compression of the brain.

Fractures and fractures of the skull. Gunshot wounds of the skull and brain, their classification and clinic. First aid for skull injuries. Medical sorting and maintenance of medical care at the stages of medical evacuation.

The frequency of closed spinal cord injuries. Symptoms of concussion, bruising and compression of the spinal cord. Medical assistance at the stages of medical evacuation.

Gunshot wounds to the spine and spinal cord. Clinical picture and diagnosis. Periods of clinical course. Medical assistance at the stages of medical evacuation. The concept of disability.

Лабораторное занятие. Injuries and closed injuries to the head and neck. Diagnosis and assistance at the stages of medical evacuation

1) Control of the initial level of knowledge of students on test questions.

2) Analysis with the teacher of complex issues of the topic that remained unclear after self-preparation for a practical lesson.

The frequency of closed injuries of the skull and brain, their classification. Clinical manifestations of bruising, concussion and compression of the brain.

Fractures and fractures of the skull. Gunshot wounds of the skull and brain, their classification and blade. First aid for skull injuries. Medical sorting and maintenance of medical care at the stages of medical evacuation.

The frequency of closed spinal cord injuries. Symptoms of concussion, bruising and compression of the spinal cord. Medical assistance at the stages of medical evacuation.

Gunshot wounds to the spine and spinal cord. Clinical picture and diagnosis. Periods of clinical course. Medical assistance at the stages of medical evacuation. The concept of disability.

4) Solving situational problems on the topic.

5) Monitoring and evaluation by the teacher of the acquired students' skills and abilities on the topic.

Тема 12. Wounds and injuries of the thoracic cavity and abdomen. Diagnosis and assistance at the stages of medical evacuation

Лабораторное занятие. Wounds and injuries of the thoracic cavity and abdomen. Diagnosis and assistance at the stages of medical evacuation.

Frequency and classification of wounds and closed injuries of the chest and abdomen. Clinical manifestations and diagnostics of various types of injuries and injuries. Assistance at the stages of medical evacuation. The technique of applying an occlusal bandage to the chest.

5. Educational technologies

To implement the competence-based approach in the study of the discipline (module), extensive use of active and interactive methods of conducting classes in the educational process is provided:

In extreme situations, it is often necessary to make instant decisions, on which the fate of both the person who got into this situation and the fate of people depends. Who ended up with him. This is especially true for medical professionals. They should clearly know and navigate when they find themselves in this situation. Make decisions that will minimize the consequences of negative factors affecting the surrounding people who find themselves in these conditions.

With this in mind, when training specialists capable of working in emergencies, in order to learn how to make the right decisions, it is necessary that the student:

1) Saw with my own eyes various types of emergencies (educational films on various types of emergencies, emergency models, visual aids)

2) Listened to the teacher's explanation (lectures), touched with his hands (practice).

If the student looks well, listens carefully, does the right thing, then his decision will be correct.

Thus, if the student uses all five information channels when studying the subject, then against the background of the developed situational algorithms for emergency assistance, it is possible to achieve automatism when helping victims.

The following types of educational technologies are used at the department:

1. Tasks required for each student to complete:

1.1. solving situational and problematic tasks;

1.2. performing mandatory tasks on each topic of the course in accordance with methodological developments for independent work;

1.3. work with "Test tasks for independent work and control of students' knowledge"

2. Tasks that students perform by choice:

2.1. conducting clinical and anatomical conferences in accordance with the cathedral methodological developments;

2.2. watching educational videos;

2.3. writing abstract reports and reports that can be heard in practical classes or at meetings of the scientific circle;

2.5. participation in carrying out sanitary and educational work in the hospital;

2.6. search for information materials on the Internet - for students who speak English, translation of special medical literature on the topic of scientific research of the department.

6. Forms of control and types of evaluation materials for the discipline (module)

Intermediate attestation - evaluation of intermediate and final results of training in the discipline (module).

6.1. Sample list of questions for the credit test

1. Definition of the concept of "health". Human health as one of the main factors of life safety. Medico-hygienic aspects of a healthy lifestyle. Environmental factors that shape human health. Environmental factors that destroy human health.

2. Types of medical sorting, its definition and the main sorting groups of the wounded and injured in peacetime and wartime emergencies.

3. Methods of cardiopulmonary resuscitation (CPR). Indications. Demonstration of skills on a CPR manikin.

4. The concept of clinical and biological death. Signs. Principles of assistance in clinical death.

5. Principles of biological (clinical) dosimetry of radiation injuries at the stage of first aid. sorting groups.

6. The concept of bleeding. Internal and external bleeding. Signs. Temporary and

final stop of bleeding.

7. Characteristics of the mobile forces of the disaster medicine service of the Ministry of Health and Social Development, created on the basis of medical institutions.

8. Unified State System for the Prevention and Elimination of Emergencies (RSChS). Its structure, tasks. Levels, subsystems, coordinating bodies.

9. Impact on the human body of a large dose of radiation. nosological forms. Pathogenesis of radiation injuries.

10. Medical triage at the prehospital stage of medical care. Principles. sorting groups.

11. Wounds. Classification. The concept of wound infection. Prevention of wound infection.

12. Definition of the concept of "medical evacuation in case of disasters". Organizational structure of the disaster medicine service.

13. Chronic radiation sickness. Etiology, pathogenesis, clinic depending on the clinical variant of the course. Population groups threatened by chronic radiation sickness.

14. Toxic substances of pulmonotoxic action. Classification. Mechanism of toxic action. Definition and clinical stages of toxic pulmonary edema. Actions of the population under the influence of pulmonotoxic substances.

15. Forces and means of the Unified State System for the Prevention and Elimination of Emergencies (RSChS).

16. Training of governing bodies, institutions and healthcare units in emergency situations.

17. Toxicology. Definition. Basic concepts and terms used in toxicology: harmful chemical substance (HCS), dose, dose level, toxicity, substance hazard, MPC, cumulation of HCS, adaptation to HCS. Stages of interaction of a toxic substance with a biological object.

18 Toxic substances of neurotoxic action. Classification. Organophosphorus compounds: mechanism of toxic action, clinic of lesions. Principles of assistance during the stages of medical evacuation

19. High temperature injury. Burns. Burn degrees. Providing first aid.

20. The concept of antidote therapy. Antidotes of direct and indirect action. Examples of antidote therapy when exposed to various groups of toxic substances.

21. Toxic nerve agents. Classification. Botulinum toxin mechanism of toxic action, clinic lesions. Assistance principles.

22. Tasks, basic principles of functioning of the All-Russian Service for Disaster Medicine (VSMK) The main documents regulating the activities of the VSMK.

23. Low-temperature injury. Frostbite. General hypothermia. Clinic, first aid for low-temperature injury. Prevention.

24. The concept of an emergency (ES). Classification of emergencies by origin and extent of distribution. Types of damage in disasters.

25. Radioprotectors. Classification. Principles of their therapeutic action. Radioprotective effect of atomic iodine under the threat of exposure to radioactive iodine.

26. Chemical burns. Kinds. clinical picture. First aid for chemical burns.

27 Wounds of the chest. Kinds. Clinical picture of injuries of the chest organs. Complications. Providing first aid.

28. Medical institutions involved in the elimination of medical consequences of emergencies. The formations that represent the VSMK (All-Russian Service for Disaster Medicine) at the territorial, local and facility levels.

29. Ionizing radiation. Definition. The pathogenesis of exposure to a large dose of radiation on the body. Bergonier-Tribondo law. Radiosensitive and radioinsensitive tissues.

31. Definition, tasks and basic principles of the organization of the VSMK (All-Russian Service for Disaster Medicine). Population groups for which medical assistance is provided in the first place and evacuation is carried out.

32. Acute radiation sickness. Definition. Classification. Clinical course and outcome

of acute radiation sickness depending on the dose of radiation).

33. Wounds of the skull. Kinds. Signs of brain damage. Providing medical assistance during the evacuation stages.

34. Toxic substances of general poisonous action. Classification. Carbon monoxide: pathogenesis, clinic of lesions, first aid when exposed to it. antidote therapy.

35. Evacuation and transport sorting of the wounded and injured in emergency situations of peacetime and wartime. Principles. sorting groups.

36. Violation of consciousness. The reasons. Degrees of disturbance of consciousness. Principles of first aid.

37. Forces and means involved in the provision of medical care to the population at the prehospital stage in emergency situations in peacetime.

38. Organization of medical care for the wounded and injured. Stages of medical care in emergency situations of peacetime and wartime.

39. Modes of functioning of the VSMK (All-Russian Service for Disaster Medicine). Characteristics of modes.

40. Principles of rendering assistance in case of acute radiation sickness at the stages of medical evacuation. Cupping of the primary radiation reaction.

41. Arterial bleeding. Signs. Rules for applying a hemostatic tourniquet, twists from improvised materials on the example of a wound to the brachial artery. Demonstration of skill.

42. Acute radiation sickness. Classification according to the severity of the bone marrow form of acute radiation sickness. Features of the clinic, course and outcome of acute radiation sickness when radionuclides enter the body.

43. Types of headbands, joints, chest, limbs.

44. Definition of the concept of special processing, its purpose. Types of special processing. Theoretical foundations of degassing and decontamination, means and methods for carrying out special processing. Partial special processing, means used for its implementation. Complete special processing.

45. Bandage Deso. Rules of imposition, indications for imposition. Demonstration of skill.

46. Toxic substances of general poisonous action. Classification. Cyanides: hydrocyanic acid and cyanogen chloride. The mechanism of toxic action, the clinic of lesions, the provision of medical care. antidote therapy.

6.2. Sample list of questions for the examination

Не предусмотрено

6.3. Suggested themes of term papers (projects)

Не предусмотрены

6.4. Suggested themes of term projects

Не предусмотрены

6.5. Suggested topics of calculation and graphic works

Не предусмотрены

7. Educational, methodological, informational and software support of the discipline (module)

The electronic catalog and electronic information resources provided by the scientific library of the FSBEI of HE "I. N. Ulianov Chuvash State University" are available at the link <http://library.chuvsu.ru/>

7.1. Regulatory documents, standards and rules

Federal Law No. 323 - FZ of 21.11.20011 "On the Basics of Public Health protection in the Russian Federation"

Federal Law No. 151-FZ of 22.08.1995 (as amended on 18.07.2017) "On Emergency rescue services and the status of rescuers" (with amendments and additions, intro. effective from 16.01.2018)

GOST R 22.0.02-94 Safety in emergency situations. Terms and definitions of basic concepts (as amended by N 1) from 11/21/2011 N 323-FZ from 11/21/2011 N 323-FZ

Federal Law No. 98-FZ dated 01.04.2020 "On Amendments to Certain Legislative Acts of the Russian Federation on the Prevention and Liquidation of Emergency Situations"

7.2. Recommended basic educational and methodological literature

№ item	Name
1	

7.3. Recommended supplementary educational and methodological literature

№ item	Name
1	

7.4. List of resources of the "Internet" information and telecommunication network

№ item	Name	Link to the resource
1	Медицина катастроф	https://moodle.chuvsu.ru/course/view.php?id=2385

7.5. Software, professional databases, information and reference systems, electronic educational resources and electronic library systems

Software, professional databases, information and reference systems provided by the Informatization Department of the FSBEI of HE "I.N. Ulianov Chuvash State University" are available for download at the link <http://ui.chuvsu.ru/>. The Unified Register of Russian programs for electronic computers and databases, including freely distributed ones, is available at the link reestr.minsvyaz.ru/reestr/.

7.5.1. Licensed and freely distributed software

Microsoft Windows operating System and/or Unix-like operating system and/or mobile operating system;

Office software packages:

Microsoft Office and/or LibreOffice and (or) OpenOffice and (or) analogues;

Browsers, including Yandex.Browser.

List of software:

7.5.2. Lists of professional databases and (or) information reference systems and (or) electronic library systems and (or) electronic educational resources

8. Material and technical support of the discipline

Classrooms for lecture-type classes in the discipline are equipped with a teacher's automated workplace consisting of: a personal computer/laptop, multimedia equipment with a screen and (or) SMART interactive whiteboard/SMART TV.

The premises for students' independent work are equipped with computer equipment enabling to connect to the Internet and provide access to the electronic information and educational environment of the FSBEI of HE "I.N. Ulianov Chuvash State University".

№ item	Lesson type	Brief description and characteristics of the composition of installations, measuring and diagnostic equipment, computer equipment and experimental automation tools
1		

9. Means of adapting the discipline teaching to the needs of persons with physical conditions

If necessary, persons with physical conditions can be offered one of the following options for perceiving information, taking into account their individual psychophysical characteristics:

1) using e-learning and distance learning technologies.

2) using special equipment (enginery) and software in accordance with the students' health restrictions in the Training Centers for Persons with Disabilities and Physical Conditions (hereinafter referred to as special needs) available at the university.

In the course of training, if necessary, the following conditions are provided for persons with visual, hearing and musculoskeletal disorders:

- for persons with visual impairments: educational and methodological materials in printed form in enlarged font; in the form of an electronic document; in the form of an audio file (conversion of educational materials into audio format); in printed form in Braille; individual consultations involving a tactile interpreter; individual assignments and consultations.

- for people with hearing impairments: educational and methodological materials in printed form; in the form of an electronic document; video materials with subtitles; individual consultations involving a sign language interpreter; individual assignments and consultations.

- for persons with disorders of the musculoskeletal system: educational and methodological materials in printed form; in the form of an electronic document; in the form of an audio file; individual assignments and consultations.

10. Guidelines for students to perform independent work

The purpose of the student's independent work (IW) is to consolidate the theoretical knowledge gained and to acquire practical skills in using and performing research of algorithms and data structures when designing application software programs. IW includes

independent study of educational issues, preparation for laboratory classes, performing calculation and graphic work, preparation for a test and an exam.

The list of questions and tasks for independent work to prepare for laboratory classes is given in the corresponding methodological instructive regulations in the description of each laboratory work.

The list of questions and tasks for independent work to carry out calculation and graphic work is given in the relevant methodological instructive regulations.

The value of independent work of students

Independent work of students is an integral part of the educational process.

The purpose of independent work is to prepare a modern competent specialist and develop abilities and skills for continuous self-education and professional improvement.

Realization of this goal involves the solution of the following tasks:

- high-quality development of theoretical material in the discipline under study, deepening and expanding theoretical knowledge with a view to their application at the level of interdisciplinary connections;

- systematization and consolidation of the received theoretical knowledge and practical skills;

- formation of skills for the search and use of normative, legal, reference and special literature, as well as other sources of information;

- development of cognitive abilities and activity, creative initiative, independence, responsibility and organization;

- formation of independent thinking, abilities for self-development, self-education, self-improvement and self-realization;

- development of research skills;

- formation of the ability to solve practical problems (in professional activities), using the acquired knowledge, abilities and skills.

Independent work is determined by the specifics of the discipline and the methodology of its teaching, the time provided by the curriculum, as well as the level of study at which the discipline is studied. The main forms of organization of independent work of students are: classroom independent work under the guidance and supervision of a teacher (at lectures, laboratory work and consultations); extracurricular independent work without the direct participation of a teacher (preparation for classroom studies, olympiads, conferences, performance of tests, work with electronic information resources, preparation for exams).

Independent work of students on the course "Medicine of Disasters" is a necessary component of the training of a specialist in the field of medicine.

The purpose of independent work of students is to master the basics of organizing surgical and therapeutic care at the stages of medical evacuation and providing medical care to victims during the elimination of medical and sanitary consequences of emergencies.

Independent work of students is aimed at solving the following problems::

- mastering the acquired knowledge and practical skills that allow to act effectively in emergency situations.

- preparation for the practical implementation of their functional duties in specialized clinics and medical institutions of general and specialized profile.

- Consolidation of knowledge and skills in organizing medical support for the population in emergency situations in peacetime and wartime and solving medical and tactical tasks for medical support of the population in emergency situations.

General recommendations for organizing independent work of students

Forms of independent work of students, provided for by the discipline:

- Preparation for laboratory classes;

- Exam preparation.

For self-preparation for laboratory studies, study of educational issues, preparation for tests and exams, the following sources can be recommended:

- lecture notes and practical training materials;
- educational literature of the relevant profile.

At the beginning of the course, the teacher informs students about the forms, types and content of independent work, explains the requirements for the results of independent work, as well as the forms and methods of control and evaluation criteria.

11. Methodological instructive regulations for students studying the discipline (module)

11.1. Methodological instructive regulations for preparing for seminar-type classes

In the course of completing tasks, students develop practical skills that can form part of professional practical training, as well as research skills (observe, compare, analyze, establish dependencies, draw conclusions and generalizations, independently conduct research, draw up results).

Laboratory work can be partly exploratory and exploratory in nature.

Works that are partially exploratory in nature are characterized by the fact that during their implementation, students do not use detailed instructions, they are not given the procedure for performing the necessary actions, and require students to independently select equipment, choose ways to perform work in instructive and reference literature, etc.

Research works are characterized by the fact that students must solve a new problem for them, based on their theoretical knowledge.

Forms of organization of students in laboratory work classes: frontal, group and individual.

With the frontal form of organizing classes, all students perform the same work at the same time.

In the group form of organizing classes, the same work is performed by teams of 2-5 people.

With an individual form of organizing classes, each student performs an individual task.

Grades for the performance of laboratory work are taken into account as an indicator of the current progress of the student.

Topics submitted for independent study must be outlined. The summary briefly outlines the main essence of the educational material, provides the necessary justifications, tabular data. It is advisable to write an abstract entirely on the topic. At the same time, it is always possible to supplement the compiled summary with clippings and extracts from magazines, newspapers, articles, new textbooks, data from the Internet and other sources. Thus, the abstract becomes a collection of necessary materials, where the student brings everything new that he has studied and learned. Such notes are of great value in preparing for classes.

The main stages of independent study of educational issues:

1. Initial acquaintance with the material of the topic under study in the text of the textbook, lectures, additional literature.

2. Highlighting the main thing in the material being studied, compiling the usual brief notes.

3. Selection of reference signals for this text in the form of individual words, certain signs, graphs, drawings.

4. Thinking over a schematic way of coding knowledge, using a different font, etc.

5. Drawing up a basic abstract.

11.2. Methodological instructive regulations for preparing for an examination

Не предусмотрено

11.3. Methodological instructive regulations for preparing for a test

Preparing students for graduation includes:

- viewing the program of the training course;
- determination of the sources necessary for the preparation (textbooks, additional literature, etc.) and their study;
- use of lecture notes, laboratory materials;
- Counseling with a teacher.

Preparation for the test begins with the first lesson in the discipline, in which students receive a general attitude from the teacher and a list of basic requirements for current and final reporting. At the same time, it is important from the very beginning to systematically master the material, guided, first of all, by the list of questions for the test, to outline the sources that are important for solving educational problems. During the semester, there is a replenishment, systematization and adjustment of learning developments, the development of new and consolidation of already studied material.

11.4. Methodological instructive regulations for performing computational and graphical

Not provided

11.5. Methodological instructive regulations for performing a control work

Not provided

11.6. Methodological instructive regulations for performing a course work (project)

Not provided

List of additions and changes

The name and details (if any) of the document attached to the Working Program of the discipline (module) containing the text of updates	Department's decision		Full name of department head:
	Date	Protocol №	