

МИНОБРНАУКИ РОССИИ

**Федеральное государственное автономное образовательное
учреждение высшего образования "Пермский
государственный национальный исследовательский
университет"**

**Кафедра неорганической химии, химической технологии и техносферной
безопасности**

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Рабочая программа дисциплины

LIFE SAFETY

Код УМК 93067

Утверждено
Протокол №3
от «25» мая 2021 г.

Пермь, 2021

1. Наименование дисциплины

Life safety

2. Место дисциплины в структуре образовательной программы

Дисциплина входит в обязательную часть Блока « Б.1 » образовательной программы по направлениям подготовки (специальностям):

Направление: **05.03.06** Экология и природопользование
направленность Экологическая инженерия и новая энергетика

3. Планируемые результаты обучения по дисциплине

В результате освоения дисциплины **Life safety** у обучающегося должны быть сформированы следующие компетенции:

05.03.06 Экология и природопользование (направленность : Экологическая инженерия и новая энергетика)

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

Индикаторы

УК.8.1 Анализирует факторы вредного влияния на жизнедеятельность элементов среды обитания (технических средств, технологических процессов, материалов, зданий и сооружений, природных и социальных явлений)

УК.8.2 Идентифицирует опасные и вредные факторы, выявляет и устраняет проблемы, связанные с нарушением техники безопасности в рамках осуществляемой деятельности

УК.8.3 Выявляет проблемы, причины и условия возникновения чрезвычайных ситуаций и военных конфликтов, владеет методами прогнозирования возникновения чрезвычайных ситуаций и принимает меры по их предупреждению

УК.8.4 Разъясняет правила поведения при возникновении чрезвычайных ситуаций и военных конфликтов; оказывает первую помощь, описывает способы участия в восстановительных мероприятиях

4. Объем и содержание дисциплины

Направления подготовки	05.03.06 Экология и природопользование (направленность: Экологическая инженерия и новая энергетика)
форма обучения	очная
№№ триместров, выделенных для изучения дисциплины	2
Объем дисциплины (з.е.)	3
Объем дисциплины (ак.час.)	108
Контактная работа с преподавателем (ак.час.), в том числе:	42
Проведение лекционных занятий	28
Проведение практических занятий, семинаров	14
Самостоятельная работа (ак.час.)	66
Формы текущего контроля	Итоговое контрольное мероприятие (1) Письменное контрольное мероприятие (2)
Формы промежуточной аттестации	Зачет (2 триместр)

5. Аннотированное описание содержания разделов и тем дисциплины

Life safety/ First semester

The purpose and subject of the science of human life safety in the technosphere. The axioms of the theory of BC. The main stages of scientific and practical activities in the BDZ: identification of sources and types of hazards; definition of hazardous areas of living space; improvement of sources of hazards according to the requirements of the examination of the state of living space of the technosphere; the use of means and measures of protection; monitoring of hazards and the state of human The system "man-habitat", the basics of interaction in it. Law, Y. N. Kulakovskogo. Flows of matter, energy, information. Flows characteristic of the technosphere. The law on the unavailability of waste and side effects of production. Features of influence of anthropogenic activity on technosphere and natural environment, on flows in them. Flows of social environment, natural (natural) environment. The flows consumed and allocated by the person in the course of activity. Impact on human flows in the environment. Shelford's law of tolerance. Typical types of human interaction with the environment: comfortable, acceptable, dangerous and extremely dangerous. Levels of negative impacts and duration of their action in hazardous and extremely hazardous situations. The distinctive features of these situations in terms of levels, time and negative impact.

Section 1. Theoretical foundations of life safety

Introduction. Goals and objectives of the discipline. Basic concepts of the discipline "life Safety".

The purpose and subject of the science of human life safety in the technosphere. The axioms of the theory of BC. The main stages of scientific and practical activities in the BDZ: identification of sources and types of hazards; definition of hazardous areas of living space; improvement of sources of hazards according to the requirements of the examination of the state of living space of the technosphere; the use of means and measures of protection; monitoring of hazards and the state of human The system "man-habitat", the basics of interaction in it. Law, Y. N. Kulakovskogo. Flows of matter, energy, information. Flows characteristic of the technosphere. The law on the unavailability of waste and side effects of production. Features of influence of anthropogenic activity on technosphere and natural environment, on flows in them. Flows of social environment, natural (natural) environment. The flows consumed and allocated by the person in the course of activity. Impact on human flows in the environment. Shelford's law of tolerance. Typical types of human interaction with the environment: comfortable, acceptable, dangerous and extremely dangerous. Levels of negative impacts and duration of their action in hazardous and extremely hazardous situations. The distinctive features of these situations in terms of levels, time and negative impact.

Section 2. Life safety in emergency situations

Unified state system of emergency prevention and elimination.

Civil defense, its place in the system of national measures of civil protection. The structure of GO in Russia. Objectives, leadership, control, power, civil organizations. The structure of GO at the industrial facility. Planning of civil defense activities at the facilities.

Emergency situations of natural character. The main trends in the development of natural hazards.

The emergency situation of natural character. Occurrence of emergency situations of natural character. Earthquakes. Classification of earthquakes, scales measuring the strength of earthquakes. Destruction of buildings and objects in earthquakes. Behavior of workers and the population in the earthquake. Forest and steppe fires, burning peat. Classification of fires, their dangerous factors. Behavior of people in forest and steppe fires, burning peatlands. Hydrological emergencies. Hydrological accidents, tsunamis, floods, flood, flooding. Destruction of buildings and objects in floods and hydrological accidents. The behaviour of people during floods. Hurricanes and tornadoes. Classification of hurricanes and tornadoes, causes, destructive effect. Human behavior in hurricanes

and tornadoes. Thunder and lightning .Natural hazard

Emergency situations of technogenic character and protection against them.

Technogenic accident. Accident, accident, explosion, fire, contamination of atmosphere and terrain, poisonous substances (emergency chemically hazardous substances), radioactive substances (radioactive substances) .The most dangerous are accidents at enterprises producing, using or storing radioactive and toxic substances, explosive and flammable materials. Notification of the civilian population in the event of chemical and radioactive contamination. The warning to the population.

The content and organization of measures for localization and elimination of consequences in emergency situations.

The purpose of creation and postulates of functioning of the unified state system of emergency prevention and elimination. Methods and methods of protection of the population in emergencies. Emergency response should be carried out as soon as possible. The main stages of emergency response. Emergency protection of the population. Rescue and other urgent work. A set of activities carried out to restore the readiness of people who are part of the special units, and the equipment used to continue emergency recovery operations in the lesions, preparation of facilities for the resumption of production activities.

Emergency chemical hazardous substances and their characteristics

Chemical substances by human influence. Sources of chemical hazards. Accidents at chemically hazardous facilities. The focus of chemical contamination. The nature of the impact of AHS on the body. Protection against poisonous substances in emergency situations. Bases of protection of the population. First aid to the affected AHS. The most common AHS. The main group of ACS, representing the danger of contamination of water sources

Section 3. Emergency situations of a social nature

Emergency situations of a social nature

Emergencies are of a social nature. Causes, social contradictions, clashes, armed conflicts, riots and other situations that can lead to death, threat to their health, material damage. The starting point of emergency of a social nature. Emergency situations of social character, social, and military Institutionalized forms of violence (wars, armed conflicts, repression, acts of terrorism, riots and similar phenomena). The use of substances that violate the psychophysical state of people (alcohol, drugs, Smoking). Physical impact on a person (crime, theft, banditry, charlatanism, etc.) mental pressure (the activities of prohibited organizations, whose activities affect not only the social system, but also the psyche of people (sects, gangs, pyramids, etc.)) Demographic risks associated with changes in the political system, the environmental situation. Emergency social character of the military type.

Terrorism as a real threat to security in modern society.

Terrorism. Organized crime. Causes of terrorism
War and military conflicts in which terrorist acts become part of hostilities.
The presence of social groups that differ from their near and distant neighbors by a high level of material well-being and culture, as well as by virtue of their political, economic and military power or other opportunities that dictate their will to other countries and social groups

Emergencies of a criminal nature and the protection of them.

Criminal emergencies and ways to protect against them. The dangers associated with mental effects on humans and protection from them. Types of social dangers (blackmail, fraud, banditry)
Rules of conduct in situations of a criminal nature. Compliance with the basic rules of safe behavior: anticipate

hazards, avoid them if possible.

Section 4. Local emergencies in natural and urban environments

Autonomous existence. Survival in the natural environment.

Survival in Autonomous conditions. Safety at sea, in the swamp, on the ice of the pond, in the ice, in the desert," combat chemistry " traveler. Protection against insects and animals. First aid kits traveler. How to give a distress signal.

The dangers of everyday life. Extreme situations in natural and urban conditions.

Electric shock. Dangerous voltages, currents, frequencies. Actions in case of electric shock. Preparation for the absence of electrical voltage in the network. Fire, causes of fires in the home, fire protection. Traffic accident

Emergency the emergency nature of the transport.

Safety when using public transport. Safety in the use of public road, rail and air transport. Fundamentals of safe driving. Rules of safe behavior of the driver. Actions in a head-on collision. Riding at night. Rules of conduct in a traffic accident.

Section 5. Psychological aspects of life safety

Psychological States of a person and their impact on security. Special mental States of a person, which are important for the prevention of accidents and injuries at work and at home

Human factor as a cause of emergencies at work and at home. Components of human mental activity. Psychological state of a person related to work. Special mental States of a person that are important for the prevention of accidents and injuries. The concept of occupational health and physiology. Basic mental properties that affect human security. Working mental States

Mental properties of a person and their influence on social adaptation. Types of personality from the standpoint of life safety

Definition of temperament and character. The concept of the influence of human personality on the development of a number of diseases. Examples of personality typologies (brief historical review). Classification of personality accentuations by Leonard and their influence on social adaptation.

Psychopathological consequences of an emergency.

Features of human behavior in extreme situations. Concepts and methods of autogenous methods of influence (self-persuasion, self-prikaz, self-hypnosis). The behavior of the body in an extreme state. Prediction and prevention of extreme conditions.

Emotional reactions arising from fears for their lives and the lives of others. Forms of human response to an emergency. Psycho-emotional (normal) reactions of people to extreme situations and pathological conditions. Dynamics of behavior of people who have already been exposed to the extreme situation (earthquake), stage

Section 6. Safety of chemical and petrochemical industries

Assessment, homework and monitoring of safety requirements in chemical and petrochemical industries

General requirements for the provision of chemical processes.

General requirements for explosion safety of chemical plants.

Requirements for the conduct of chemical processes. Safety requirements for hardware design of chemical processes.

Requirements for control systems, control, alarm automatic protection, providing maintenance of chemical

processes of chemically hazardous production facilities.
Specific requirements for individual technological productions.
Special safety requirements for organizations operating oil refining facilities.

Risk assessment of accidents at industrial facilities

Analysis of occupational injuries

organization of training, instruction, testing of knowledge on labor protection of workers;
carrying out obligatory preliminary (at employment) and periodic (during labor activity) medical examinations of workers;
carrying out complex inspections of observance of norms and rules on labor protection, identification of shortcomings and the organization of their elimination;
strengthening control over observance of labor discipline and labor regulations by all categories of workers, prevention of persons who are in a state of alcoholic, narcotic or toxic intoxication;
study and analysis of the causes of accidents, elimination of the causes of recurrence;
revision and improvement of safety instructions, as well as development of instructions for newly introduced workplaces;
strengthening of responsibility of officials of the organization, the employee for ensuring healthy and safe working conditions;

Fire safety of technological processes and fire risk assessment

Technogenic accident. Fires in industrial enterprises. Fire safety system. Responsibility for fire safety. Types of combustion: diffusion, kinetic, deflagration, explosive and detonation. Fire prevention measures

Vibration and acoustic vibrations. Noise. Noise and vibration protection

Vibrations. Vibration pathology. Hygienic regulation of vibrations. Acoustic vibrations. Noise. Ultrasound. Infrasound. Hygienic regulation.
Types of vibration adversely affect the nervous and cardiovascular systems, vestibular apparatus

Electric current. Electric shock

Electric shock. Dangerous voltages, currents, frequencies. The nature and depth of the impact of electric current on the human body. Severity and outcome of electric shock. Personal protective equipment against electric shock. Actions in case of electric shock. Preparation for the absence of electrical voltage in the network.

Section 7. Fundamentals of medical knowledge and health

Legal aspects of first aid

The basis of the current legislation (administrative and criminal law) on the provision or non-provision of assistance to victims. Duties of the the medical worker, administrative services at road accidents which entailed human victims.

First aid in emergency situations. Assessment of the severity of the victim's condition.

Tasks and means of first aid. First aid in case of accidents. Assessment of the severity of the victim's condition. The volume of first aid. Recommendations for extreme situations.
Medical measures to protect the population, carried out in the hearth of an emergency.

First aid for bleeding, wounds, burns and frostbite.

Causes, types, clinic wounds and bleeding. First aid. Ways to temporarily stop bleeding. Rules of tourniquet application. Causes, degrees, classification of burns and frostbite. Features of chemical burns and electric burns. First aid for burns and frostbite. The concept of heat and solar shock.

First aid. Basics of nursing. Types of bandages, rules and techniques of their application. The ways and the rules of transfer (transportation) of the victims. Aseptic and antiseptic

First aid in case of emergency. Cardio-pulmonary resuscitation.

Causes, types, clinic terminal conditions. Artificial lung ventilation, indirect heart massage, the sequence of the main activities of CPR: indications, methods. Drowning: causes, types, clinic. First aid in drowning.

Emergency conditions:

- * acute dysfunction of the cardiovascular system (sudden cardiac arrest, collapse, shock (traumatic, burn, anaphylactic));
- acute impairment of the function of respiration (suffocation when drowning, ingestion of a foreign body in the upper respiratory tract);
- * acute dysfunction of the Central nervous system (fainting, coma).

First aid for injuries (injuries). Electric trauma

The concept of injury, dislocation, sprains, signs. Bone fractures and their signs. Rules of first aid for injuries. Features of assistance and transportation of victims of injuries of different localization. Electric trauma-signs, the basic principles of first aid

Characteristics of particularly dangerous infections.

Causes of infection, transmission mechanisms. Foci of bacterial infection. Prevention of infectious diseases. The concept of immunity. HIV infection. Tuberculosis these days. Flu.

Medical characteristics of particularly dangerous and dangerous infectious diseases, significant in emergencies.

Section 8. Ensuring a healthy lifestyle

The concept of health and the content of a healthy lifestyle.

The concept of health and the content of a healthy lifestyle. Five criteria that determine human health.

Complete physical, spiritual, mental and social well-being. Normal functioning of the body in the system "man-environment". The ability to adapt to the ever-changing conditions of existence in the environment.

Absence of disease. The ability to fully perform basic social functions. Individual health. The main components of a healthy lifestyle

Pernicious habits. Addiction. Alcoholism.

Pernicious habits. Addiction. Alcoholism. Toxicomania. Excitatory agents. Narodopisni. Hallucinogens and psychedelics. Mechanisms of psychotropic action. Symptoms. Principles of treatment and prevention

Section 9. Means of mass destruction and means of individual protection

Chemical, biological and conventional weapons.

Chemical weapon. Bacteriological (biological) weapons. Conventional means of destruction, classification, method of delivery swaps. High-precision weapons (WTO)

The signals of civil defense. Personal protective equipment.

Some civil defense signals. Personal protective equipment. Means of individual protection from poisonous substances.

Protective structures of civil defense.

Organization cover the population in emergency situations. The evacuation from zones of disaster. Measures of medical protection. Personal protective equipment, the order of their use. Liquidation of consequences of emergency situations. Basics of organization of rescue and other urgent works (as and DNR) in emergency

situations. Objectives, composition, purpose, organization of the forces involved for the AU and DPR. Ways of doing AC and DPR. The list of urgent works. Framework for the management of AC and DPR. Features of the AU and DNR under the action of various damaging factors. Methods of assessing the situation, determining the composition of forces and means to eliminate the consequences of emergencies

6. Методические указания для обучающихся по освоению дисциплины

Освоение дисциплины требует систематического изучения всех тем в той последовательности, в какой они указаны в рабочей программе.

Основными видами учебной работы являются аудиторские занятия. Их цель - расширить базовые знания обучающихся по осваиваемой дисциплине и систему теоретических ориентиров для последующего более глубокого освоения программного материала в ходе самостоятельной работы. Обучающемуся важно помнить, что контактная работа с преподавателем эффективно помогает ему овладеть программным материалом благодаря расстановке необходимых акцентов и удержанию внимания интонационными модуляциями голоса, а также подключением аудио-визуального механизма восприятия информации.

Самостоятельная работа преследует следующие цели:

- закрепление и совершенствование теоретических знаний, полученных на лекционных занятиях;
- формирование навыков подготовки текстовой составляющей информации учебного и научного назначения для размещения в различных информационных системах;
- совершенствование навыков поиска научных публикаций и образовательных ресурсов, размещенных в сети Интернет;
- самоконтроль освоения программного материала.

Обучающемуся необходимо помнить, что результаты самостоятельной работы контролируются преподавателем во время проведения мероприятий текущего контроля и учитываются при промежуточной аттестации.

Обучающимся с ОВЗ и инвалидов предоставляется возможность выбора форм проведения мероприятий текущего контроля, альтернативных формам, предусмотренным рабочей программой дисциплины. Предусматривается возможность увеличения в пределах 1 академического часа времени, отводимого на выполнение контрольных мероприятий.

Процедура оценивания результатов обучения инвалидов и лиц с ограниченными возможностями здоровья по дисциплине предусматривает предоставление информации в формах, адаптированных к ограничениям их здоровья и восприятия информации.

При проведении текущего контроля применяются оценочные средства, обеспечивающие передачу информации, от обучающегося к преподавателю, с учетом психофизиологических особенностей здоровья обучающихся.

7. Перечень учебно-методического обеспечения для самостоятельной работы обучающихся по дисциплине

При самостоятельной работе обучающимся следует использовать:

- конспекты лекций;
- литературу из перечня основной и дополнительной учебной литературы, необходимой для освоения дисциплины (модуля);
- текст лекций на электронных носителях;
- ресурсы информационно-телекоммуникационной сети "Интернет", необходимые для освоения дисциплины;
- лицензионное и свободно распространяемое программное обеспечение из перечня информационных технологий, используемых при осуществлении образовательного процесса по дисциплине;
- методические указания для обучающихся по освоению дисциплины.

8. Перечень основной и дополнительной учебной литературы

Основная:

1. Backhouse J. Essential health and safety study skills/J. Backhouse.-Hoboken:Routledge,2013, ISBN 9780415629096.-193.-Библиогр.: с. 187-188. - Указ.

<http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=577260>

2. Shailesh Nayak, Sisi Zlatanova. Remote Sensing and GIS Technologies for Monitoring and Prediction of Disasters. Springer-Verlag Berlin Heidelberg 2008. Online ISBN 978-3-540-79259-8. Текст электронный: // <https://link.springer.com/book/10.1007/978-3-540-79259-8> <https://link.springer.com/book/10.1007/978-3-540-79259-8>

3. Richards Ruth Everyday Creativity and the Healthy MindDynamic New Paths for Self and Society. London: Palgrave Macmillan, 2018. Текст электронный: // <https://link.springer.com/book/10.1057/978-1-137-55766-7> <https://link.springer.com/book/10.1057/978-1-137-55766-7>

Дополнительная:

1. Robert A. Meyers. Extreme Environmental Events. Springer Science+Business Media, LLC 2011. Online ISBN 978-1-4419-7695-6. Текст электронный: // <https://link.springer.com/referencework/10.1007/978-1-4419-7695-6> <https://link.springer.com/referencework/10.1007/978-1-4419-7695-6>

9. Перечень ресурсов сети Интернет, необходимых для освоения дисциплины

www.mchs.gov.ru/dop/info/individual Сайт МЧС России

<http://mhts.ru> Сайт кафедры «Экология и промышленная безопасность» МГТУ им. Н. Э. Баумана

<http://www.safework.ru> Сайт «Интернет Академии безопасного труда»

<http://e.lanbook.com/> ЭБС Издательства Лань

<http://link.springer.com> ЭБС SpringerLink

<https://psu.bibliotech.ru/Account/LogOn> ЭБС Библиотех

<http://www.vcmk.ru> Всероссийский центр медицины катастроф "Защита"

tcmkperm.ru «Пермский краевой территориальный центр медицины катастроф»

www.mchs.gov.ru/dop/info/individual Сайт МЧС России

<http://mhts.ru> Сайт кафедры «Экология и промышленная безопасность» МГТУ им. Н. Э. Баумана

<http://e.lanbook.com/> ЭБС Издательства Лань

<http://link.springer.com/> ЭБС SpringerLink

10. Перечень информационных технологий, используемых при осуществлении образовательного процесса по дисциплине

Образовательный процесс по дисциплине **Life safety** предполагает использование следующего программного обеспечения и информационных справочных систем:

1. Presentation materials (slides on topics of lectures and practical classes)
2. On-line access to the Electronic library system (EBS)
3. Access to the electronic information and educational environment of the University
4. The software package "Statistica 13.0»
5. TOXI+Risk 5 software package
6. Legal system Consultant Plus

При освоении материала и выполнения заданий по дисциплине рекомендуется использование материалов, размещенных в Личных кабинетах обучающихся ЕТИС ПГНИУ (student.psu.ru).

При организации дистанционной работы и проведении занятий в режиме онлайн могут использоваться:

система видеоконференцсвязи на основе платформы BigBlueButton (<https://bigbluebutton.org/>).

система LMS Moodle (<http://e-learn.psu.ru/>), которая поддерживает возможность использования текстовых материалов и презентаций, аудио- и видеоконтент, а так же тесты, проверяемые задания, задания для совместной работы.

система тестирования Indigo (<https://indigotech.ru/>).

11. Описание материально-технической базы, необходимой для осуществления образовательного процесса по дисциплине

For lectures and practical classes the audience is used, equipped with presentation equipment (projector, screen, computer / laptop) with the appropriate software.

For practical training is also used office "life Safety and first aid" equipped with specialized equipment. The composition of the equipment is defined in the Passport of the Cabinet.

For group (individual) consultations and ongoing monitoring, an auditorium equipped with a chalk (s) or marker Board is used.

For independent work of students the audience equipped with computer equipment with the ability to connect to the Internet, provided with access to the electronic information and educational environment of the University is used. Premises of the Scientific library, Perm, Russia.

Помещения научной библиотеки ПГНИУ для обеспечения самостоятельной работы обучающихся:

1. Научно-библиографический отдел, корп.1, ауд. 142. Оборудован 3 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.

2. Читальный зал гуманитарной литературы, корп. 2, ауд. 418. Оборудован 7 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.

3. Читальный зал естественной литературы, корп.6, ауд. 107а. Оборудован 5 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.

4. Отдел иностранной литературы, корп.2 ауд. 207. Оборудован 1 персональным компьютером с доступом к локальной и глобальной компьютерным сетям.

5. Библиотека юридического факультета, корп.9, ауд. 4. Оборудована 11 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.

6. Читальный зал географического факультета, корп.8, ауд. 419. Оборудован 6 персональными компьютерами с доступом к локальной и глобальной компьютерным сетям.

Все компьютеры, установленные в помещениях научной библиотеки, оснащены следующим программным обеспечением:

Операционная система ALT Linux;

Офисный пакет Libreoffice.

Справочно-правовая система «КонсультантПлюс»

**Фонды оценочных средств для аттестации по дисциплине
Life safety**

**Планируемые результаты обучения по дисциплине для формирования компетенции.
Индикаторы и критерии их оценивания**

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

Компетенция (индикатор)	Планируемые результаты обучения	Критерии оценивания результатов обучения
<p>УК.8.1 Анализирует факторы вредного влияния на жизнедеятельность элементов среды обитания (технических средств, технологических процессов, материалов, зданий и сооружений, природных и социальных явлений)</p>	<p>Know the basic concepts, terms, definitions, life safety, legislation and legal acts in the field of safety and environmental protection; Be able to analyze the dangers of the technosphere, evaluate qualitative and quantitative hazard analysis, numerical risk analysis ; Be able to analyze the effectiveness of ways to protect against harmful and dangerous factors of the technosphere Possess methods and technologies of protection in emergency situations; skills of rationalization of professional activities in order to ensure safety and environmental protection.</p>	<p align="center">Неудовлетворител Learner in answering questions allows multiple errors of principle, allow inaccuracies in the definition of concepts, distort their meaning, randomly and uncertainly set out the material</p> <p align="center">Удовлетворительн Knowledge of the basic educational and program material to the extent necessary for further study and future work in the specialty, coping with the tasks provided by the program, but allowed inaccuracies in the definition of concepts, in the application of knowledge to solve professional problems</p> <p align="center">Хорошо Full knowledge of educational and program material, successfully completed practical tasks, learned the basic recommended literature, which showed the systematic nature of knowledge of the discipline, the Content and form of the answer allow some inaccuracies</p> <p align="center">Отлично Comprehensive systematic knowledge of educational and software material, the ability to freely perform practical tasks, as close as possible to future professional activities in standard and non-standard situations, learned the relationship of the basic concepts of the discipline in their meaning for the acquired specialty, showed creativity in understanding, presentation and use of educational and software material</p>
<p>УК.8.2</p>	<p>Knows: safe and/or comfortable</p>	<p align="center">Неудовлетворител</p>

Компетенция (индикатор)	Планируемые результаты обучения	Критерии оценивания результатов обучения
<p>Идентифицирует опасные и вредные факторы, выявляет и устраняет проблемы, связанные с нарушением техники безопасности в рамках осуществляемой деятельности</p>	<p>working conditions at the workplace, including with the help of protective equipment, theoretical foundations of life in the "human - habitat" system; legal, regulatory and organizational foundations of life safety; principles of occupational safety at the enterprise, technical means of protecting people in an emergency, fundamentals of human physiology, anatomical and physiological consequences of human exposure to traumatic, harmful and damaging factors; modern complex of human safety problems; means and methods of increasing security;</p> <p>Be able to: Create and maintain safe living conditions; identify and eliminate problems related to safety violations at the workplace; maintain safe working conditions, identify signs, causes and conditions of occurrence of dangerous and harmful factors, assess the likelihood of potential to take measures to prevent it, to effectively apply means of protection against negative impacts; to plan measures to protect personnel and the public in emergency situations and, if necessary, to take part in rescue and other urgent work;</p> <p>Possess: Practical skills in creating and maintaining safe living conditions, methods of predicting the occurrence of dangerous or emergency situations, skills in applying basic methods of protection in emergency situations. legislative</p>	<p>Неудовлетворител Learner in answering questions allows multiple errors of principle, allow inaccuracies in the definition of concepts, distort their meaning, randomly and uncertainly set out the material</p> <p>Удовлетворительн Knowledge of the basic educational and program material to the extent necessary for further study and future work in the specialty, coping with the tasks provided by the program, but allowed inaccuracies in the definition of concepts, in the application of knowledge to solve professional problems</p> <p>Хорошо Full knowledge of educational and program material, successfully completed practical tasks, learned the basic recommended literature, which showed the systematic nature of knowledge of the discipline, the Content and form of the answer allow some inaccuracies</p> <p>Отлично Comprehensive systematic knowledge of educational and software material, the ability to freely perform practical tasks, as close as possible to future professional activities in standard and non-standard situations, learned the relationship of the basic concepts of the discipline in their meaning for the acquired specialty, showed creativity in understanding, presentation and use of educational and software material</p>

Компетенция (индикатор)	Планируемые результаты обучения	Критерии оценивания результатов обучения
	and legal bases in the field of safety and environmental protection, safety requirements of technical regulations in the field of professional activity	
<p>УК.8.3 Выявляет проблемы, причины и условия возникновения чрезвычайных ситуаций и военных конфликтов, владеет методами прогнозирования возникновения чрезвычайных ситуаций и принимает меры по их предупреждению</p>	<p>Knows: causes, signs and consequences of hazards, methodological and legal foundations of human life safety, risks and factors that cause the occurrence of emergencies of natural, man-made and social origin; types of security; the content of the national security of Russia; military dangers and threats; modern wars and armed conflicts; characteristics of the impact of modern weapons on humans; the procedure for emergency protection from emergencies and military conflicts; fundamentals of life safety, emergency service telephones</p> <p>Can: identify the signs, causes and conditions of emergencies and military conflicts; assess the likelihood of a potential danger to the student and take measures to prevent it in an educational institution; provide first aid in emergency situations and military conflicts</p> <p>Possesses: methods of forecasting the occurrence of dangerous or emergency situations and military conflicts; skills of maintaining safe living conditions</p>	<p>Неудовлетворител Learner in answering questions allows multiple errors of principle, allow inaccuracies in the definition of concepts, distort their meaning, randomly and uncertainly set out the material</p> <p>Удовлетворительн Knowledge of the basic educational and program material to the extent necessary for further study and future work in the specialty, coping with the tasks provided by the program, but allowed inaccuracies in the definition of concepts, in the application of knowledge to solve professional problems</p> <p>Хорошо Full knowledge of educational and program material, successfully completed practical tasks, learned the basic recommended literature, which showed the systematic nature of knowledge of the discipline, the Content and form of the answer allow some inaccuracies</p> <p>Отлично Comprehensive systematic knowledge of educational and software material, the ability to freely perform practical tasks, as close as possible to future professional activities in standard and non-standard situations, learned the relationship of the basic concepts of the discipline in their meaning for the acquired specialty, showed creativity in understanding, presentation and use of educational and software material</p>

Компетенция (индикатор)	Планируемые результаты обучения	Критерии оценивания результатов обучения
<p>УК.8.4 Разъясняет правила поведения при возникновении чрезвычайных ситуаций и военных конфликтов; оказывает первую помощь, описывает способы участия в восстановительных мероприятиях</p>	<p>He knows: classification and sources of emergency situations of natural and man-made origin; causes, signs and consequences of hazards, methods of protection in emergency situations, military conflicts; the concept and strategy of national security; methods of preserving the natural environment, factors for ensuring sustainable development of society, the algorithm of actions at the scene of an accident, principles of behavior and models of action in non-standard situations; factors affecting safety in first aid.</p> <p>He is able to: maintain safe living conditions; ensure working conditions at the workplace; identify signs, causes and conditions of emergency situations and military conflicts; assess the likelihood of a potential danger and take measures to prevent it; act in non-standard situations, when providing emergency care</p> <p>Proficient in: Basic methods of forecasting, protection from possible consequences of emergencies and military conflicts; application of self- and mutual assistance techniques in case of accidents in emergency situations and military conflicts; skills of actions in non-standard situations, in the provision of emergency care, to bear social and ethical responsibility for the decisions taken.</p>	<p>Неудовлетворител Learner in answering questions allows multiple errors of principle, allow inaccuracies in the definition of concepts, distort their meaning, randomly and uncertainly set out the material</p> <p>Удовлетворительн Knowledge of the basic educational and program material to the extent necessary for further study and future work in the specialty, coping with the tasks provided by the program, but allowed inaccuracies in the definition of concepts, in the application of knowledge to solve professional problems</p> <p>Хорошо Full knowledge of educational and program material, successfully completed practical tasks, learned the basic recommended literature, which showed the systematic nature of knowledge of the discipline, the Content and form of the answer allow some inaccuracies</p> <p>Отлично Comprehensive systematic knowledge of educational and software material, the ability to freely perform practical tasks, as close as possible to future professional activities in standard and non-standard situations, learned the relationship of the basic concepts of the discipline in their meaning for the acquired specialty, showed creativity in understanding, presentation and use of educational and software material</p>

Оценочные средства текущего контроля и промежуточной аттестации

Схема доставки : Базовая

Вид мероприятия промежуточной аттестации : Зачет

Способ проведения мероприятия промежуточной аттестации : Оценка по дисциплине в рамках промежуточной аттестации определяется на основе баллов, набранных обучающимся на контрольных мероприятиях, проводимых в течение учебного периода.

Максимальное количество баллов : 100

Конвертация баллов в отметки

«отлично» - от 81 до 100

«хорошо» - от 61 до 80

«удовлетворительно» - от 42 до 60

«неудовлетворительно» / «незачтено» менее 42 балла

Компетенция (индикатор)	Мероприятие текущего контроля	Контролируемые элементы результатов обучения
УК.8.4 Разъясняет правила поведения при возникновении чрезвычайных ситуаций и военных конфликтов; оказывает первую помощь, описывает способы участия в восстановительных мероприятиях УК.8.1 Анализирует факторы вредного влияния на жизнедеятельность элементов среды обитания (технических средств, технологических процессов, материалов, зданий и сооружений, природных и социальных явлений)	Emergency chemical hazardous substances and their characteristics Письменное контрольное мероприятие	Place and role of security in the subject area and professional activities. The main dangers and risks in the chosen field of professional activity. Hazardous and harmful factors associated with the activity and their possible levels. Typical methods of protection against negative factors in the field of professional activity. The role and place of the professional field of knowledge in forecasting and prevention of emergency situations. Characteristics of the region in terms of the risk of emergency situations of natural and man-made. The most characteristic natural natural phenomena: a brief description of their parameters and nature of manifestation. Potentially dangerous man-made objects of the region: characteristics of hazards and rules of action in the conditions of their possible application. Environmental-economic and socio-economic damages related to security issues in the region, their structure, natural resource potential and environmental intensity of the economic potential of region.

Компетенция (индикатор)	Мероприятие текущего контроля	Контролируемые элементы результатов обучения
<p>УК.8.2 Идентифицирует опасные и вредные факторы, выявляет и устраняет проблемы, связанные с нарушением техники безопасности в рамках осуществляемой деятельности</p>	<p>First aid in case of emergency. Cardio-pulmonary resuscitation. Письменное контрольное мероприятие</p>	<p>First (pre-medical) assistance in case of accidents and assistance to victims in the conditions of social Assessment the condition of the victim and the basics of resuscitation Artificial ventilation and indirect heart massage. The main types of injuries encountered in disasters and natural disasters. Traumatic shock. The concept of long-term compression syndrome and assistance at the scene. The methods of salvation drowning and the first (pre-hospital) help with drowning, with loss of consciousness, electric shock, lightning</p>
<p>УК.8.3 Выявляет проблемы, причины и условия возникновения чрезвычайных ситуаций и военных конфликтов, владеет методами прогнозирования возникновения чрезвычайных ситуаций и принимает меры по их предупреждению</p> <p>УК.8.1 Анализирует факторы вредного влияния на жизнедеятельность элементов среды обитания (технических средств, технологических процессов, материалов, зданий и сооружений, природных и социальных явлений)</p>	<p>Protective structures of civil defense. Итоговое контрольное мероприятие</p>	<p>Chemical weapon. Bacteriological (biological) weapons. Conventional means of destruction, classification, method of delivery swaps . High-precision weapons. Organization cover the population in emergency situations. The evacuation from zones of disaster. Measures of medical protection. Personal protective equipment, the order of their use. Liquidation of consequences of emergency situations. Basics of organization of rescue and other urgent works (as and DNR) in emergency situations. Objectives, composition, purpose, organization of the forces involved for the AU and DPR. Ways of doing AC and DPR. The list of urgent works. Framework for the management of AC and DPR. Features of the AU and DNR under the action of various damaging factors. Methods of assessing the situation, determining the composition of forces and means to eliminate the consequences of emergencies</p>

Спецификация мероприятий текущего контроля

Emergency chemical hazardous substances and their characteristics

Продолжительность проведения мероприятия промежуточной аттестации: **1 часа**

Условия проведения мероприятия: **в часы аудиторной работы**

Максимальный балл, выставляемый за мероприятие промежуточной аттестации: **33**

Проходной балл: **14**

Показатели оценивания	Баллы
Knowledge of the problems of the studied section. From 81%- up to 100% of the correct answers from the total number of submitted tests	33
Knowledge of the problems of the studied section. From 42% to 60% of the correct answers from the total number of submitted tests.	14
Made significant mistakes in the knowledge of the problems of the studied section. From 0% to 40% of the correct answers from the total number of submitted tests	13

First aid in case of emergency. Cardio-pulmonary resuscitation.

Продолжительность проведения мероприятия промежуточной аттестации: **1 часа**

Условия проведения мероприятия: **в часы аудиторной работы**

Максимальный балл, выставляемый за мероприятие промежуточной аттестации: **34**

Проходной балл: **14**

Показатели оценивания	Баллы
Knowledge of the problems of the studied section. From 81%- up to 100% of the correct answers from the total number of submitted tests	34
Knowledge of the problems of the studied section. From 42% to 60% of the correct answers from the total number of submitted tests.	14
Made significant mistakes in the knowledge of the problems of the studied section. From 0% to 40% of the correct answers from the total number of submitted tests	13

Protective structures of civil defense.

Продолжительность проведения мероприятия промежуточной аттестации: **1 часа**

Условия проведения мероприятия: **в часы самостоятельной работы**

Максимальный балл, выставляемый за мероприятие промежуточной аттестации: **33**

Проходной балл: **14**

Показатели оценивания	Баллы
Knowledge of the problems of the studied section. From 81%- up to 100% of the correct answers from the total number of submitted tests	33
Knowledge of the problems of the studied section. From 42% to 60% of the correct answers from the total number of submitted tests.	14
Made significant mistakes in the knowledge of the problems of the studied section. From 0% to 40% of the correct answers from the total number of submitted tests	13