


MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION
FGBOU VO "THE BASHKIR STATE UNIVERSITY"
BIOLOGICAL FACULTY

Approved
at a faculty meeting of ecology and BZhD
protocol No. 12 of May 19, 2021.
Head of the
department  /A.V. Akhmadeev

Coordinated
Chairman of UMK f-that
_____/ A.M. Yefimov
Protocol No. from 2021

WORKING PROGRAM OF DISCIPLINE (MODULE)

discipline Health and safety

B1.O.04 Obligatory part

program of a bachelor degree

Direction of preparation

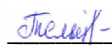
01.03.02. Applied Mathematics and Computer science

Preparation profile

Application programming and data analysis

Qualification

Bachelor

Developer (originator) Candidate of Biological Sciences, associate professor	 / L.Z. Tel'zova
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For reception of 2021.
Ufa 2021

Originators / originators: L.Z.Tel'zova

The working program of discipline is approved at a faculty meeting of Ecology and health and safety the protocol of May "19", 2021 No. 12

Additions and changes made to the working program of discipline are approved at a faculty meeting _____,
protocol No. ____ from " ____ " _____ 20 g.

Head of the department

/A.V. Akhmadeev

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protocol No. ____ from " ____ " _____ 20 _.

Head of the department

_____/_____ F.I.O /

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_____/_____ F.I.O /

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protocol No. ____ from " ____ " _____ 20 _.

Head of the department

_____/_____ F.I.O /

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1. The list of the planned results of training in discipline correlated to the indicators of achievement of competences installed in the educational program

(with orientation to cards of competences)

Following the results of development of discipline the student has to achieve the following results of training:

Category (group) of competences	The formed competence (with the indication of the code)	Code and name of the indicator of achievement of competence	Results of training in discipline
Health and safety	UK-8. It is capable to create and support safe conditions of activity, including at emergence of emergency situations	UK-8.1. Knows basics of life safety, phones of services of rescue.	Knows basics of life safety, phones of services of rescue.
		UK-8.2. Is able to give first aid in emergency situations, to create safe conditions to realization of professional activity.	Knows and is able to give first aid in emergency situations, to create safe conditions to realization of professional activity.
		UK-8.3. Has practical experience of maintenance of safe conditions of activity	Knows, is able and has practical experience of maintenance of safe conditions of activity

UK-8. It is capable to create and support safe conditions of activity, including at emergence of emergency situations

2. Purpose and place of discipline in structure of the educational program

The discipline "Health and safety" belongs to *an obligatory* part.

The discipline is studied on 1 _____ a course(s) in 1 _____ a semester.

The purposes of studying discipline "Health and safety" is formation of a professional safety culture which is understood as readiness and ability of the personality to use in professional activity the acquired set of knowledge, skills for safety in the sphere of professional activity, the nature of thinking and value orientations at which safety issues are considered as a priority.

Knowledge gained within studying the following disciplines of the program is necessary for development of discipline:

"Physics" (atomic theory, thermodynamics, mechanics, optics, the electric and electromagnetic properties of substance ionizing and not ionizing radiation);

"Chemistry" (inorganic and organic);

"Biology" (structure and properties of organic molecules, structure of cages, fabrics, bodies, metabolism bases, anatomy and human physiology).

Studying discipline reaches understanding that implementation of safety requirements of activity guarantees maintaining working capacity and human health in various life situations and trains him for rational actions at emergence of extreme conditions.

The competence UK-8 formed as a result of studying "Health and safety". It is capable to create and support safe conditions of activity, including at emergence of emergency situations - treats common cultural (universal) competences of graduates and **also the specialist programme is obligatory for all educational programs of levels of the higher education for bachelor.**

Development of discipline "Health and safety" is necessary as preceding studying social and economic, natural science and professional disciplines.

3. Contents of the working program (discipline volume, types and types of studies, educational and methodical ensuring independent work of students)

The contents of the working program are presented in appendix No. 1

4. Fund of estimated means for discipline

4.1. The list of competences and indicators of achievement of competences with the indication of the planned results of training in discipline correlated to them. Description of criteria and scales of estimation of results of training in discipline.

Code and formulation of competence UK-8. It is capable to create and support safe conditions of activity, including at emergence of emergency situations

Code and name of the indicator of achievement of competence	Results of training in discipline	Criteria of estimation of results of training	
		"Not set off"	"Is set off"
UK-8.1. Knows basics of life safety, phones of services of rescue.	Nobility: basics of life safety, phones of services of rescue.	The volume of knowledge is estimated on 59 and less points from required	The volume of knowledge is estimated from 60 to 110 points from demanded (including 10 incentive points)
UK-8.2. Is able to give first aid in emergency situations, to create safe conditions to realization of professional activity.	To be able: to give first aid in emergency situations, to create safe conditions to realization of professional activity.	The volume of abilities is estimated on 59 and less points from required	The volume of abilities is estimated from 60 to 110 points from demanded (including 10 incentive points)
UK-8.3. Has practical experience of maintenance of safe conditions of activity.	To have: practical experience of maintenance of safe conditions of activity.	The volume of possession of skills is estimated on 59 and less points from required	The volume of possession of skills is estimated from 60 to 110 points from demanded (including 10 incentive points)

4.2. The standard control tasks or other materials necessary for estimation of the results of training in discipline correlated to the indicators of achievement of competences installed in the educational program. The methodical materials defining procedures of estimation of results of training in discipline.

Code and name of the indicator of achievement of competence	Results of training in discipline	Estimated means
UK-8.1. Knows basics of life safety, phones of services of rescue.	Nobility: Knows basics of life safety, phones of services of rescue.	Report, testing

<p>UK-8.2. Is able to give first aid in emergency situations, to create safe conditions to realization of professional activity.</p>	<p>To be able: to give first aid in emergency situations, to create safe conditions to realization of professional activity</p>	<p>Interview, laboratory work</p>
<p>UK-8.3. Has practical experience of maintenance of safe conditions of activity.</p>	<p>To have: practical experience of maintenance of safe conditions of activity</p>	<p>Examination, interview</p>

4.3 *Rating plan of discipline*

The rating plan of discipline is presented in appendix No. 2.

Laboratory works

1. Research of parameters of natural and artificial lighting indoors
2. Determination of noise level (sound pressure) in the territory and indoors
3. Determination of level of the electromagnetic field of a source of radiation
4. Determination of power of gamma radiation in the territory and indoors

Criteria for evaluation of laboratory works:

Protection of each laboratory work is estimated as much as possible at 5 points

5 points are given to the student if performed laboratory work, a control task, showed sure possession of a technique and the device of the device. Answered all questions

4 points are given to the student if when performing laboratory work insignificant mistakes are made.

3 points the Student not completely performed a task or at the decision considerable mistakes are made.

2 points are given to the student if when performing laboratory work gaps in knowledge of GIS of the program are noticeable, not completely performed a task.

1 point it is given to the student if when performing laboratory work the student not completely performed a task or at the decision gross blunders are made.

0 points are given to the student if he did not perform laboratory work, a control task.

Interview

Interview - the control device organized as a special conversation with the student on the subjects connected with the studied (worked) subject and serving for assessment of degree of skill of the formed competence, calculated on clarification of volume of knowledge of the student under a certain section, a subject, a problem, ability to analyze and generalize material.

Example of those for an interview on a training course:

1. Normative legal acts on labor protection in the Russian Federation.
2. Production noise, its sources, influence on the person, fight against noise.
3. Electric traumas on production, protection against defeat by electric current.
4. The chemical factors of the environment influencing the person.
5. Ways and mechanism of removal of poisons from an organism.

Criteria for evaluation of an interview:

5 points are given to the student if specialized terminology, concepts is precisely used; in the answer the accurate structure built in the logical sequence is traced; the answer is stated by literary competent language. The student showed excellent possession of skills of use of the gained knowledge and abilities at the solution of professional tasks within the acquired training material.

4 points are given to the student if in the answer inaccuracies when publicizing the main maintenance of the answer are allowed, is inexact specialized terminology, concepts is used, has no certain logical sequence. The student showed good possession of skills of use of the gained knowledge and abilities at the solution of professional tasks within the acquired training material;

3 points are given to the student if there is no common understanding of a question, there are

difficulties or mistakes in definition of concepts, use of terminology are made. The student showed satisfactory possession of skills of use of the gained knowledge and abilities at the solution of professional tasks within the acquired training material.

2 points are given to the student if showed unsatisfactory possession of material of work and could not respond to the majority of the questions posed on a subject. The student showed insufficient level of proficiency in skills at the solution of professional tasks within the acquired training material.

0-1 point is given to the student if there is no understanding of a question, mistakes in definition of concepts, use of terminology are made, could not answer one question posed on a subject. The student showed total absence of possession of skills at the solution of professional tasks within the acquired training material.

Report

The report - independently made report on representation of the received results of the solution of a certain educational and practical, educational and research or scientific problem prepared by the student. This task which is partially regulated, having non-standard supply of material and allowing to diagnose for students of ability to integrate knowledge of various areas to reason own point of view. It can be carried out individually or group of students.

The quantity and weight of criteria for evaluation of the report depend on whether the report is the only subject to estimation or it represents only its part.

The report as the only means of estimation is effective, first of all, when the student represents results own educational / research activity, and maintenance and possession of the provided information is important. In this case at assessment of the report any set from the following criteria can be used:

- ✓ compliance of a performance to a subject, goals and tasks;
- ✓ problematical character / relevance;
- ✓ novelty / originality of the received results;
- ✓ depth / completeness of consideration of a subject;
- ✓ evidential base / argumentativeness / persuasiveness / validity of conclusions;
- ✓ logicity / structure / integrity of a performance;
- ✓ speech culture (style of statement, clarity, clearness, laconicism, beauty of language, accounting of audience, emotional drawing of the speech, clarity, punctuality, nonverbal support, revival of the speech aphorisms, examples, quotes, etc.);
- ✓ references to information resources (websites, literature) are used;
- ✓ presentation / presentableness (if it is required);
- ✓ independence judgments / possession material / competence.

If the report comes down to the short message (10 minutes), can be followed by the presentation (10-15 slides) and cannot give complete idea of the carried-out work, then it is necessary to estimate answers to questions and if is, the report / the explanatory note.

Parameters of estimated means (an example for the report)

The offered quantity of subjects	20
Control duration limit	General time of 90 min.
Evaluation criteria: - compliance of a performance to a subject, goals and tasks; - showed understanding of a subject, ability of the critical analysis of information;	max 5 points

- showed knowledge of methods of study ... and ability to apply them; - generalized information by means of tables, schemes, drawings, etc.; - formulated the reasoned conclusions; - originality and creativity by preparation of the presentation;	
"5" if the task is performed completely	5 points
"4" if the task is performed with insignificant errors	4 points
"3" if finds knowledge and understanding of the most part of a task	3 points

Example of those of reports on a training course:

1. Planning of actions according to prevention and mitigation of consequences of emergency.
2. Evacuation of the population in emergency.
3. Use of protective constructions in emergency.
4. Use of individual protection equipment in emergency.
5. Types of medical means and their use in emergency.

Tasks for an examination

Description of an examination: The examination is directed to estimation of assimilation of knowledge, skills at the student. The student should answer three questions.

Approximate options of an examination Examination No. 1

Option 1

1. Impact of negative factors on the person and environment.
2. A population explosion, an urbanization, a scientific and technological revolution - the reasons of formation of a technosphere.
3. Action of noise on the person. Occupational diseases from impact of noise

Option 2

1. Criteria for evaluation of negative impact: number injured and died, life expectancy reduction, material damage, their importance.
2. Work-rest schedules, main ways of decrease in exhaustion and monotony of work, measure for optimization of work of women and teenagers.
3. Electromagnetic fields. Impact on the person of static electric and magnetic fields, electromagnetic fields of radio frequencies.

Examination No. 2

Option 1

1. Concept about medical emergencies. The reasons and factors causing them.
2. Complex of warm and pulmonary resuscitation and the indication to its carrying out, criteria of its efficiency.
3. Measures of prevention and first aid at thermal defeats.

Option 2

- 1 Diagnostics and methods of first aid at medical emergencies.
2. Characteristic of children's traumatism. Measures of prevention of injuries and first aid at them.
3. First-aid treatment at bleedings.

Estimation scale (for 1 question):

"5 points" - the question is opened completely, the basic concepts and characteristics on a subject are precisely designated.

"4 points" - the question is opened, however there is no complete description of all necessary elements.

"3 points" - the question is opened not fully, however there is some understanding of the opened concepts.

"2 points" - the question is opened not fully, there are gross blunders.

"0-1 point" - the answer to a question is absent or in general is not right.

Test

The test - the system of the standardized tasks allowing to automate the procedure of measurement of level of knowledge and abilities of the student.

Examples of test tasks**Module 1**

1. What is harmful production factors?

- a) factors which can cause intense violation of health and death of an organism;
- b) factors which have negative impact on health, working capacity;
- c) factors which cause accidents and production injuries.

2. The natural systems of protection of an organism from adverse factors are provided for the account:

- a) nervous system;
- b) working conditions;
- c) feelings of sense of smell;
- d) touch;
- e) sight;
- e) labor law in the field of labor protection.

3. The reduced duration of working hours working in harmful working conditions is established:

- a) with payment it is proportional to hours worked;
- b) with compensation depending on development;
- c) without compensation reduction.

4. The reduced duration of working hours for persons more young should not exceed than 16 years in a week:

- a) 36 hours;
- b) 28 hours;
- c) 24 hours.

5. Types of a thermolysis:

- a) radiation;
- b) convection;
- c) refraction;
- d) cooling;
- e) evaporation.

Module 2

1. Treat terminal states...

- a) clinical death, biological death;
- b) consciousness loss, respiratory standstill, cardiac arrest, death of a brain;
- c) arrest of cardiac and breath, death of a cerebral cortex, death of all brain;
- d) preagony, agony, clinical death

2. Duration of clinical death in normal conditions is...

- a) 30-40 sec.;
- b) 1-2 min.;
- c) 4-6 min.;
- d) 10-15 min.

3. The lack of warm and respiratory activity, emergence of "a cat's pupil", "herring gloss" of an eye cornea, an okocheniye with further emergence of cadaveric spots, are characteristic for...

- a) clinical death;
- b) biological death;
- c) collapse;
- d) coma

4. Holding resuscitation actions is necessary only...

- a) in a predagonalny state;
- b) in an agonalny state;
- c) in a condition of clinical death;
- d) in a torpedo phase of shock

5. The Prekardialny blow is made from distance _____ see.

- a) 5;
- b) 10;
- c) 30;
- d) 50

The test is considered passed if there are more than 50% of the correct answers at the following assessment:

- from 50% to 70% - from 5 to 7 points
- from 71% to 90% - from 7 to 9 points
- from 91% to 100% - from 9 to 10 points

When receiving less than 5 points the student is obliged to pass a test repeatedly, after additional preparation.

5. Educational and methodical and information support of discipline

5.1 LIST OF THE MAIN AND ADDITIONAL EDUCATIONAL LITERATURE NECESSARY FOR DEVELOPMENT OF DISCIPLINE (MODULE)

a) Main literature

1. V.V. Ploshkin. Health and safety. M, 2015 - 404 pages. Access mode: <http://biblioclub.ru/index.php?page=book&id=271483>
2. L.L. Nikiforov, V.V. Persiyarov. Health and safety. - M, 2013-494 pages. Access mode: <http://biblioclub.ru/index.php?page=book&id=452583>
3. V.S. Tsepelev, G.V. Tyagunov, I.N. Fetisov. Health and safety in a technosphere: in 2 h, Part 1. Main data on BZhD. - Yekaterinburg: Publishing house of the Ural university, 2014. - 119 pages. Access mode: <http://biblioclub.ru/index.php?page=book&id=275963>
4. N.A. Shaydenko, I.V. Lazarev. Health and safety: textbook. - Tula: TGPU of L.N. Tolstoy, 2012. - 333 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=230626
5. I.A. Ekimova. Health and safety: manual. - Tomsk: El Content, 2012. - 192 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=208696

b) additional literature

1. V.V. Ploshkin. Health and safety: manual for higher education institutions, Part 2. - Moscow, Berlin: Direct-media, 2015. - 404 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=271483
2. I.A. Ekimova. Health and safety: manual. - Tomsk: El Content, 2012. - 192 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=208696
3. R.V. Kryukov. Health and safety. Abstract of lectures: manual. - M.: A-prior, 2011. - 128 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=56296
4. Yu.N. Sychev. Health and safety in emergency situations: manual. - M.: Finance and statistics, 2009. - 224 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=86092
5. A.P. Tsurkin, Yu.N. Sychev. Health and safety: educational and practical grant. - M.: Eurasian open institute, 2011. - 316 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=90807
6. L.F. Maslova. Health and safety: manual. - Stavropol: Stavropol state agricultural university, 2014. - 87 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=277462
7. S.M. Apollonsky, T.V. Kalyada, B.E. Sindalovsky. Health and safety of the person in electromagnetic fields: manual. - SPb: Polyequipment, 2012. - 268 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=120862
8. Dmitriyev V.M., V.G. Odnolko, E.A. Sergeev., L.A. Harkevich. Basics of life safety: manual, Part 2. Tambov: TGTU FGBOU VPO publishing house, 2013.-89 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=277660
9. V.Zh. Bikulova., F.M. Latypova, I.O. Tuktarova. Health and safety: for carrying out a practical training: study guide. - Ufa: Ufa state university of economy and service, 2014. - 71 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=272386
10. L.E. Skalozubova., L.G. Ovcharova, Not dairy N.V. Negative factors of a technosphere: workshop on health and safety. - Kemerovo: Kemerovo state university, 2012. - 218 pages. Access mode: http://biblioclub.ru/index.php?page=book_view&book_id=232736

5.2. List of resources of the Internet and software necessary for development of discipline

1. The electronic library system "EB BASHGU" - <https://elib.bashedu.ru/>
2. The electronic library system of Lan publishing house - <https://e.lanbook.com/>
3. The electronic library system "University Library Online" - <https://biblioclub.ru/>
4. Scientific electronic library - elibrary.ru (access to online scientific magazines) - https://elibrary.ru/projects/subscription/rus_titles_open.asp
5. The electronic catalog of Library of BashGU - <http://www.bashlib.ru/catalogi/%20%20>
6. Electronic library of theses of RGB - <http://diss.rsl.ru/>
7. State Public Scientific Technical Library of Russia. The database of the international indexes of scientific citing SCOPUS is <http://www.gpntb.ru>.
8. State Public Scientific Technical Library of Russia. The database of the international indexes of scientific citing Web of Science is <http://www.gpntb.ru>

Software

1. Rights for the computer programs the operating system for the Win SL 8 Russian OLP NL AcademicEdition Legalization GetGenuine personal computer. The rights for the computer programs updating of the operating system for the Windows Professional 8 Russian Upgrade OLP NL Academic Edition personal computer. Contract No. 104 of 17.06.2013. Termless licenses.
2. Computer program of Office Standard 2013 Russian OLP NL AcademicEdition. Contract No. 114 of 12.11.2014. Termless licenses.

6. Material and technical resources necessary for implementation of educational process on discipline

The name special * rooms and rooms for independent work	Equipment of special rooms and rooms for independent work	List of the license software. Details of the supporting document
<p>1. educational audience for training of lecture type: audience No. 501, 502 (a physical mat the case - educational)</p> <p>2. educational audience for training of seminar type: audience No. 317a (academic building of biology faculty)</p> <p>3. educational audience for carrying out group and individual consultations: audience No. 502 (a physical mat the case - educational), audience No. 317a (academic building of biology faculty)</p> <p>4. educational audience for the current control and intermediate certification: audience No. 501.502 (a physical mat the case - educational), audience No. 317a (academic building of biology faculty)</p> <p>5. rooms for independent work: reading room No. 2 (a physical mat the case - educational)</p>	<p style="text-align: center;">Audience No. 501</p> <p>Educational furniture, board, personal computer. and system unit / Core i5-4460 (3.2)/CIGABAYTE GV-N710D3-1GL/4Gb, Prezenter Logitech Wireless Presenter R400 (210134000003592), projector of Sony VPL-DX270, screen manual ViewScreen Lotus 244x183 WLO-4304.</p> <p style="text-align: center;">Audience No. 502</p> <p>Educational furniture, board wall cretaceous.</p> <p style="text-align: center;">Audience No. 317a (the biological case - educational)</p> <p>Educational furniture, board, portable multimedia projector of Benq MP515, Lenovo 550 Laptop. Devices Piece MEGEON acoustimeter 92130 4, CEM DT-13005sht. Light meter, Terra-P ISS-05 Dosimeter radiometer of household 1 piece, Level gage of an electromagnetic background of ATT-2592 1 piece, Radex5sht. radioactivity Indicator, Exercise machine of warm and pulmonary resuscitation T2 "Maxim III" of 72*37*28/8 kg 1 pieces, cloths fire-prevention 6 pieces</p> <p style="text-align: center;">Reading room No. 2</p> <p>Educational furniture, educational visual aids, the stand on fire safety, monoblocks stationary - 8 pieces, the printer - 1 piece, the scanner - 1 piece.</p>	<p>1. Windows 8 Russian. Windows Professional 8 Russian Upgrade. Contract No. 104 of 17.06.2013. Termless licenses.</p> <p>2. Microsoft Office Standard 2013 Russian. Contract No. 114 of 12.11.2014. Termless licenses</p>

MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION
 FGBOU VO "THE BASHKIR STATE UNIVERSITY"
 FACULTY OF MATHEMATICS AND INFORMATION TECHNOLOGIES

CONTENTS OF THE WORKING PROGRAM

disciplines "Health and safety" on 1 semester

full-time courses

Type of work	Discipline volume
General labor input of discipline (ZET / hours)	2/72
Class periods for contact work with the teacher:	54,2
lectures	18
practical / seminar	-
laboratory	36
others (the group, individual consultation and other types of educational activity providing work of students with the teacher) (FKR)	0,2
Class periods for independent work of studying (SR)	17,8
Class periods on preparation for examination/offset / the differentiated offset (Control)	-

Control form:

Test 1 semester

№	Subject and contents	Form of studying materials: lectures, a practical training, seminar occupations, laboratory works, independent work and labor input (in hours)				The main and additional literature recommended to students (numbers from the list)	Tasks on independent work of students	Form of the current control of progress (colloquiums, examinations, computer tests, etc.)
		LEC	PR/SEM	LR	SR			
1	2	3	4	5	6	7	8	9
1.	<p><u>Subject 1.</u> Introduction to BZhd. Basic concepts and definitions Purpose and content of discipline "Health and safety" Characteristic systems "the person-the habitat". Concepts production, city, household, environment. Interaction of the person with the habitat. Potential negative impacts in the "person-the habitat" system. Negative impacts of natural, anthropogenic and technogenic origin. Origin of technogenic dangers.</p>	4		6	1,8	<p>Main literature: 1-5 Additional literature: 1-7</p>	<p>Bases of optimum interaction: comfort, minimization of negative impacts, sustainable development of systems. Examples of impact of negative factors on the person and environment. Criteria for evaluation of negative impact: number injured and died, life expectancy reduction, material damage, their importance.</p>	<p>Current control: 1) Interview 2) check of performance of laboratory works</p>
2.	<p><u>Subject 2.</u> Identification and impact on the person of harmful and dangerous factors of the habitat Classification of the main forms of human activity. Physical and brainwork. Weight and tension of work. Statistical and dynamic efforts. Physiological value of muscular work. Methods of assessment of weight of work. Power expenses of the person at different types of activity. Negative factors: natural, anthropogenic and technogenic, physical, chemical, biological, psychophysiological; the injuring and harmful zones. Rationing of negative factors (PDK,PDU).</p>	4		6	4	<p>Main literature: 1-5 Additional literature: 1-7</p>	<p>Work-rest schedules, main ways of decrease in exhaustion and monotony of work, measure for optimization of work of women and teenagers. Population explosion, urbanization, scientific and technological revolution - the reasons of formation of a technosphere. Types of technospheric zones and regions: production sphere, industrial zone, region, city, residential, transport and household environments. Simultaneity of impact of technogenic dangers on the person, environment and technosphere. Mechanical oscillations. Types of vibrations and their impact on the person. Rationing of vibrations, vibration disease.</p>	<p>Current control: 1) Interview 2) check of performance of laboratory works</p>

							<p>Acoustic vibrations. Constant and changeable noise. Action of noise on the person. Audiometriya. Infrasonnd, possible levels. Ultrasound, contact. and acoustic influence of ultrasound. Rationing of acoustic influence. Occupational diseases from impact of noise, an infrasonnd and ultrasound. Danger of their joint influence. Shock wave, features of its direct and indirect impact on the person. Impact of a shock wave on the person, constructions, equipment, environment.</p> <p>Electromagnetic fields. Impact on the person of static electric and magnetic fields, electromagnetic fields of radio frequencies. Influence of VHF - and microwave radiations on organs of vision, an integument, the central nervous system, composition of blood and a condition of an endocrine system. Rationing of electromagnetic fields. Action of IK-radiation on a human body. Features of an electromagnetic impulse of nuclear explosion. Action of broadband light radiation of big energy on a human body. Approximate and safe level of influence. Action of UV-radiation. Rationing. Occupational diseases, injuries. Negative consequences. Ionizing radiation. External and internal radiation. Their actions on a human body. Comparative assessment of natural and anthropogenic radiations. Categories of the irradiated persons and groups of critical bodies. Standards of radiation safety. Radiation sickness, other diseases. Remote consequences. Impacts of ionizing radiation on the habitat.</p> <p>Electric current. Impacts of electric current on the person. Hazardous substances, classification, modular. state,' ways of receipt to a human body</p>	
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3.	<p><u>Subject 3.</u> Management of health and safety Activity safety issues in laws and bylaws. Problems of environmental protection. Legislation on work. Acts of decision-making bodies. Bylaws on labor protection. Sanitary standards and rules. Instructions for labor protection. Value and essence of the occupational safety standards system (OSSS) of Vida of control of working conditions: current control, target and complex checks, certification of jobs. Control of heavy, especially heavy, harmful and especially harmful working conditions. Certification of jobs.</p>	4		8	4	<p>Main literature: 1-5 Additional literature: 1-7</p>	<p>Control of heavy, especially heavy, harmful and especially harmful working conditions. Special assessment of jobs.</p>	<p>Current control: 1) Interview 2) check of performance of laboratory works</p>
4.	<p><u>Subject 4.</u> The basic concepts and definitions, classification of emergency situations and objects of economy on potential danger. Phases of development of emergency situations. The striking factors of sources of emergency situations of technogenic character. Classification of natural disasters (natural disasters), technogenic accidents. Characteristic of the striking factors emergency situations of natural character. Technogenic accidents are their features and the striking factors. Emergency situations peace and wartime and their striking factors. Types of weapon of mass defeat, them features and consequences of its application. Terrorism and terrorist actions. Methods of forecasting and assessment of a situation at emergency situations. Stability of functioning of objects of economy in emergency situations. The principles and ways of increase in stability of functioning of objects in emergency situations. Bases of the organization of protection of the population and personnel in peace and wartime, ways of protection, protective constructions,</p>	4		8	4	<p>Main literature: 1-5 Additional literature: 8-10</p>	<p>Radiation Dangerous Objects (RDO). Radiation accidents, their types. Chemically Dangerous Objects (CDO),' their groups and hazard classes. General measures of prevention of accidents on HOO. Fire-dangerous and explosive objects. Shock wave, impact on a human body. Protection of the population in emergency situations Purpose, tasks and structure of Universal State System of Prevention and Response to ES. (RSChS). Territorial subsystems of RSChS, Functional systems of RSChS. Levels of management and structure of bodies for levels. Levels of management and structure of bodies for levels. The place of Civil defense in the system of nation-wide actions of civil protection. The principles of the organization of protection of the population in peace and wartime. Equipment of shelters Pre-fabricated shelters the Simplest shelters. The shelter in the adapted and special constructions of Feature of the organization of evacuation from zones</p>	<p>Current control: 1) Interview 2) report</p>

	<p>their classification.</p> <p>The organization of evacuation of the population and personnel from zones of emergency situations. Actions of medical care. Individual protection equipment and order of their use. Bases of the organization of rescue and other urgent works at emergency situations.</p>						<p>emergencies</p> <p>Mitigation of consequences of emergency situation. Bases of the organization of rescue and other urgent works (ASDNR). Bases of management of ASDNR. Degrees of readiness of forces which are carrying out ASDNR. Features of carrying out ASDNR at action of various striking factors. Management of forces when carrying out ASDNR.</p>	
5	<p><u>Subject 5.</u></p> <p>Medicine of accidents</p> <p>Rendering first pre-medical medical care</p>	2		8	4	<p>Main literature: 1-5</p> <p>Additional literature: 8-10</p>	<p>Actions of medical care. Rendering first pre-medical medical care. Individual protection equipment and order of their use.</p> <p>Bases of the organization of rescue and other urgent works at emergency situations</p>	<p>Current control:</p> <p>1) Interview</p> <p>2) report</p>
	In total hours:	18		36	17,8			

4.3. Rating plan of discipline

Health and safety

direction 01.03.01. Mathematics "Teaching Mathematics and Informatics" Profile
course 1, semester 1.

Types of educational activity of students	Point for a concrete task	Number of tasks for a semester	Points	
			Minimum	Maximum
Module 1 Person and technosphere.				
Current control				
Performance and protection of laboratory works	5	4	0	20
Interview	5	1	0	5
Rubezhny control				
1. Written examination	5 for 1 question	3 questions	0	15
2. Testing	10	1	0	10
In total on the module			0	50
Module 2. Emergency situations and methods of protection in the conditions of their realization				
Current control				
Report	5	4	0	20
Interview	5	1	0	5
Rubezhny control				
1. Written examination	5 for 1 question	3 questions	0	15
2. Testing	10	1	0	10
In total on the module			0	50
Incentive rating for a semester				
Participation in the Olympic Games held on the basis of faculty. Performance Cf. Participation in actions within a sales tax of department.	2	5	0	10
In total according to incentive rating			0	10
Attendance (points are subtracted from the total amount of the gained points)				
Visit of lecture occupations	By situation		0	0
Visit of laboratory researches	By situation	13 occupations	0	-16
In total on attendance			0	-16
TOTAL			0	110