



საქართველოს ტექნიკური უნივერსიტეტი
GEORGIAN TECHNICAL UNIVERSITY

Is approved by the Resolution
№ 740 of GTU Academic
Council in September 5, 2012

Modified by the Resolution
№ 01-05-04/95 of Academic
Council in april 2, 2018

Bachelor's Educational Program

Name of the program

საინჟინრო უსაფრთხოება და საგანგებო სიტუაციების მართვა

Engineering Safety and Emergency Management

Faculty

სამთო - გეოლოგიური

Mining and Geology Faculty

Program manager

Professor Lucinda Chkheidze

Granting Qualification and program volume credits

Bachelor of Environment Engineering and safety is given at least 240 credits with the combination of 225 credits of major speciality and 15 free components of the educational program.

The language of teaching

Georgian

Pecondition for admission to the program

The right to study for a bachelor's degree is available only to a person who has a State certificate certifying full general education or a document identified with it, who will be enrolled under the laws of the Georgian legislation

Description of the program

The program lasts 4 years (8 semesters) and includes 240 credits from which 210 credits belong to the subjects of basic speciality, 5 credits - to the practice study, 10 credits – to bachelor's work, 15 credits – to free component. 1 credit includes 25 hours by ECTS system.

Every academic year includes 60 credits. Each year's academic process continues 40 weeks, I semester - 20 weeks, II semester - 20 weeks. Every semester of teaching course takes place within 15 weeks. VIII Week is intended for interim assessment, which includes current activities and mid-test exams. Maximum score of current activity is 30, minimum score is 15 points. Maximum score of mid-semester exam is 30 and minimum positive assessment is 7.5 points. XVII Week – submitting documented material. The final exam is conducted in XVIII-week, the maximum score is 40, the minimum score is 10.

If the student fails to pass the 51-point margin on the final exam, and got the score 41-50 of assessment, which means that the student needs more work to pass, and he / she is given the right to pass an additional exam with independent work. The additional examination shall be appointed during the period of retaking the final exam defined by the schedule at least in 5 days after the final test results are declared.

Out of the 60 credits of the first academic year, 3 credits are dedicated to the subject of speciality, labor legislation and the remaining 57 credits for general subjects. Mathematics is taught in two semesters (5-5 credits), foreign language in two semesters (3-3 credits), and general physics in two semesters (4-4 credits). General chemistry (4 credits), basics of engineering graphics (3 credits), Environment Protection and Ecology (3 credits) are taught in the I semester. Principles of Minerals Enrichment (5 credits), general geology (5 credits), Biodiversity (3 credits), Bases of metallurgical Technology (3 credits), elective humanitarian subjects (3 credits) are taught in the II semester.

Out of 60 credits from the second academic year, 33 credits are provided **to general technical and environment protection subjects**, the remaining 27 credits are for speciality subjects. 60 credits of the third year are intended for **specialized subjects** (including 4 credits for selective subjects). 30 credits out of 60 credits of the fourth academic year are for the basic subjects of the speciality, In the VIII semester 5 credits are for practice, 10 credits - bachelor's work and 15 credits - free component. The program consists of 6 subjects as free component.

The aim of the program

The Bachelor's Program aims at preparing competitive specialists in the field of Emergency Management and Emergency Situations Management in accordance with highly qualified market requirements, equipped with the appropriate knowledge and practical skills to ensure safety and health care, to prevent and minimize industrial threats and risks.

Learning outcomes/ competences (general and sectoral)

Learning and understanding:

-The student will have the knowledge of Georgian labor legislation on the labor code the work of the labor code, the labor legislation, the age of admission to work, the preliminary relations of contract, internal regulations of the labor contract, duration of working hours, duration of overtime work, labor remuneration, suspension of work relations, collective contracts and the forms of signing the contracts etc.

- Surveillance on fulfillment of requirements provided by fire instructors. Participation in carrying out fire prevention measures, firefighting means , periodical inspection of evacuation routes and exits, determination of the basic physico-chemical properties of the materials - porousness, durability, heat conductivity and combustion capacity;

- Study of labor conditions for mining and geological profile industries, active hazardous industrial factors; traumas and professional diseases characteristic to enterprises, the air environment of mining and geological enterprises; injuries and protection tools caused by electric current; fire safety requirements; knowledge and understanding of methods of conducting liquidation works in mining and geological enterprises;

- human loss and accidental damage caused by accidents and disasters; - knowledge of the characteristics of negative factors generated during manufacturing technological processes, to understand their harmful effect on environment and ecosystems;

- To understand the necessity of reducing the harmful effects of ecosystems to the limit of the permissible level;

- Knowledge of the rules of safe production of architectural-planning, construction-installation and hydraulic works; knowledge and understanding of the methods of safe production of land, stone, concrete, mounting, dismantling and reinforcement works study of labor conditions of the workers, knowledge and awareness of active and harmful enterprise factors;

- Knowledge and understanding of electrical security requirements;

- Knowledge and understanding of the importance, purpose, characteristics, operational conditions and safe functioning methods of modern transport systems and means in the public sector;

- Knowledge and understanding of ensuring engineering security , creation of healthy and comfortable conditions, Machine tools, equipment, Technological equipment and tools operating under pressure, safe exploitation of crane-transport and transportable mechanisms, analyzing the risk factors, modern methods of raising industrial sustainability.

- Knowledge of the main aspects of manufacturing safety; the methods of avoiding or minimizing industrial risks and threats, knowledge of accidental localization and liquidation methods;

- The main causes and consequences of industrial accidents and disasters, understanding of the threats in the enterprise and knowledge of prevention measures;

- Recognition and understanding of the risks of emergencies of natural and technogenic nature;

- Knowledge and understanding of theoretical aspects of engineering safety and emergency management;
- Knowledge of the methods and means of processing and implementation of legislative and normative documentation;
- Knowledge of computer modern technique and technologies;
- Knowledge and understanding of engineering safety issues in the enterprise planning process;
- Knowledge of assessing and upgrading methods of machinery, equipment and fire and explosion resistant equipment ;
- Knowledge and understanding the methods of safe functioning of technological process and devices, normative-technical and organizational safety standard issues of life security .

- Ability to use knowledge in practice:

- Evaluate and fixing the real threat of the risk of the accident in the enterprise according to the knowledge of enterprise security and reduction of accident probability methods;
- Use a wide range of cognitive and practical skills based on specialized theoretical and practical knowledge to solve the problems creatively in the field of **safety of construction and emergency management**;
- Analysis of traumatic events, counting, injury characteristic coefficients arising during the exploitation of machine tools used in construction profile enterprises and construction sites;
- Analysis of the traumatic events developed during operation of machinery used in mining and geological profile industries, practical calculation of trauma characteristic coefficients; selection and use of special outfits and other individual protection tools in practice during the implementation of various technological processes in the above-mentioned enterprises;
- Reveal chemical, psychophysiological, biological, dangerous and harmful factors on transport objects in extreme situation, monitoring of the control equipment and avoiding malfunctions if the parameters are divergent;
- Finding and processing new technical and technological information in engineering safety and emergency management;
- Use of computer technologies in the field of security;
- Participation in designing and reconstruction of equipment in the field of **safety of construction and emergency management**.

Ability of judgments:

- Determination of distinctly identified problems in the field of industrial safety, analyze the situation with the standard methods and establish a reasoned conclusion;

- Analyze new data and situations to solve engineering safety and emergency problems and establish a reasonable conclusion according to them;
- To make a reasonable conclusion on the selection of methodology of recovery and liquidation in emergency situations and traumatic and professional diseases in the field of engineering safety and emergency situations;
- Written and verbal communication on the causes and reduction measures of their origin in the case of high-level physical and chemical contaminants during the production processes;
- Collection, analysis and formation of the substantive conclusion of data for the transport industry;
- To make relevant conclusions on the basis of the labor safety situation in different areas and factories on mining and geological profile production facilities;
- Gathering, analyzing and formulating a substantive conclusion characteristic features to the safe work conditions and skills, and the sphere of accidents;
- Investigate the labor safety situation in construction sites, workshops and warehouses and make relevant conclusions;
- Obtaining information, analyzing and establishing a reasonable report on the safe methods of installation, dismantling or reinforcement of buildings;
- Collect physical data characteristic to environmental pollution by physical factors, analyzing situations and making a substantiated conclusion.

communication skill:

- Writing a report on the danger characteristic to industrial activity, establishment of the opinion on the articles in labor legislation and transfer to native and foreign languages;
- Ability to provide your own opinion or given information structurally and coherently to specialists and non-specialists in both native and foreign languages;
- Ability to prepare a written and oral report based on the results of inspection of the means of production security. Get acquainted with the results and recommendations for specialists and non-specialists;
- Written and verbal communication with the administration and personnel about the reasons for their initiation and reduction measures in case of high levels of physical pollutants on the norm during the production processes.
- Prepare a comprehensive written report on the problems and solutions in the field of transport industry and exchange the information for specialists and non-specialists in Georgian and foreign languages, use of modern information and communication technologies;
- Ability to use informational, communicative technological resources creatively to achieve work objectives;
- Ability to write professionally and briefly on professional issues;

- Ability to present presentations or written information;
- Oral and written communication skills for specialists and non-specialists in native and foreign languages.
- To provide the information in written and orally, in native and foreign languages about the fire safety, burning capability of building materials, rising quality of buildings resistance against the fire , fire protection activities in the warehouse.

ability to learn:

- Ability to seek, assimilate and continuously acquire modern information in order to deepen knowledge in engineering safety and emergency management;
- To increase knowledge in fire prevention, finding and studying modern information on fire prevention measures and equipment, identifying further learning needs;
- Determine the further learning direction, taking into account the existing environment and priorities;
- In order to enhance knowledge, gradual and multilateral assessment of their own learning process, self-evaluation of the need for renewing of knowledge and determining the need to continue learning in the second level (masters) education.

Values:

- Identification of professional values of enterprise activity: accuracy, observation, analysis, discernment and organization;
- Recognition and protection of labor rights priorities;
- Participation in the formation of environmental values and striving to establish them;
- Knowledge, evaluation and sharing of principles and values in the field of engineering safety and emergency situations;
- Participation in the process of manufacturing safety and values shaping in the field of human health and striving to establish them;
- Defending the norms of ethics and values;
- To protect the norms of morals;
- To participate in the process of formation of values and moral norms and strive to adopt them in life;
- Conducting labor activities according to the principles of life and the principles of ecological safety.

Methods of achieving learning outcomes (teaching and learning)

lecture seminar (team working) Practice Laboratory
 Practice Course paper/project Consultation Independent work

Based on the specific course of study in the learning process, the relevant below listed activities of the teaching-learning methods are used, which are reflected in the relevant training courses (syllabus):

Verbal or oral method-

lecture, narration, conversation, etc. belongs to this method. In this process, the teacher handles the study material, explains it, and the students perceive and master the subject through learning, remembering and understanding it actively.

Discussion / debate - is one of the most common methods of interactive teaching. Discussion process increases the quality and activity of student engagement. Discussions can be enhanced in the debate and this process is not limited to the questions asked by the teacher. It develops a student's ability to reason and justify his opinion.

Cooperative teaching is a learning strategy where every member of the group is obliged not only to study himself but also to help his team to study the subject better. Each member of the group works on the problem until all of them master the task.

Collaborative working – This method involves dividing students into the groups and giving them learning instruction. The group members individually work on the issue and share their opinions with other members of the group at the same time. Depending on the set objective, it is possible to divide the functions among the members during Group's work process. This strategy ensures maximum involvement of all students in the learning process.

The demonstrative method - implies visual representation of information. In terms of achieving the result it is quite effective. In many cases, it is best to provide the materials simultaneously with audio and visual methods. The study material can be demonstrated by the teacher and the student. This method helps us to visualize the different levels of learning material, to specify what students will have to do independently; At the same time, this strategy will visually represent the essence of the issue / problem. Demonstration may be simple.

Analysis Method - Helps us to take apart the whole learning material into the several components. This will simplify detailed coverage of individual issues within a difficult problem.

Case study - The teacher discusses concrete cases with students and they will study and analyze the task thoroughly. For example, in the field of environmental safety, it can be a case study of the genetic resource monitoring, in political science - analysis of specific- Abkhazia-Samachablo problem and others.

Writing work method - which implies the following types of actions: making abstracts and records, making notes of material, composing abstracts, writing summaries or essays, and so forth.

The explanatory method is based on a discussion on the issue. The teacher provides a specific example of the content of the material, which is discussed in detail within the topic.

The induction method determines the form of transmitting any knowledge when the course of thinking is aimed at generalization based on the facts, i.e. during the explanation the process goes from the specific to the general.

Deduction method determines the form of transmitting any knowledge which is a logical process of gaining the new knowledge based on the general knowledge, i.e. the process goes from the general to the specific.

Action-oriented teaching - requires active involvement of the teacher and student in the teaching process, with a special emphasis on the practical interpretation of the theoretical material

Brain storming–This activity implies promoting, elaborating and expressing maximum amount of preferably drastically different opinions and ideas about the specific issue / problem. This activity contributes to the development of a creative approach to the problem. Its use is effective in the existence of a large number of students and consists of several main stages:– Determining problem / issue in a creative perspective; Within a certain period of time, note without the criticism of the ideas expressed by the listeners (mainly on the board);

3 – Establishing assessment criteria to determine the compliance of the idea with the aim of the research;– Assessment of selected ideas with predetermined criteria;– Selecting the ideas, which are the most relevant to the issue using the exclusion method – Identifying the highest ranking idea as the best means of solving the raised issue.

Student knowledge assessment system

Grading system is based on a 100-point scale.

Positive grades:

- (A) - Excellent - the rating of 91-100 points;
- (B) – Very good - - the rating of 81-90 points
- (C) - Good - the rating of 71-80 points
- (D) - Satisfactory - the rating of 61-70 points
- (E) - Enough - the rating of 51-60 points

Negative grades:

- (FX) - Did not pass - 41-50 points of rating, which means that the student needs more work to pass and is given the right to take the exam once more with independent work;
- (F) – Failed - 40 points and less, which means that the work carried out by the student is not enough and he/she has to learn the subject from the beginning.

Field of employment

Bachelor of Labor Safety and Emergency Management may be employed in state or private enterprises and institutions; Can work and improve his career in any sector of the economy: Mechanical engineering, light industry, transport, mining, geological, chemical and food technologies, metallurgy, communication, telecommunication, informatics and management systems, construction, hydrotechnic objects; Environment protection and agriculture, Ministries of Defense, Economy and Finance, in the organizations relevant to the ecological and environment Protection. Based on the knowledge and skills received by the program, the graduate will have the opportunity to employ the positions such as: Manager in the field of labor safety and occupational hygiene, Security engineer, security specialist, Security inspector, security auditor, Manager in Industrial Risk Fields, Security Officer.

Opportunity to continue learning

Master's Educational Programs

Human and material resources necessary for the implementation of the program

The program is provided with appropriate human and material resources. For more information see attached syllabus.

Number of attached syllabus: 75

Program subject load

№	Subject	Precondition of admit	ECTS Credits							
			I წელი		II წელი		III წელი		IV წელი	
			Semester							
			I	II	III	IV	V	VI	VII	VIII
1	Elements of Linear Algebra and Calculus	does not have	5							
2	English for Technical Specialities - 1	does not have	3							
	German for Technical Specialities - 1	does not have								

	French for Technical Specialities - 1	does not have								
	Russian for Technical Specialities - 1	does not have								
3	General Physics A	does not have	4							
4	Basics of Applied Informatics 1	does not have	4							
5	Basics of engineering graphics	does not have	3							
6	Environment Protection and Ecology 3	does not have	3							
7	General Chemistry	does not have	4							
8	Labour Legislation	does not have	3							
9	Elements of Mathematical Analysis	Elements of Linear Algebra and Calculus		5						
10	English for Technical Specialities - 2	English for Technical Specialities - 1		3						
	German for Technical Specialities - 2	German for Technical Specialities - 1								
	French for Technical Specialities - 2	French for Technical Specialities - 1								
	Russian for Technical Specialities - 2	Russian for Technical Specialities - 1								
11	General Physics B	General Physics A		4						
12	Principles of Minerals Enrichment	does not have		5						
13	General Geology	does not have		5						
14	Biodiversity	does not have		3						
15	Bases of Metallurgical Technology	does not have		3						
16	Academic Writing	does not have		3						
	The Modern Language of Communications Technologies	does not have								
	Academic Writing	does not have								
	History of Georgia	does not have								
	Sociology	does not have								
	Introduction to Philosophy	does not have								
	Introduction to Psychology	does not have								
History of Technical design	does not have									
17	Fire Safety	does not have			5					

18	Industrial Accidents and Disasters	does not have			4					
19	Professional Communications	does not have			3					
20	Fundamentals of Industrial Toxicology	Environment Protection and Ecology 3			4					
21	Fundamentals of Environmental Monitoring	Environment Protection and Ecology 3			4					
22	Natural resources and renewable sources	Environment Protection and Ecology 3			4					
23	Field of Minerals Processing	does not have			3					
24	General Chemical Technology 2	General Chemistry			3					
25	Industrial Aesthetics and Ergonomics	does not have				3				
26	Management of safety of work	does not have				4				
27	Production sanitation	does not have				4				
28	Occupational hygiene	does not have				4				
29	General Course of Transport	does not have				3				
30	Basics of Mechanical Engineering Technology	does not have				3				
31	GENERAL PRINCIPLES OF ENERGY	does not have				3				
32	The basics of construction technology	does not have				3				
33	Urban settlements are protected from natural disasters	does not have				3				
34	LABOR PSYCHOLOGY	does not have					4			
35	Professional Diseases	Occupational hygiene					5			
36	Electrical Safety Basics	does not have					6			
37	Chemical and metallurgical industries Safety	General Chemical Technology 2; Bases of Metallurgical Technology					5			
38	Means of protection during emergencies	does not have					5			
39	Acoustic Oscillations	General Physics A					4			
	Industrial Emission	General Physics A;B								

	Emergency Management During Military Operations	does not have							
40	Safety of transport economy	General Course of Transport						5	
41	Machine-Building Enterprise Security	Basics of Mechanical Engineering Technology						4	
42	Safety of mining and geological enterprises	does not have						5	
43	Environmental pollution with physical factors	Environment Protection and Ecology 3						6	
44	Safety of Management Systems and Communications Enterprises.	does not have						4	
45	Safety of construction, architecture and hydroteqnickal works	The basics of construction technology						7	
46	Extraordinary situations legislative base	Labour Legislation							4
47	Transport Accidents and Disasters	General Course of Transport							4
48	Emergency Management	does not have							5
49	Teknospero and ecosystem degradation	Biodiversity							4
50	First aid in case of an industrial accident	Occupational hygiene							4
51	The Case of Mountain Rescue	Safety of mining and geological enterprises							4
52	Risks and their management	Industrial Accidents and Disasters							5
53	Training practice in labor safety	does not have							5
54	Bachelor's Thesis in labor safety	Industrial Accidents and Disasters							10
55	Free Components:	does not have							15
	Basic of Anti-crisis Management (5)								
	Normative acts for technical danger (5)								
	Precious stones, noble metals and their resources (5)(5)								
	History of the Earth (3)								

Artistic design of jewelry items (4)								
All about oil (5)								
Per semester	29	31	30	30	29	31	30	30
Per year	60		60		60		60	
Total	240							

Map of learning outcomes

№	Subject	Knowledge and understanding	Ability to use knowledge in practice	Making judgments	Communication skill	Ability to learn	Values
1	Elements of Linear Algebra and Calculus	X	X			X	
2	English for Technical Specialities - 1	X	X		X	X	
3	German for Technical Specialities – 1	X	X		X	X	
4	French for Technical Specialities - 1	X	X		X	X	
5	Russian for Technical Specialities - 1	X	X		X	X	
6	General Physics A	X		X		X	
7	Basics of Applied Informatics 1	X	X	X		X	X
8	Basics of engineering graphics	X	X		X	X	
9	Environment Protection and Ecology 3	X	X				X
10	General Chemistry	X	X		X	X	
11	Labour Legislation	X	X		X		X
12	Elements of Mathematical Analysis	X	X			X	
13	English for Technical Specialities - 2	X	X		X	X	
14	German for Technical Specialities – 2	X	X		X	X	
15	French for Technical Specialities - 2	X	X		X	X	
16	Russian for Technical Specialities - 2	X	X		X	X	
17	General Physics B	X		X		X	
18	Principles of Minerals Enrichment	X	X	X		X	
19	General Geology	X	X	X			
20	Biodiversity s	X		X			X
21	Bases of Metallurgical Technology	X		X	X		
22	Academic Writing	X	X		X		
23	The Modern Language of Communications Technologies	X	X		X		
24	Culture and modernity	X	X				X
25	History of Georgia	X	X	X	X		
26	Sociology	X	X	X			X
27	Introduction to Philosophy	X	X				X
28	Introduction to Psychology	X	X		X		
29	History of Technical design	X		X			X
30	Fire Safety		X		X	X	
31	Industrial Accidents and Disasters	X	X		X		X
32	Professional Communications	X		X	X		
33	Fundamentals of Industrial Toxicology	X		X			X
34	Fundamentals of Environmental Monitoring	X			X	X	
35	Natural resources and renewable sources	X				X	X
36	Field of Minerals Processing	X		X	X		
37	General Chemical Technology 2	X	X			X	
38	Industrial Aesthetics and Ergonomics	X			X		X
39	Management of safety of work	X	X	X			

40	Production sanitation	X		X	X		
41	Occupational hygiene	X			X	X	
42	General Course of Transport	X	X	X			
43	Basics of Mechanical Engineering Technology	X		X	X		
44	GENERAL PRINCIPLES OF ENERGY	X	X	X			
45	The basics of construction technology	X		X	X		
46	Urban settlements are protected from natural disasters	X			X	X	X
47	LABOR PSYCHOLOGY	X	X	X			
48	Professional Diseases	X	X			X	X
49	Electrical Safety Basics	X	X	X			
50	Chemical and metallurgical industries Safety	X		X	X	X	
51	Means of protection during emergencies	X				X	X
52	Acoustic Oscillations	X		X	X		
53	Industrial Emission	X	X			X	
54	Emergency Management During Military Operations	X			X	X	
55	Safety of transport economy	X		X	X		
56	Machine-Building Enterprise Security	X		X		X	
57	Safety of mining and geological enterprises	X	X	X			
58	Environmental pollution with physical factors	X		X	X		
59	Safety of Management Systems and Communications Enterprises.	X		X	X		
60	Safety of construction, architecture and hydrotechnical works	X	X	X			
61	Extraordinary situations legislative base	X		X		X	
62	Transport Accidents and Disasters	X	X		X		
63	Emergency Management	X	X		X		X
64	Teknosperio and ecosystem degradation	X			X	X	X
65	First aid in case of an industrial accident	X		X	X		
66	The Case of Mountain Rescue	X	X	X			
67	Risks and their management	X		X	X		
68	Training practice in labor safety	X	X	X	X	X	X
69	Bachelor's Thesis in labor safety	X	X	X	X	X	X
70	Basic of Anti-crisis Management	X	X	X	X		
71	Normative acts for technical danger objects		X	X		X	
72	Precious stones, noble metals and their resources	X	X	X	X	X	
73	History of the Earth	X	X	X			
74	Artistic design of jewelry items	X		X			X
75	All about oil	X			X		X

Program curriculum

№	Subject code	Subject	ECTS Credits	Hours	Hours
---	--------------	---------	-----------------	-------	-------

				Lecture	Seminar (work in the group)	Practical classes	Laboratory	Practice	Course work/project	Mid-semester exam	Final exam	Independent work
1	MAS34308G1	Elements of Linear Algebra and Calculus	5/ 125	15		30				1	2	77
2	LEH14412G1	English for Technical Specialities - 1	3/ 75			30				1	1	43
3	LEH15012G1	German for Technical Specialities – 1	3/ 75			30				1	1	43
4	LEH14812G1	French for Technical Specialities - 1	3/ 75			30				1	1	43
5	LEH14612G1	Russian for Technical Specialities - 1	3/ 75			30				1	1	43
6	PHS51208G1	General Physics A	4/ 100	15			15			1	2	67
7	ICT15008G1	Basics of Applied Informatics 1	4/ 100	15			15			1	1	68
8	EET78405G2	Basics of engineering graphics	3/ 75	15		15				1	1	43
9	EET20404G1	Environment Protection and Ecology 3	3/ 75	15			15			1	1	43
10	PHS16404G1	General Chemistry	4/ 100	15			15			1	1	68
11	HHS22403G1	Labour Legislation	3/ 75	15	15					1	1	43
12	MAS33308G1	Elements of Mathematical Analysis	5/ 125	15		30				1	2	77
13	LEH14512G1	English for Technical Specialities - 2	3/ 75			30				1	1	43
14	LEH15112G1	German for Technical Specialities – 2	3/ 75			30				1	1	43
15	LEH14812G1	French for Technical Specialities - 2	3/ 75			30				1	1	43
16	LEH14712G1	Russian for Technical Specialities - 2	3/ 75			30				1	1	43
17	PHS51308G1	General Physics B	4/ 100	15			15			1	2	67
18	MAP42803G1	Principles of Minerals Enrichment	5/ 125	15			30			1	1	78
19	PHS30703G1	General Geology	5/ 125	15			30	15		1	1	63
20	EET26504G1	Biodiversity s	3/ 75	15	15					1	1	43
21	EET80804G2	Bases of Metallurgical Technology	3/ 75	15	15					1	1	43

22	LEH12112G1	Academic Writing	3/ 75	15	15					1	1	43
23	LEH12012G1	The Modern Language of Communications Technologies	3/ 75	15	15					1	1	43
24	SOS40112G1	Culture and modernity	3/ 75	15	15					1	1	43
25	HEL20212G1	History of Georgia	3/ 75	15	15					1	1	43
26	SOS40312G1	Sociology	3/ 75	15	15					1	1	43
27	HEL30212G1	Introduction to Philosophy	3/ 75	15	15					1	1	43
28	SOS30312G1	Introduction to Psychology	3/ 75	15	15					1	1	43
29	ART20305G1	History of Technical design	3/ 75	15	15					1	1	43
30	HHS22203G1	Fire Safety	5/ 125	15	15				15	1	1	78
31	HHS23803G1	Industrial Accidents and Disasters	4/ 100	15					15	1	1	68
32	HHS25803G1	Professional Communications	3/ 75	15	15					1	1	43
33	EET26704G1	Fundamentals of Industrial Toxicology	4/ 100	15	15					1	1	68
34	EET26504G1	Fundamentals of Environmental Monitoring	4/ 100	15	15					1	1	68
35	EET26804G1	Natural resources and renewable sources	4/ 100	15	15					1	1	68
36	MAP54103G1	Field of Minerals Processing	3/ 75	15		15				1	1	43
37	EET19904G1	General Chemical Technology 2	3/75	15		15				1	1	43
38	HHS23703G1	Industrial Aesthetics and Ergonomics	3/ 75	15		15				1	1	43
39	HHS24503G1	Management of safety of work	4/ 100	15					15	1	1	68
40	HHS24603G1	Production sanitation	4/ 100	15					15	1	1	68
41	HHS23603G1	Occupational hygiene	4/ 100	15					15	1	1	68
42	EET96905G1	General Course of Transport	3/ 75	15		15				1	1	43
43	EET75205G1	Basics of Mechanical Engineering Technology	3/ 75	30						1	1	43
44	EET441502G1	GENERAL PRINCIPLES OF ENERGY	3/ 75	15		15				1	1	43
45	AAC01301G1	The basics of construction technology	3/ 75	15	15					1	1	43
46	AAC13506G1	Urban settlements are protected from natural disasters	3/ 75	15		15				1	1	43
47	HHS26003G1	LABOR PSYCHOLOGY	4/ 100	15					15	1	1	43
48	HHS21703G1	Professional Diseases	5/ 125	15	15				15	1	1	78

49	HHS21203G1	Electrical Safety Basics	6/ 150	15	15		15		15	1	1	88
50	HHS23903G1	Chemical and metallurgical industries Safety	5/ 125	15	15				15	1	1	78
51	HHS26803G1	Means of protection during emergencies	5/ 125	30	15					1	1	78
52	HHS25503G1	Acoustic Oscillations	4/ 100	15	15					1	1	68
53	HHS26503G1	Industrial Emission	4/ 100	15					15	1	1	68
54	HHS27003G1	Emergency Management During Military Operations	4/ 100	15	15					1	1	68
55	HHS24703G1	Safety of transport economy	5/ 125	15		15			15	1	1	78
56	HHS21503G1	Machine-Building Enterprise Security	4/ 100	15	15					1	1	43
57	HHS26303G1	Safety of mining and geological enterprises	5/ 125	15	15	15				1	1	78
58	HHS23303G1	Environmental pollution with physical factors	6/ 150	30	15				15	1	1	88
59	HHS26103G1	Safety of Management Systems and Communications Enterprises.	4/ 100	15	15					1	1	68
60	HHS21103G1	Safety of construction, architecture and hydrotechnical works	7/ 175	30	15				15	1	1	88
61	HHS25403G1	Extraordinary situations legislative base	4/ 100	15	15					1	1	68
62	HHS24803G1	Transport Accidents and Disasters	4/ 100	15					15	1	1	78
63	HHS21803G1	Emergency Management	5/ 125	15	15				15	1	1	78
64	HHS23403G1	Teknospero and ecosystem degradation	4/ 100	15	15					1	1	68
65	HHS23503G1	First aid in case of an industrial accident	4/ 100	15	15					1	1	68
66	HHS25603G1	The Case of Mountain Rescue	4/ 100	15	15					1	1	68
67	HHS26903G1	Risks and their management	5/ 125	30	15					1	1	78
68	HHS22003G2	Training practice in labor safety	5/ 125					60		1	1	63
69	HHS22103G2	Bachelor's Thesis in labor safety	10/ 250						120	1	1	128
70	BUA71903G1	Basic of Anti-crisis Management	5/ 125	15	30					1	2	77
71	MAPS54603G1	Normative acts for technical danger objects	5/ 125	15		30				1	2	77
72	PHS30103G1	Precious stones, noble metals and their resources	5/ 125	15			30			1	1	78
73	PHS30103G1	History of the Earth	3/ 75	15	15					1	1	43

74	ART20405G1	Artistic design of jewelry items	4/ 100	15	15					1	1	68
75	MAP41603G2	All about oil	5/ 125	15	30					1	1	78

Program Principle

Lucinda Chkheidze

Faculty of Mining and Geology

Head of Quality Assurance Service

Shalva Keleptrishvili

Dean of the Faculty

Anzor Abshilava

Approved at the Council of Mining and Geology Faculty
July 3, 2012

Agreed with

Quality Assurance Service of GTU

Irma Inashvili

**Modified at the Council of the
Faculty of Mining and Geology
30 March 2018**

Dean of the faculty council

Anzor Apshilava