



საქართველოს ტექნიკური უნივერსიტეტი
GEORGIAN TECHNICAL UNIVERSITY

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Bachelor's Educational Program

Program Title

საინჟინრო უსაფრთხოება და საგანგებო სიტუაციების მართვა

Engineering Safety and Emergency Management

Faculty

სამთო-გეოლოგიური

Mining and Geology Faculty

Program Head/Heads

Professor Lucinda CHKHEIDZE

Qualification to be Awarded and the Extent of the Program in terms of Credits

Bachelor of Occupational Safety

will be awarded by combining relevant education courses (222 credits) of the educational program's primary specialty and free components (18 credits) if not less than 240 credits are completed.

Language of Teaching

Georgian

Prerequisite for Admission to the Program

Only the holder of a state certificate confirming complete general education or an equivalent person enrolled in accordance with the procedure established by the legislation of Georgia shall have the right to study at the Bachelor's Educational Program.

Program Description

The program is compiled according to the European Credit Transfer System ECTS. The duration of the program is 8 semesters or 4 years and includes 240 credits. One credit is equal to 25 hours, including contact and independent work hours. The distribution of credits is presented in the subject loading of the program. The annual course of study consists of 60 credits (20-20 weeks in two semesters) and is set up as

follows: out of 20 academic weeks in one semester, the course of study lasts 15 weeks, one week (namely week VIII) is reserved for the mid-semester examination, i.e. the academic and mid-semester examinations are held during 16 weeks. From XVII to XX weeks, final (XVII to XVIII weeks) and supplementary (XIX to XX weeks) examinations are held; Supplementary examinations are held after the main examination with an interval of 10 days.

The maximum score for the interim assessment in each semester is 60. The maximum mark for the current activity is 30. The maximum score for the mid-semester examination is 30.

A minimum competency threshold has been established for the components of the assessment of ongoing activities in education courses that are key to assessing the achievement of a particular learning outcome. The minimum total positive overall score for interim assessments (current activity and mid-semester exam) is 30 points.

The maximum score of the final exam is 40, the minimum positive assessment is 11 points. The right to take the final exam is granted to the student who has scored at least the minimum positive score on the components of the interim assessment.

Depending on the individual workload of the student the number of credits for one year may be less or more than 60 credits, but not more than 75 credits.

In the first academic year, the student will take 15 education courses over two semesters. Among them, one education course from free component Block #1 (3 credits);

In the second academic year, the student will take 15 education courses over two semesters, including one course (5 credits) from elective component Block #1 corresponding to the primary field of study.

In the third academic year, the student will take 15 education courses over two semesters, including one course (3 credits) from Block #2 of elective courses corresponding to the primary field of study.

In the fourth academic year, the student will study 7 content courses corresponding to the major (30 credits), in the second semester he/she will take the course “Industrial internship in Occupational Health and Safety” (10 credits) and prepare the “Bachelor's Thesis in Occupational Health and Safety” (5 credits).

There are 15 credits for the free component.

Program Objective

- **To give the student a broad knowledge** of harmful and hazardous factors associated with technical and technological processes related to workplaces, characteristic occupational diseases and prevention measures, as well as environmental protection measures.
- **To teach** the student: occupational safety law based on international standards and basic safety requirements; methods of assessment and control of production risks, and optimization of working conditions, measures to predict, localize and eliminate emergency situations.
- **To develop** the student's ability to recognize, assess, control environmental factors related to the workplace and make adequate decisions in hazardous industrial situations, share best practices and professional communication.

Learning Outcomes/Competences (general and professional)

1. **Describes** the stages and features of emergency situations, technical and technological processes and conditions of their uninterrupted functioning, subsequent harmful production factors and changes in the human body and the environment due to their impact;
2. **Identifies** the typical occupational injuries and occupational diseases in the industry, the standards applied in the occupational safety management system, the impact of production factors on human health and the issues of first aid in emergency situations.
3. **Discusses** the criteria for assessing working conditions, the importance of occupational hygiene and

sanitation, technical aesthetics, ergonomics, and principles of work psychology in achieving occupational and environmental safety, the frequency of updating the risk assessment document, and the behavior of people in extreme situations.

4. **Explains** legislative and legal acts on occupational health and safety, principles of occupational and environmental safety management; natural, technical, and technogenic threats and their causes.
5. **Uses** theories and principles of exact, natural and technical sciences according to pre-determined instructions to solve particular occupational health and safety problems.
6. **Identifies** hazards related to the workplace, selects, plans and implements adequate safety and preventive measures, and predicts outcomes in extreme situations.
7. **Selects** measures to reduce harmful factors to the maximum permissible level and safety, to localize and eliminate extreme production conditions, rational mode of work and rest, means of collective and individual protection.
8. **Analyzes** hazardous situations, potential risks, issues of effective functioning of facilities containing technical hazards, display of control and regulation means and **makes a conclusion** about working conditions, serviceability of technological devices, expected negative impact on people and the environment;
9. Using information technology, **prepares** presentation materials on the ecological condition of environmental facilities, measures to ensure safe and optimal operation;
10. Using written and oral forms of communication with specialists and non-specialists, **presents** safety techniques, psychological and sanitary-hygienic safety measures.

Methods of Achieving Learning Outcomes (teaching-learning)

Lecture Seminar (group work) Practical Laboratory Practice Course work/Project Consultation Independent work

In the learning process, depending on the specifics of a particular study course program, the following activities of the teaching-learning methods are used, which are outlined in the relevant study course programs (syllabi):

Verbal or oral;
Discussion/debate;
Cooperative learning;
Collaborative work;
Problem-based learning (PBL);
Case study;
Brain storming;
Role-playing and situational games;
Demonstraton;
Inductive;
Deductive;
Analysis;
Synthesis;
Written work;
Explanatory;
Action-oriented learning;
Execution and presentation of coursework/project

Detailed information about teaching-learning methods and relevant activities is provided on the website of the GTU.

Student's Knowledge Assessment System

The student's knowledge is assessed on a 100-point scale.

Positive grades are:

- (A)-Excellent - 91-100 points;
- (B)-Very Good – 81-90 points;
- (C)-Good – 71-80 points;
- (D)-Satisfactory – 61-70 points;
- (E)-Sufficient – 51-60 points.

Negative grades are:

- (FX) - Failed to pass – 41-50 points, which means that the student needs more work to pass and is allowed to take an additional exam once with independent work;
- (F) - Failed - 40 points or less, which means that the work done by the student is insufficient and he/she will have to study the subject again.

In case of receiving FX, an additional examination is indicated, not less than 5 days after the announcement of the results. In addition, the grade obtained on the exam is considered as an improvement to the grade obtained in the assessment.

Detailed information is provided on the website of the GTU

Instructions for managing the educational process at the Georgian Technical University.

Fields of Employment

Bachelor of Occupational Safety is a specialty in demand in the labor market. Graduates of the program will be able to find jobs in all industries, state, municipal and private sectors.

Opportunities for continuing education

Master's degree educational programs

Human and material resources needed to implement the program

The program is provided with adequate human and material resources. For additional information, please find the attached documentation

Number of attached syllabi: 86