



საქართველოს ტექნიკური უნივერსიტეტი
GEORGIAN TECHNICAL UNIVERSITY

Approved by
Resolution № 1181 of the
Academic Council of GTU
Dated June 25, 2014

Amended by
Resolution 01-05-04/ 75 of the
Academic Council of GTU
dated May 24, 2023

Bachelor's Educational Program

Program Title

მშენებლობის ინჟინერია და მენეჯმენტი

Construction Engineering and Management

Faculty

სამშენებლო

Civil Engineering

Program Head

Professor Murman BAKRADZE

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

Bachelor of Construction Engineering and Management

The bachelor's qualification is awarded by combining at least 230 credits of education courses and at least 10 credits of free components corresponding to the main field of study.

Language of Teaching

Georgian

Prerequisite for Admission to the Program

Only the holder of a state certificate confirming complete general education or a person equivalent to it, who is enrolled according to the procedure established by the legislation of Georgia, has the right to study at the bachelor's level.

Program Description

Program volume in credits:

In order to obtain the academic degree of Bachelor of Construction Engineering and Management within the framework of the undergraduate educational program "Construction Engineering and Management", the student must accumulate at least 240 credits, which ensures the achievement of the objectives of the program and the corresponding learning outcomes at the level of the Bachelor's degree descriptor of the Higher Education Qualifications Framework.

The program is designed according to the European Credit Transfer System (ECTS), 1 credit equals 25 hours and includes contact and independent work hours. The distribution of credits is presented in the curriculum.

Study duration:

The duration of the program is determined by at least 4 years (8 semesters), the semester includes 20 weeks.

There are 15 academic weeks (auditory classes) and 5 sessional (mid-semester, final and additional exams) during one semester at GTU.

Structure of the educational program:

The qualification of Bachelor of Construction Engineering will be awarded in case of mastering at least 230 credits of education courses and at least 10 credits of free components.

The instruction on the management of the educational process of the Georgian Technical University provides information on the organization of the educational process, the selection of components of the educational program, the evaluation of student achievements, the appeal of the evaluation of study results, educational and financial agreements with students, and the accumulation of credits by students (see [https://gtu.ge/Study - Dep/Files/Pdf/sasw_proc_mart_inst_18.1119_SD.pdf](https://gtu.ge/Study-Dep/Files/Pdf/sasw_proc_mart_inst_18.1119_SD.pdf))

Program Objective

The objective of the construction engineering and management program is to prepare highly qualified specialists in line with the labor market demand, who will be able to respond to the latest challenges of the field within the scope of competence with the knowledge gained through the educational program.

Objective 1: based on the fundamental issues of construction engineering and management, to provide graduates with knowledge of the basic principles of construction business management, engineering and managerial approaches to planning and implementation of individual construction-investment projects in the conditions of a modern market economy.

Objective 2: Based on extensive knowledge of construction engineering and management, to equip graduates with the skills to perceive the construction business environment, perform individual construction processes, effectively manage construction-investment projects, and understand the ethical, social, and legal issues facing the industry.

Objective 3: To provide graduates with a solid foundation for continuing their studies and continuing professional development in the field of construction engineering and management.

Learning Outcomes/Competences (general and sectoral)

After completing the educational program:

- 1 With knowledge of the fundamental theses of mathematics and natural sciences and the methods of solving problematic engineering issues in the field, he/she analyzes the ways of their solution, using standard and some of the latest methods.
- 2 With the knowledge of the main aspects of business production and socio-economic and legal issues of the construction field, he/she establishes the main principles of entrepreneurial activity, chooses the methods of financial, material and human resources management.
- 3 With the knowledge of the construction of engineering and construction systems of buildings, design and construction works and the methods of selection of construction resources, modern approaches to planning and management of construction processes, taking into account labor and safety norms, he/she manages the ongoing processes at the construction site, protects the environmental safety regulations in his/her professional activities.
- 4 With the knowledge of the methods of management of development construction-investment projects and the functioning of the real estate market, understanding the peculiarities of construction engineering and management, observing legal and ethical norms, he/she manages construction projects from the formation of the idea to the stage of transfer to operation.
- 5 In accordance with predetermined guidelines, in the field of construction engineering and management, implements a research/practical project, using standard, some of the latest methods, interprets the analysis of the obtained results and formulates appropriate conclusions;
- 6 Communicates clearly and effectively ideas, problems and solutions in construction engineering and management to both specialist and non-specialist audiences.
- 7 Involved in interdisciplinary team activities, with members of which creates a collaborative environment to accomplish set tasks;
- 8 Plans continuing professional development, identifies own further learning needs and implements it with a high degree of independence.

Methods of Achieving Learning Outcomes (teaching-learning)

- | | | | |
|--|--|--|--|
| <input checked="" type="checkbox"/> Lecture | <input checked="" type="checkbox"/> Seminar (group work) | <input checked="" type="checkbox"/> Practical | <input checked="" type="checkbox"/> Laboratory |
| <input checked="" type="checkbox"/> Practice | <input checked="" type="checkbox"/> Course work/Project | <input checked="" type="checkbox"/> Consultation | <input checked="" type="checkbox"/> Independent work |

Activities corresponding to teaching-learning methods: Discussion/debate, Cooperative learning, Collaborative work, Problem-based learning (PBL), Case study, Brain storming, Demonstration method, Inductive method, Deductive method, Method of analysis, Synthesis method, Verbal or oral method, Writing work method, Explanatory method, Activity-based learning, Project development and presentation.

The following activities of the teaching-learning methods are used, which are outlined in the relevant study course programs (syllabi):

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 FX in the component of the educational program, GTU is obliged to schedule an additional exam at least 5 days after the announcement of the results of the final exam.

The number of points obtained in the final assessment is not added to the grade received by the student in the additional exam.

The grade obtained on the additional exam is the final grade and is reflected in the final grade of the educational program component.

In case of receiving 0-50 points in the final exam of the educational component, or if the student fails to overcome the minimum competence limit in the final/additional exam, the student will be assigned a grade of F-0.

The program part of the assessment of the level of achievement of the student's learning results in each component consists of an intermediate assessment and a final exam. The mid-term assessment in turn includes the ongoing activity and the mid-semester exam.

Each assessment form and component have a specific share in the final assessment from the total assessment score (100 points). In particular, the maximum score of the intermediate assessment is no more than 60, and the maximum score of the final exam is no less than 40.

Each form of assessment includes an assessment component/components, which includes an assessment method/methods, and the assessment method/methods are measured by assessment criteria.

The right to sit for the final exam is given to the student who, in the component(s) of the intermediate evaluation, has accumulated at least the minimum positive evaluation in accordance with the program of the education course (at least 30 points in total), and at the same time completed and submitted on time the minimum amount of work defined by the program in the form of documentary material.

Detailed information is available on the GTU web page: "Instructions for managing the educational process at the Georgian Technical University".

Fields of employment

Graduates of the educational program will be able to be employed in construction business, construction companies and corporations, as well as in infrastructural, municipal and government services in positions relevant to their qualifications.

Opportunities for continuing education

Master's degree educational programs

Human and material resources needed to implement the program

The program is provided with appropriate human and material resources. Additional information is provided in the attached documentation.

Number of attached syllabi: 90