

Approved by Resolution № 740 of the Academic Council of GTU Dated September 5, 2012

Amended by Resolution N01-05-04/151 of the Academic Council of GTU dated November 24, 2022

# **Bachelor's Educational Program**

# Program Title მშენებლობა Construction

# Faculty

სამშენებლო

Civil Engineering

# Program Head

Associate Professor Rusudan GIORGOBIANI

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

#### Bachelor in Construction Engineering

Will be awarded in case of completion of at least 225 credits of the main specialty and at least 15 credits of free components.

# Language of Teaching

Russian

#### 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.

- Citizens of Georgia are enrolled based on the results of the unified national exams.
- International applicants will be enrolled in accordance with the order of the Ministry of Education, Science, Culture and Sports of Georgia dated December 29, 2011 No. 224/N.

It is mandatory to present a certificate/document proving the Russian language at least B1 level. To confirm knowledge of the Russian language, the applicant must submit one of the following:

a) TOEFL The (Test of Russian as a Foreign Language) Level II of certification (corresponding to the B1 European ALTE test system).

b) A document confirming knowledge of the Russian language from a secondary school, college or university, which confirms that the applicant was taught in the Russian language;

c) A certificate issued by a local or international language teaching provider confirming that the applicant has achieved at least B1 level of Russian language through the relevant course.

d) The applicant, who cannot present the above-mentioned documents, is obliged to take a test confirming his/her command of the Russian language at the B1 level at the GTU testing center.

Note: The requirement to submit a supporting document may be waived if the applicant's native language is Russian or if he/she graduated from high school/university in countries where Russian is the official language and therefore the applicant studied in Russian.

# Program Description

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 educational program includes compulsory components of content corresponding to the main field of study – in total – 167 credits (including pre-baccalaureate practice – 5 credits and a bachelor's project with the volume of 5 credits), compulsory elective components of the content corresponding to the main field of study – a total of 58 credits and free components – with the volume of 15 credits.

#### Instructions for choosing an elective component:

The process of choosing both the free component and the elective education courses related to the profession should be transparent; in order to define his/her own profile, the student should be provided with the necessary information, consultation and assistance. For this, there is a person with relevant qualifications and experience in the dean's office of the faculty, who will provide qualified assistance to the student regarding the elective components. If necessary, the head of the relevant department is involved in the consultation process. Before the beginning of the semester, each student of the program is sent information about the education courses to be chosen and the method of selection of courses on his/her personal page created on the GTU e-learning portal and also by text message to the contact phone. If there is a competition for a specific elective component, priority is given to a person with a high academic performance, while a person with a low academic performance is registered for the next elective course in the order chosen by him/her.

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 learning results, the educational and financial agreements with students and the accumulation of credits by the student, the conduct and evaluation of practice, the procedure for completing the undergraduate research project/thesis. See detailed information at the following email address (see https://gtu.ge/Study-Dep/Forms/Forms.php)

# Program Objective

**Objective 1:** To provide the graduate with knowledge of the ways and methods of performing the basic construction technologies for the construction, installation and equipping of public, commercial, industrial and residential structures, to provide the graduate with knowledge of the rules for selecting the necessary

construction vehicles, safe conduct of work, quality control of work performance, maintenance technologies of building structures, and construction organization and management.

**Objective 2:** With broad knowledge of the field of construction engineering, in accordance with predetermined guidelines, to provide graduates with the ability to implement construction projects of a practical nature, taking into account environmental protection, safety and well-being determining requirements, global, cultural, social, environmental and economic factors;

**Objective 3:** To create a solid foundation for the graduates to continue studies to the next level of education and to ensure continuous professional development, in order to contribute to the smooth operation of the construction complex with the obtained education.

# Learning Outcomes/Competences (general and professional)

1. With extensive knowledge of the field of construction engineering, he/she critically considers the theories and principles of the field;

2. Explains some of the latest aspects of construction engineering, which involves the technology and techniques of installation, construction and maintenance of public (community), commercial, industrial and residential structures (as well as their equipment);

3. In the field of construction engineering, using cognitive and practical skills, standard and some of the latest methods, solves such complex and unforeseen problems that meet the defining requirements of environmental protection, safety and well-being of the population, taking into account global, cultural, social, environmental and economic factors;

4. In accordance with predetermined guidelines, plans and conducts an experiment, implements a project of a practical nature, using standard, some of the latest methods, and with professional judgment interprets the analysis of the received data and formulates appropriate conclusions;

5. In compliance with ethics, labor and safety norms, selects building materials, technologies and techniques in construction engineering, participates in the implementation of construction processes, installation of structural elements, construction and equipping of buildings, construction quality control, evaluation and technical expertise;

6. With an audience of specialists and non-specialists, in forms appropriate for the context, using information and communication technologies, produces clear and understandable communication about ideas related to the field, existing problems and ways to solve them;

7. With his/her own responsibility and compliance with the principles of work ethics, he/she is involved in activities focused on the development of the team, with the members of which he/she participates in the creation of a cooperative environment and the fulfillment of the 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)

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

#### Activities corresponding to teaching-learning methods:

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).

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 will be able to find employment in the construction of civil structures, construction of hydrotechnical structures, in construction-design-construction firms, construction services of municipalities, municipalities and ministries, in construction and development firms, in construction export bureaus, in examination and testing laboratories, in enterprises manufacturing building materials and goods, in quarries extracting building materials, in water treatment plants of water supply and drainage systems, in communal services of city municipalities, water supply - in water profile design organizations, railways, highways, water supply systems, hydro-electric energy systems construction specialized firms and other entities. (The graduate will be employed in the positions provided by the qualification granted by the program).

# 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: 82