



საქართველოს ტექნიკური  
უნივერსიტეტი  
1922 წლიდან

## ***CIVIL ENGINEERING PROGRAM***

### **Admission Prerequisites to the Program:**

Only the holder of a state certificate of complete general education or a person equal to him, who is enrolled in accordance with the rules established by the legislation of Georgia, has the right to study for a bachelor's degree.

- Citizens of Georgia will be enrolled based on the results of the United National Exams.
- International applicants will be enrolled in accordance with statement № 224 / N issued by the Ministry of Education, Science, Culture and Sports of Georgia on December 29, 2011.

It is obligatory to present a certificate / document proving English language proficiency at B2 level.

To prove English language proficiency, the applicant must submit one of the following:

- a) Official international certificate: TOEFL, IELTS, Cambridge ESOL (English for Speakers of Other Languages), TELC (The European Language Certificates), Michigan (Cambridge Michigan).
- b) Proof of English language proficiency from high school, college or university, proving that the applicant was taught in English.
- c) Certificate issued by a local or international English language teaching provider confirming that B2 level of English has been achieved by the applicant through the relevant course.
- d) An applicant who fails to submit the above-mentioned documents is required to pass a B2-level proficiency test in English at the GTU Computer Center.

*Note:* English language requirements can be waived if English is the native language of the applicant or if he / she has graduated from high school / university in a country where English is the official language, and the applicant has studied English accordingly.

## **Program Educational Objectives:**

The Civil Engineering Faculty of GTU has determined that the program's educational objectives for the civil engineering program are as follows:

- ***Program Educational Objective 1.*** Graduates of the CIVE program will be successful civil engineers in their respective fields of work (PEO 1).
- ***Program Educational Objective 2.*** Graduates of the CIVE program will be hands-on practitioners of civil engineering and will be effective collaborators and innovators, leading or participating in efforts to address social, technical, and business challenges (PEO 2).
- ***Program Educational Objective 3.*** CIVE program graduates will embrace the continuous learning necessary to practice civil engineering over their entire professional lifetimes and engage in life-long learning and professional development through self-study, continuing education or graduate and professional studies in engineering (PEO 3).

## **Student Outcomes:**

- ***Student outcome 1.*** an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- ***Student outcome 2.*** an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- ***Student outcome 3.*** an ability to communicate effectively with a range of audiences.
- ***Student outcome 4.*** an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- ***Student outcome 5.*** an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- ***Student outcome 6.*** an ability to develop and conduct appropriate experimentation, analyze and interpret data and use engineering judgment to draw conclusions.
- ***Student outcome 7.*** an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

**Courses in the Program:**

<b>№</b>	<b>Course</b>	<b>ECTS</b>
1	Calculus C1	8
2	General and Inorganic Chemistry A	8
3	The Basics of Biology	6
4	Oral communication	5
5.1	History and Culture of Georgia	3
5.2	Introduction to Philosophy	3
5.3	Introduction to Sociology	3
6	Calculus C2	7
7	General Physics 1A	7
8	Surveying for Civil Engineering	6
9	Interpersonal Communication	5
10	Computer Engineers Graphics in Civil Engineering	5
11	Introduction to Civil Engineering	3
12	Calculus C3	8
13	General Physics 2B	7
14	Theoretical Mechanics (Statics)	5
15	Statistical methods in Civil Engineering	4
16	Technical communication	5
17	Business and Professional Communication	5
18	Ordinary Differential Equations	5
19	Theoretical Mechanics (Dynamics)	5
20	Building Materials	5
21	Strength of Materials	5
22	The Principles of Economics	3
23	Construction Methods	5
24	Geotechnical Engineering	5
25	Fluid Mechanics	5
26	Geographic Information Systems	6
27	Construction Equipment Management	3
28	Basics of Structural Mechanics	6
29	Environmental Engineering	6
30	Construction of Transport Infrastructure	6

<b>№</b>	<b>Course</b>	<b>ECTS</b>
31	Hydrology and Hydrometric	6
32	Applied Hydraulics	6
33	Design of Buildings with Reinforced Concrete Structures	6
34.1	Open Channel Hydraulics	6
34.2	Foundation Base Engineering and Building Structure Deformation	6
34.3	Traffic Engineering	6
35.1	Water Supply and Distribution Systems	6
35.2	Construction of Hydraulics Structures	6
35.3	Highway's Engineering	6
36.1	Democracy and Citizenship	5
36.2	Construction contracts and state procurement	5
36.3	Principles of Marketing	5
37	Principles of Construction Estimating	4
38	Principles of Construction Economics	4
39	Bachelor's Practice	5
40.1	Water Treatment Engineering	6
40.2	Steel Constructions	6
40.3	Design of Temporary Structures	6
41.1	Wastewater Treatment Engineering	6
41.2	Irrigation and Drainage	6
41.3	Railway Engineering	6
42.1	Construction Project Management	6
42.2	Solid and Hazardous Waste Engineering	6
42.3	Bridge Engineering	6
43	Safety Equipment on Construction Sites	4
44	Bachelor's Project	8