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:

№	*Course*	*ECTS*
1.	Calculus C1	8
2.	General and Inorganic Chemistry A	8
3.	The Basics of Biology	6
4.	Oral communication	5
5.	**Elective Humanities Components:**	
5.1.	History and Culture of Georgia	3
5.2.	Introduction to Philosophy	
5.3.	Sociology	
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 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

№	*Course*	*ECTS*
30.	Construction of Transport Infrastructure	6
31.	Hydrology and Hydrometric	6
32.	Applied Hydraulics	6
33.	Design of Buildings with Reinforced Concrete Structures	6
Elective courses in the field of basic education 1		
34.1.	Open Channel Hydraulics	6
34.2.	Foundation Base Engineering and Building Structure Deformation	
34.3.	Traffic Engineering	
Elective courses in the field of basic education 2		
35.1.	Water Supply and Distribution Systems	6
35.2.	Construction of Hydraulics Structures	
35.3.	Highway's Engineering	
Free components		
36.1.	Democracy and Citizenship	5
36.2.	Construction contracts and state procurement	
36.3.	Principles of Marketing	
37.	Principles of Construction Estimating	4
38.	Principles of Construction Economics	4
39.	Bachelor's Practice	5
Elective courses in the field of basic education 3		
40.1.	Water Treatment Engineering	6
40.2.	Steel Constructions	
40.3.	Design of Temporary Structures	
Elective courses in the field of basic education 4		
41.1.	Wastewater Treatment Engineering	6
41.2.	Irrigation and Drainage	
41.3.	Railway Engineering	
Elective courses in the field of basic education 5		
42.1.	Construction Project Management	6
42.2.	Solid and Hazardous Waste Engineering	
42.3.	Bridge Engineering	
43.	Safety Equipment on Construction Sites	4
44.	Bachelor's Project	8