Admission Prerequisites to the Program

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

In addition, in order to obtain the right to study at the English-language bachelor educational program of "Mechanical Engineering", it is necessary to pass the English language as a compulsory subject in the unified national exams and overcome the 70% or more threshold. or at least a B1 level certificate proving knowledge of the English language. In the absence of a similar document, the applicant takes the exam in the exam center in a foreign (English) language.

An applicant with a general education in English is not required to take the exam.

Program Objective:

The objective of the educational program is to prepare a Bachelor in Mechanical Engineering equipped with theoretical knowledge and practical skills competitive in the local and international labor market, who will know:

Objective 1. Fundamental principles of mechanical engineering and modern engineering technologies and their application in the rapidly developing environment of modern technologies;

Objective 2. Principles and methodological approaches of construction of machinery and machine systems for functional purposes in various fields of production;

Objective 3. Designing, manufacturing, diagnostics and technical service of machines and equipment intended for production and service of products, as well as individual products and devices.

Learning outcomes/Competences (general and professional)

- **Lists** the principles and theories of natural and general engineering science related to mechanical engineering based on some of the most recent aspects of widespread theories;
- **Describes** the problems of design, development, maintenance and repair of the machinery, equipment and separate products in the field of mechanical engineering based on general, technical and field broad knowledge;
- **Adheres** to technical and operational norms, safety requirements and international standards of production technological machines;
- **Determines** the results of design and experimental data using industry standard and some state-of-the-art methods;
- **Connects** important aspects of machinery design, operation, repair and plant design in accordance with predetermined guidelines;
- **Participates** in the design, adjustment and management of automated, electromechanical, electrohydraulic and electropneumatic drives of machines and machine systems on the instructions of the supervisor;
- **Uses** modern computer technologies in the performance of mechanical engineering, production facilities and mechanical enterprise planning works in accordance with predetermined guidelines;

- **Presents** opinions, presentations, conclusions about existing problems in mechanical engineering and their solutions, in appropriate forms for contact with specialists and non-specialists, using information and communication technologies;
- **Plans** the need for further learning process with a high degree of independence.

Student knowledge Assessment System

Grading system is based on a 100-point scale.

Positive grades:

- **(A)** - Excellent - the rating of 91-100 points;
- **(B)**–Very good - - the rating of 81-90 points
- **(C)** - Good- the rating of 71-80 points
- **(D)** - Satisfactory- the rating of 61-70 points
- **(E)** - Enough- the rating of 51-60 points

Negative grades:

- **(FX) -** Did not pass - 41-50 points of rating, which means that the student needs more work to pass and is given the right to take the exam once more with independent work;
- **(F)–**Failed - 40 points and less, which means that the work carried out by the student is not enough and he/she has to learn the subject from the beginning.

In the case of obtaining FX in a component of an educational program, GTU means an additional exam no less than 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 obtained by the student in the additional exam. The grade obtained in the additional exam is the final grade and is reflected in the final grade of the component of the educational program. If the final grade of the educational component is from 0 to 50 points, taking into account the grade obtained in the additional exam, the student is assigned an F-0 grade.

In each component, the program part of assessing the level of achievement of student learning outcomes consists of an intermediate assessment and a final exam. The midterm assessment includes ongoing activities and a midterm exam.

Each form and component of assessment determines its share of the final grade from the total assessment score (100 points). In particular, the maximum score of the ongoing activities is 60, and the maximum score of the final exam is 40.

Each assessment form includes an assessment component(s), which includes an assessment method(s), and the assessment method(s) is measured by assessment criteria.

A student who exceeds the minimum competency threshold during the ongoing activities (scoring at least 30 points) is eligible to take the final exam. The dates of the intersemester exam and the dates of the final / additional exam will be indicated in the order of the rector in the semester schedule.

Detailed information about the "Rules for conducting and evaluating student internships at the Georgian Technical University" and "Rules for a bachelor's work" is available on the GTU website: https://gtu.ge/Study-Dep/Forms/Forms.php

Courses list and Credits		
№	Learning Course	Credits
1.	Engineering Mathematics 1.1	5
2.	General Physics A	4
3.	General chemistry A	4
4.	Descriptive Geometry	3
5.	Introduction to Mechanical Engineering	3
6.	Fundamentals of information technologies	4
7.	Free component	5
8.	Occupational safety and emergency control	3
9.	Engineering Mathematics 2.1	5
10.	General Physics B	5
11.	Projective and machine drawing	6
12.	Elements of Academic Writing	3
13.	Theoretical mechanics 1	5
14.	Free component	5
15.	General Materials Science	5
16.	Free component	5
17.	Environment protection and ecology	3
18.	Strength of materials	5
19.	Computer Engineering Graphics / AUTODESK AutoCAD Mechanical	4
20.	Theory of mechanisms and machines	5
21.	Theoretical mechanics 2	5
22.	Electrical engineering and electronics	6
23.	CAD/CAE technology using Autodesk Inventor	6
24.	Engineering Thermodynamics and Heat Processes	5
25.	Machinery parts 1	6
26.	Free component	5
27.	Machinery parts 2	6
28.	Systems of Automatic Control	6

29.	Hydraulics and Pneumatics	6
30.	Sensors and Technical Measurements	6
31.	Mechanical Vibrations	5
32.	Hydraulics and Electro hydraulics	5
33.	CNC machine's programming	5
	Electives	
34.1	Aerodynamics	5
34.2	Aero technologies	5
35	Fundamentals of Programming	5
36.	Free component	5
37	Manufacturing engineering 1	6
38	Pneumatics and Electro pneumatics	8
39	Internship in mechanical engineering	6
40	Manufacturing Engineering 2	6
	Electives	
41.1	Planning Mechanical Factories	5
41.2	Cutting Tools Design	5
41.3	Robotics	5
42	Flexible Manufacturing Systems	5
43	Computer Integrated Design and Manufacturing	5
44	Management for Engineers	5
45.	Free component	5
46	Use LabView in Mechanical Engineering	7
47	Bachelor's work	8
	Free Components (7,14,16,26,36,45)	
1	Intranational Menagments	5
2	Principles of Economics	5
3	History and Culture of Georgia	5
4	Sociology	5

5	Introduction to Philosophy	5
6	Georgian language 1 (for non-Georgian speakers)	5
7	Georgian language 2 (for non-Georgian speakers)	5
8	Georgian language 3 (for non-Georgian speakers)	5
9	Georgian language 4 (for non-Georgian speakers)	5
10	Public Relations 2	5
11	Branding 2	5
12	Online Communication and Digital Marketing	5
13	Bases of Policy	5