



საქართველოს ტექნიკური უნივერსიტეტი
GEORGIAN TECHNICAL UNIVERSITY

Approved by
Resolution No. 733 of the
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Bachelor's Educational Program

Program Title

მექანიკის ინჟინერია და ტექნოლოგია

Mechanical Engineering and Technology

Faculty

სატრანსპორტო და მანქანათმშენებლობის ფაკულტეტი

Faculty of Transportation and Mechanical Engineering

Program Head/Heads

Professor Merab SHVANGIRADZE

Qualifications to be awarded and the extent of the program in terms of credits

Bachelor in the specialty Mechanical Engineering and Technology

Will be awarded in the case of completion of a combination of 225 credits of education courses and 15 credits of free components corresponding to the main field of study.

Language of Teaching

Georgian

Prerequisite for admission to the program

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

Program Description

The undergraduate educational program is compiled according to the ECTS system, 1 credit is equal to 25 hours, which includes both contact and independent work hours. The distribution of credits is presented in the curriculum. The program lasts 4 years (8 semesters) and includes 240 credits.

In order to be awarded the academic degree "Bachelor of Engineering in Mechanical Engineering and Technology" within the framework of the undergraduate educational program Mechanical Engineering and Technology, the student must accumulate at least 240 credits, which ensures the achievement of the program goals and the results necessary for the main qualification at the level of the bachelor's degree descriptor of the Higher Education Qualifications Framework.

The educational program is made up of education courses and free components relevant to the main field of study. Education courses of the content corresponding to the main field of study are presented in the form of compulsory and elective education courses: compulsory education courses 204 credits, internship 6 credits, bachelor's thesis in the amount of 5 credits, and specialty elective education courses in the amount of 10 credits. The program includes free components with a capacity of 15 credits.

The student chooses a free component from the available courses/subjects/modules within the framework of any educational program of the first level of higher education in order to broaden his/her horizons in the fields (issues) of interest to him/her.

The instruction on the management of the learning process at the Georgian Technical University provides information on the organization of the learning process, evaluation of student achievements, educational and financial agreements with students, and the accumulation of credits by students.

Program Objective

In accordance with the mission of the Georgian Technical University, the objective of the educational program is to educate qualified specialists in the field of mechanical engineering and technology, who bear human values, are competitive in the local and international labor market, and who, based on relevant knowledge and practical skills, will implement the production of machines, devices and individual products of various functional purposes for all branches of production, design, production technology development, maintenance and repair.

Learning Outcomes/Competences (general and professional)

- ✓ **Describes** issues of planning of enterprises, design of machines, devices and individual products, production technology, development, maintenance and repair in the field of mechanical engineering and technology;
- ✓ **Discusses** the methods of designing, manufacturing and technical operation of machinery in the field of mechanical engineering and technology;
- ✓ **Connects** important aspects of manufacturing technological processes, machinery construction, operation, repair and enterprise planning;
- ✓ **Uses** modern computer systems **in practice** in the planning and work processes of mechanical engineering technologies, production facilities and machine-building enterprises;
- ✓ **Takes part** in designing, adjusting and managing automated, electromechanical, electrohydro and pneumatic actuators and mechatronic modules of machines and machine systems;
- ✓ **Designs and prepares** cutting tools and fitting necessary for the performance of mechanical engineering technological processes in accordance with predetermined instructions;
- ✓ **Collects** industry-specific data for technological processes and enterprise planning, including for assessing the importance of using new materials;
- ✓ **Analyzes** issues of safe implementation of technological processes using relevant normative documents;
- ✓ **Formulates conclusions** to solve problems around some unpredictable data and based on them prepares presentations in compliance with ethical principles;
- ✓ **Plans** the need to continue studying at the next levels of education in order to enrich knowledge and experience.

Methods of achieving learning outcomes (teaching-learning)

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

In the educational process, depending on the specifics of a particular study course program, the following teaching-learning methods are used, which are given in the relevant education course programs (syllabi):

1. Discussion/debate;
2. Group (collaborative) work;
3. Problem-based learning (PBL);
4. Induction;
5. Deduction;
6. Case study;
7. Demonstration;
8. Verbal or oral;
9. Laboratory;
10. Practical;
11. Explanatory;
12. Action-oriented learning;
13. Project development and presentation.

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 - 41-50 assessment points, which means that the student needs more work to pass and is allowed to take the additional exam once with independent work;
- **(F)** - Failed - 40 evaluation points and less, which means that the work done by the student is not enough and he/she has to study the subject again.

In case of receiving FX, the GTU will 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 at the additional exam.

Taking into account the grade received in the additional examination, in the case of obtaining 0-50 points in the final evaluation of the educational component, the student will be assigned an F-0 score.

Fields of Employment

A bachelor of mechanical engineering and technology can be employed in a state or private enterprise and institution whose activities are related to the development of new types of production machines and devices in any branch of the country's economy; with efficient operation of operating machines and aggregates; with medium and capital repairs and modernization of various types of production equipment; In particular: in aviation production, machine tool, electric vehicle, wagon repair factories, polygraphic machine factories, civil, industrial and hydrotechnical construction facilities, road construction companies, building materials and goods manufacturing factories, light industry and food industry enterprises, various types of repair productions, etc.

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. Detailed information is provided in the attached documentation

Number of attached syllabi: 71