საქართველოს ტექნიკური უნივერსიტეტი
GEORGIAN TECHNICAL UNIVERSITY

Approved by
Resolution № 733 of the
Academic Council of GTU
dated July 6, 2012

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dated June …. , 2020

Bachelor's Educational Program

Program Title

სამრეწველო ინჟინერია და ტექნოლოგია
Industrial Engineering and Technology

Faculty

სატრანსპორტო და მანქანათმშენებლობის ფაკულტეტი
Faculty of Transportation and Mechanical Engineering

Program Head/Heads

Professor Nia NATBILADZE

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

Bachelor of Industrial engineering and technology *Will be awarded by combining 220 credits of the main specialty and 20 credits of free components in the educational program, if at least 240 credits are completed.*

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 Bachelor's educational program "Industrial Engineering and Technology" is designed taking into account the requirements of the labor market in the field.

The program is written in Georgian, using 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 of the program. The program lasts 4 years (8 semesters) and includes 240 credits.

In order to be awarded the "Bachelor of Industrial Engineering and Technology" academic degree within the "Industrial Engineering and Technology" undergraduate educational program, a student must accumulate at least 240 credits, which ensures the achievement of the program's objectives 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 corresponding 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: 193 credits of compulsory courses, 6 credits of internship, Bachelor's thesis - 6 credits, and optional courses of the specialty in the amount of 15 credits. The program includes free components with a capacity of 20 credits.

The student chooses a free component from the existing 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

The aim of the industrial engineering and technology bachelor's program is to train a specialist with theoretical knowledge and practical skills in the field, taking into account the priority of the industry in the country and the demands of the labor market:

- For conducting industrial technological processes, observing the principles of labor, life and environmental safety;
- To participate in the planning and monitoring of industrial enterprises, taking into account industrial development;
- For the operation and repair of machinery and equipment of technological processes.

Learning outcomes/competences (general and professional)

Describes the principles and theories of natural and general technical science related to industrial engineering and technology, the technological processes of machines and devices for the production of industrial products, based on some of the latest knowledge of widespread theories;

Differentiates between metallic and non-metallic materials used in industry, technological machinery and equipment intended for the production of products, issues of operation and repair of equipment, features for production of work in a typical and complex, unpredictable environment;

Considers the latest methods and approaches of operation and repair of machinery and equipment, technologies and equipment intended for the production of industrial products, in order to rationally select them;

Discusses the theories and principles of industrial engineering and technology equipment, enterprise planning, design, and minimization of environmental pollutants and waste based on some of the latest aspects of knowledge.

Collects characteristic data for the technological processes of machines and devices intended for the production of industrial products in order to perform their maintenance, maintenance and planning projects, in accordance with predetermined guidelines;

Analyzes data specific to the field of industrial engineering and technology, as well as applied data and possible case scenarios, using industry standard and some latest methods;

Implements practical projects in a typical and complex, unpredictable environment for solving problems related to the technological debugging, maintenance and planning of equipment intended for the production of

products, using cognitive and practical skills, in accordance with the supervisor's instructions;
Calculates practical tasks to solve complex and unforeseen problems related to the operation and maintenance of industrial engineering and technology machinery equipment in accordance with predetermined guidelines.
Presents opinions and presentations about problems and solutions in industrial engineering and technology to specialists and non-specialists in context-appropriate forms using information and communication technologies.
Conducts own learning process independently, including using the latest foreign literature, in accordance with the development of industrial engineering and technology.

Methods of achieving learning outcomes (teaching-learning)

☒ Lecture ☒Seminar (group work) ☒ Practical ☒ Laboratory
☒Practice ☒ Course work/Project ☒ 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):

Discussion/debates;
Cooperative learning;
Group (collaborative) work;
Demonstration;
Induction;
Case study;
Deduction;
Verbal or oral;
Laboratory;
Analysis;
Action-oriented learning;
Practical;
Explanatory;
Brain storming;
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 in the component of the educational program, 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.

The grade obtained at 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 evaluation of the educational component, taking into account the evaluation received at the additional exam, the student will be assigned an

Fields of Employment

Industrial enterprises of various types and capacities: printing houses, publishing houses, wood processing plants; forestry farms; Sewing enterprises of light industry products, design and construction organizations; Service centers.

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: 92