



საქართველოს ტექნიკური უნივერსიტეტი
GEORGIAN TECHNICAL UNIVERSITY

Approved by
Resolution № 921 of the
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Bachelor's Educational Program

Program Title

საინჟინრო მენეჯმენტი

Management of Engineering

Faculty

ენერგეტიკის

Power Engineering

Program Head/Heads

Associate Professor Giorgi NACHKEBIA

Qualification to be Awarded and the Extent of the Program in terms of Credits

Bachelor of Management

The qualification will be awarded by combining 217 credits of education courses and 23 credits of free components, in case of completion of not less than 240 credits.

Language of Teaching

Georgian

Prerequisite for Admission to the Program

Only 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.

Program Description

The program prepares specialists capable of highly effective management of operational and project sales activities of industrial, service and project-installation organizations. The educational program ensures the accumulation of theoretical knowledge and the development of practical skills both in the field of management in general and in the tasks of organizing the engineering of modern technical and technological systems saturated with electrical and electronic components.

The program underwent changes and was modified by the order of the Minister of Education, Science, Culture and Sports of Georgia No. 69/N of April 10, 2019 "On the approval of the national qualifications framework and classifier of study areas" and the order of the director of the LEPL National Center for Educational Quality Enhancement No. 65812 of 25/01/ 2022 "On approval of the sectoral characteristics of higher management education".

The program, which awards the Bachelor of Management qualification, aims to equip graduates with theoretical knowledge and practical skills in the following areas: business *organizations*, their types, structures, management theories, approaches and functions; corporate and operational *strategies*, their contribution to achieving and maintaining the competitiveness of organizations, external factors and opportunities that have become imperative to consider when developing a strategy; Production operations, quality management and operational resource provisioning with supply chain planning and smooth logistics; human resources management of operations and project implementers: selection, training-development and motivation, behavioral and leadership theories; development and operation of financial, commodity and service markets, competitive environment, customer expectations and operational activity opportunities to satisfy them, market structure and organization activities; *Finances* as a source of resource provision for operational and project activities, costs and opportunities to minimize them, use of information systems in accounting and financial management; The role of *information and communication technologies* in the organization and management of modern production, the so-called the 4th industrial revolution is entirely built on the systematic use of their capabilities.

The undergraduate educational program will teach students basic engineering competencies and engineering - the planning, production, and continuous use of technical and technological devices, processes, and systems through them. From the managerial point of view, this part of the program focuses on issues of periodical technological retooling of enterprises, organization and management of new product/service adoption processes, and methodologies for drawing up and implementing appropriate projects.

The program is compiled by the European Credit Transfer and Accumulation System (ECTS). At the Georgian Technical University, 1 credit is equal to 25 hours, which includes both contact and independent work hours. The distribution of credits according to study courses is presented in the study plan. The program lasts 4 years (8 semesters. 60 credits per year) and includes a total of 240 credits by combining 217 credits of education courses and 23 credits of free components relevant to the main field of study in the program.

The content of the program's education courses, teaching methods and the number of credits ensure the achievement of the objective of the bachelor's program, at the level corresponding to the bachelor's degree descriptor of the Higher Education Qualifications Framework.

The structure of the program includes both compulsory and elective courses. The presence of elective subjects in the program gives the student the opportunity to decide for himself/herself which aspects of engineering/managerial activity to learn in more detail: in the direction of technological project management or production operations management.

The program includes a bachelor's thesis (10 credits), in which a production practice component (12 hours) is integrated.

Organization of the educational process, assessment of student achievements, educational and

financial agreements with students, accumulation of credits by the student and other necessary information is provided in the "Instructions for managing the educational process at the Georgian Technical University", which is posted on the website of the GTU: [https://gtu.ge /Study-Dep/Files/Pdf/sasw_proc_%20mart_inst_20.08.2021_SD.pdf](https://gtu.ge/Study-Dep/Files/Pdf/sasw_proc_%20mart_inst_20.08.2021_SD.pdf).

Program Objective

The objective of the program is to train specialists to perform the tasks of managing the activities of industrial, service and project enterprises, which includes: development of organizational policies in relation to operational activities; systematization of resources and planning, organization and control of their rational use; motivating the performers to achieve the strategic goals of the organization and ensuring their coordinated cooperation; to actively participate in the preparation and implementation of projects of technological retooling and new product/service utilization.

Learning Outcomes/Competences (general and professional)

1. Explains modern theories of management, approaches used for managing industrial operations and factors affecting the organizational environment of enterprises;
2. Describes the business and economic environment, current events, processes and interprets them in proposals for improving operational and project sales activities, which aim to better meet the expectations of customers;
3. Finds and analyzes the data describing the internal operational potential of the organization, evaluates the external entrepreneurial opportunities created by globalization and, based on the relevant conclusions, plans and conducts measures promoting the development of the organization;
4. In order to manage the resource provision of the organization's operational and project sales activities, uses both general-purpose software products (Microsoft Excel, Microsoft Project) and specialized information and communication technologies for production planning and management: POMQMforWindows, NetEmul emulator, MRP and ERP-systems;
5. Establishes communication with relevant stakeholders: customers, employees of own organization, other colleagues in Georgian and foreign languages. Presents own opinions, the results of the organization's activities and the decisions made in accordance with them in a concise and understandable manner;
6. Participates in the development and implementation of projects, operations and strategies: organizes the compliance of operational activities with the corporate strategy; plans production activities, operations and processes, ensures their execution with high economy and quality of results;
7. Within the defined competences, in compliance with ethical principles, performs the following managerial functions: *planning* - chooses the goals of the organization's operating system and the mechanisms for their achievement; *organizing* - directs the activities of subordinates to him/her by ensuring accurate and mutually coordinated performance of operations determined by appropriate decisions; *motivating* - selects the executors of the operations and projects, ensuring their full compliance with the planned activities; determines the expectations of the performers for the work and ensures their satisfaction; *controlling* - takes corrective actions in order to achieve full compliance with operating system work plans and normative indicators; organizes the coordinated work of multi-functional teams of performers;

8. Identifies both his/her own and others' development needs, participates in the planning and implementation of relevant events; objectively evaluates his/her own qualification level and independently acquires new elements of knowledge necessary for its improvement;
9. Possesses engineering knowledge and skills within his/her own competence: has a general understanding of basic production and technological devices, systems and processes; knows the functions that engineers perform in the process of planning, production and operation of technical facilities; organizes the activities of engineers to solve technical problems.

Methods of Achieving Learning Outcomes (teaching-learning)

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

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

Discussion/debate, Cooperative learning, Collaborative work, Problem-based learning (PBL), Case study, Brain storming, Demonstration method, Inductive method, Deductive method, Method of analysis, Synthesis method, Verbal or oral method, Writing work method, Explanatory method, Activity-based learning, 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 to pass – 41-50 points, which means that the student needs more work to pass and is allowed to take an additional exam once with independent work;
- (F) - Failed - 40 points or less, which means that the work done by the student is insufficient and he/she will have to study the subject again.

In the component of the educational program, in case of FX, an additional exam is prescribed, not less than 5 days after the announcement of the results.

The number of points obtained in the final assessment is not added to the grade received by the student in the additional exam.

The grade obtained on 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, or if the student fails to overcome the minimum competence limit in the final/additional exam, the student will be assigned a grade of F-0.

Assessment of the level of achievement of student learning outcomes in each component of the

program includes mid-term and final assessment. The mid-term assessment in turn includes the ongoing activity and the mid-semester exam.

Each assessment form and component has a specific share in the final assessment from the total assessment score (100 points). In particular, the maximum score of the midterm assessment is 60, and the maximum score of the final exam is 40. Each form of assessment has a minimum competence limit, which is reflected in the program (syllabi) of each education course.

The right to pass the final exam is granted to a student who has accumulated at least a minimum positive grade in the component(s) of the intermediate evaluations in accordance with the program of the education course, and has completed and submitted on time the minimum amount of work defined by the program in the form of documentary material.

Detailed information on the organization of the educational process and evaluation of student achievements is provided at the following electronic address: "Instructions for managing the educational process at the Georgian Technical University " <https://gtu.ge/StudyDep/Forms/Forms.php>.

Fields of employment

In wide-profile industrial and service enterprises, state management bodies, analytical and consulting organizations for positions intended for low and middle managers.

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. Additional information is provided in the attached documents.

Number of attached syllabi: 70