



საქართველოს ტექნიკური უნივერსიტეტი
GEORGIAN TECHNICAL UNIVERSITY

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Master's Educational Program

Program Title

ტრანსპორტი

Transport

Faculty

სატრანსპორტო სისტემებისა და მექანიკის ინჟინერიის ფაკულტეტი

Faculty of Transports Systems and Mechanics Engineering

Program Head/Heads

Professor Avtandil SHARVASHIDZE

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

Master of Transport Engineering

Will be awarded upon completion of at least 120 credits of the educational program

Language of Teaching

Georgian

Prerequisite for Admission to the Program

A person with at least a bachelor's degree or an academic degree equivalent to it, who is enrolled based on the results of the master's exams, according to the rules established by the Georgian legislation, has the right to study in the master's program (general master's exam and specialty exam/exams determined by GTU). Exam questions/tests will be posted on the GTU website at least one month before the commencement of the specialty exams.

The applicant must have a certificate confirming knowledge of the English language of at least B2 level, or must present a document of completion of a corresponding training course of B2 level. In the absence of a similar certificate or other similar document, the applicant will be tested in the English language at the exam center of GTU.

Enrollment in the program without passing the master's exams is possible according to the rules established by the Ministry of Education and Science of Georgia.

Program Description

The master's educational program "Transport" was created taking into account the specifics and innovations of the field and the requirements of the labor market.

Master's educational program "Transport" is based on the European Credit Transfer System (ECTS), 1 credit is 25 hours, which includes both contact and independent work hours. The program lasts 2 years (4 semesters) and includes 120 credits.

The program ensures that the learning outcomes required for the program objectives and qualifications are achieved by specifying level seven (Master's) of the Higher Education Qualifications Framework.

The 120 credits of the educational program consist of compulsory and elective courses of content corresponding to the main field of study, two concentrations, internship and research components in the following ratio: compulsory courses 35 credits, elective courses 6 credits, Master's Transportation Internship 8 credits and two concentrations with a capacity of 71 credits each (including education courses 41 credits and research component - completion and defense of Master's Thesis - 30 credits).

Program Objective

The objective of the program is to prepare a Master of transport engineering equipped with deep knowledge of the field and corresponding to the requirements of the employment market, which provides railway and motor vehicles:

- Performing maintenance and repair operations using special technological devices;
- Calculation, design, construction modernization with modern methods of engineering studies, mathematical modeling and strength calculation;
- Maintaining reliability in repair, diagnostic and service facilities using innovative technologies;
- Implementation of the latest methods of traffic and environmental safety, automation and energy supply systems, taking into account the prospects for the development of rolling stock.

Learning Outcomes/Competences (general and professional)

1. **Forms** appropriate conclusions at the academic and professional level in Georgian and English;
2. **Uses** special and production technological means in the repair, maintenance and diagnostics of railway and motor vehicles;
3. Independently **solves** complex problems of railway and road transport using innovative methods of

transport engineering studies;

4. **Evaluates** the results of technical service of railway and motor vehicles;
5. **Discusses** with specialists and non-specialists to solve complex problems in alternative ways;
6. **Plans** the need to further study and conduct professional activities independently.

Concentration 1 - Railway transport

1. **Selects** innovative concepts for the design and construction of railway motor and trailer vehicles in order to maintain their constructive resource;
2. **Analyzes** the types of electric traction on the railway and the prospects for the further development of the electric locomotive of the railway;
3. **Assesses** the problems arising during the diagnosis and maintenance operations of railway traction and trailer vehicles for the further development of railway stations;
4. **Ensures** the traffic and environmental safety of trains on the railway using modern technical means;
5. **Solves** the difficult problematic issues arising in the process of operation of railway vehicles using modern methods.

Concentration 2 - Motor transport

1. **Selects** innovative concepts for ensuring the reliability of motor vehicles and trailer vehicles, in order to maintain their constructive resource;
2. **Analyzes** the types of energy supply of modern motor vehicles and the prospects for further development;
3. **Evaluates** the problems arising during the performance of diagnostics and technical service operations of motor vehicles and trailers for the further development of service facilities.
4. **Ensures** traffic and ecological safety of motor transport using modern technical means;
5. **Solves** difficult problematic issues arising in the process of operation of motor vehicles using modern methods

Methods of achieving learning outcomes (teaching-learning)

Lecture Seminar (group work) Practical Laboratory Practice Course work/Project Master's Thesis Consultation Independent work

In the educational process, depending on the specifics of the specific educational course program, the following activities of teaching-learning methods are used, which are reflected in the relevant course programs (syllabi):

Discussion/debates; group (collaborative) work; case study; inductive; deductive; analysis; synthesis; verbal or oral; explanatory; 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 case of receiving FX in the component of the educational program, the GTU will appoint an additional exam no later 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 received by the student in the additional exam. The grade obtained in the supplementary examination is the final grade and is reflected in the final grade of the 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 is assigned an F-0 score.

The program part of the assessment of the level of achievement of the student's learning results in each component consists of an intermediate assessment and a final exam. The mid-term assessment in turn includes the ongoing activity and the mid-semester exam.

Each evaluation form and component has a specific share in the final evaluation from the total evaluation score (100 points). In particular, the maximum score of the intermediate assessment is no more than 60, and the maximum score of the final exam is no less than 40.

Each form of assessment includes an evaluation component/components, which includes an assessment method/methods, and the evaluation method/methods are measured by assessment criteria.

The right to pass the final exam is given to a student who passed the minimum competence limit in the intermediate assessment (scored at least 30 points). Information about the mid-semester exam and final/supplementary exam dates is given in the Rector's order "On the Semester Conducting Schedule"

Detailed information about the educational process is provided on the web page of GTU: "Instructions for managing the educational process at the Georgian Technical University".

Fields of Employment

With the "Master of Transport Engineering" qualification, it is possible to be employed: in the central office of JSC "Georgian Railway" and in railway line organizations; in the metropolitan area; transportation corporation; the electric car repair factory; the power station. Holding company Tegeta Motors, LEPL R. Dvali Institute of Machine Mechanics, car service, research and design organizations, diagnostic centers as well as in educational institutions.

Opportunities for continuing education

PhD educational programs

Human and material resources needed to implement the program

The program is provided with adequate human and material resources. For additional information, please find the attached documentation

Number of attached syllabi: 24