საქართველოს ტექნიკური უნივერსიტეტი
GEORGIAN TECHNICAL UNIVERSITY

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

Amended by
Resolution № 01-05-04/173
the Academic Council of GTU
dated October 12, 2020

PhD Educational Program

Program Title

გეოლოგია
Geology

Faculty

სამთო - გეოლოგიური
Mining and Geology Faculty

Program Head/Heads

Professor Mevlud SHARIKADZE
Professor Shota KELEPTRISHVILI

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

Doctor of Geology
The Doctor of Economics is awarded if the educational component of the educational program, which is 50 credits, is mastered and if the research component is completed. Duration of study is not less than 3 years.

Language of Teaching

Georgian

Prerequisite for Admission to the Program

A person who holds a master's degree or equivalent academic degree in the field of natural sciences, mathematics and statistics (geology, geography, geophysics, chemistry, biology) is eligible to study in the doctoral educational program. will take into account: existence of scientific publications, participation in scientific conferences, other documents related to educational/research activities (certificates, deeds, patents, etc.).

Persons wishing to enroll in the program must present an appropriate international certificate proving English lamguage proficiency at least at the B2 level, or pass an examination at the examination center of the GTU. Applicants educated abroad (who have completed a foreign language program) are not required to take an exam or present a certificate.

Persons wishing to enroll in the program must also submit a research project that outlines the applicant's research goal and direction. In the case of a positive grade in English, the applicant is interviewed by the Faculty's provisional commission. The procedure for admission to the doctoral program and admission conditions are posted on the University website.

It is possible to enroll in a program on the basis of mobility within the deadlines set by the Ministry of Education, Science, Culture and Sport of Georgia, following the mandatory procedures and rules set by the University. Admission to the program or transfer from a recognized higher education institution in a foreign country is carried out in accordance with the rules defined by the legislation of Georgia.

Program Description

The program is compiled using the European credit transfer system ECTS. 1 credit is equal to 25 hours, including contact and independent work hours. The distribution of credits is presented in the program curriculum. The program lasts at least 3 years (6 semesters).

The objectives of the educational component are the sectoral and methodological preparation of the doctoral candidate for the implementation of the goals of the doctoral educational program. The educational component helps the doctoral candidate in the successful preparation of the dissertation, in the future pedagogical and scientific activities. The educational component of the doctoral program is 50 credits.

Before the beginning of the semester, the rector of the university issues an order on the progress of the educational process, which will be posted on the website.

The first semester includes five compulsory study courses (30 credits) of study components. The second semester includes one study-compulsory course (5 credits) and one study-optional course (5 credits), as well as a professor's assistantship (10 credits). The second and subsequent semesters provide for the completion of research components, including: research project/prospectus, colloquium - 1, colloquium - 2, colloquium - 3, preliminary defense, completion and defense of the thesis.

The research component is assessed once, at the thesis defense thesis, with a final assessment.

Program Objective

The objective of the doctoral program in geology is to prepare a researcher equipped with the skills to use modern research methods and technologies:

- to determine the geological structure, material composition, history of development, regularities of geodynamic processes taking place in the core and on the surface of the research area;
- to study the prediction, genesis and distribution of mineral deposits;
- for evaluation of mineral resources, processing of issues of their practical use and generation of new ideas.

Learning Outcomes/Competences (general and sectoral)

- Discusses the types of sedimentation basins, the connection of solid mineral deposits with the main structural elements of the Earth's crust, the Mesozoic intrusive complexes of the Caucasus and the peculiarities of the development of magmatism, the mechanisms of tectogenesis, the impact of groundwater on geodynamic processes, the latest methods of stratigraphic division and correlation of cracks;
- Based on the knowledge and the latest achievements of geology and related disciplines, it presents and formulates the issues of the structure and material composition of the lithosphere, geodynamics, history of development, the genesis and distribution of minerals, and issues of problematic and practical importance;
- Defines the role of geological research methods in determining the regularities of the past epochs of the earth, physical-geographical, paleobiogeographical and paleotectonic reconstructions, lithosphere structure, geodynamics, genesis and distribution of minerals.
- In order to study the geological structure of the territory, to search for useful minerals, the conditions for the construction of various purpose buildings and communications, it plans various relevant geological works.
- Explores problems related to magmatic and metamorphic complexes, problems in geodynamically dangerous areas, development of the organic world, Minerals in terms of their possible use;
- Performs a critical analysis, synthesis and evaluation of the risks of natural resources of useful minerals, natural events and unwanted processes caused by human economic and engineering activities;
- By sharing the scientific-practical problems facing the field of geology, develops the strategy and methods of solving them, participates in local and international scientific-practical forums, as well as in the development of standards and norms;
- Adhering to the principles of academic and managerial integrity, independently implements innovative research projects based on the latest technological achievements in the field of geology.

Methods of Achieving Learning Outcomes (teaching-learning)

☒ Lecture ☒ Practical ☒ Seminar (group work) ☐ Laboratory ☒ Practice Scientific and thematic seminar ☒ Project ☒ Independent work ☒ Practice ☒ Consultation ☒ Research component ☒ Structure of the thesis ☒ Thesis defense

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):
oral or verbal work,
discussion/debate,
problem-based learning (PBL),
collaborative work,
case study,
brain storming,
induction,
deduction,
analysis,
synthesis,
explanation,
writing work,
collaborative learning,
project development and presentation.

Student's Knowledge Assessment System

Assessment is done on a 100-point system. Assessment of the learning component:

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 grade points or less, which means that the work done by the student is not enough and he has to studythe subject.

FX - in case of admission, an additional exam is scheduled, at least 5 days after the announcement of the results. The grade obtained in the additional exam is not added to the final grade

Assessment of the scientific research component(s):
a) with the highest praise (summa cum laude) - excellent performance;
b) with great praise (magna cum laude) - result exceeding the requirements in all parameters;
c) with honor (cum laude) - a result that exceeds the requirements;
d) satisfactory (bene) - an average level work that meets the basic requirements;
e) sufficient (rite) - a result that, despite its shortcomings, still meets the requirements;
f) insufficient - an unsatisfactory level work that cannot meet the requirements due to significant deficiencies in the work;
g) completely unsatisfactory (sub omni canone) - a result that completely fails to meet the requirements

The research component is assessed once, at the thesis defense stage, with a final assessment.

The study and research components of the doctoral educational program and their evaluation rules are posted on the university's website: Instruction for managing the educational process at the Georgian Technical University

Fields of employment

- Mineral mining state organizations and private companies;
- Ministries and organizations of defense, environmental protection, heating and energy, natural resources management, monument protection;
- Enterprises with a mining profile;
- Higher and professional education institutions;
- Scientific-research institutes of geological profile;
- Design and construction organizations and tourist agencies;
- Emergency Management Service;
- Departments of Railroads and Highways of Georgia.

Human and material resources needed to implement the program

The doctoral educational program is provided with appropriate human and material resources. Information is provided in the attached documentation.

Number of attached syllabi: 9