Admission Prerequisites

The right to study in the doctoral educational programme is granted to a person who holds a Master's qualification or an equivalent academic degree in the field of Engineering, Manufacturing and Construction (07).

A candidate wishing to enrol in the programme must submit:

1. A research project outlining the applicant's research aim and direction;
2. A relevant international certificate confirming knowledge of English at no lower than B2 level, or successfully pass a B2-level English language test organised and administered by GTU. A candidate who has completed a recognised English-language educational programme at any level of higher education is not required to pass the examination or present a certificate (completion of an English-language programme is confirmed by the relevant qualification document, i.e. a diploma);
3. Document(s) confirming previous work/publications in the relevant field and/or participation in scientific research projects and events and/or at least 2 years of work experience in the relevant field.
4. Other documentation/information predetermined by the University on the basis of the Regulations on Doctoral Studies of the LEPL Georgian Technical University.

A candidate whose submitted documentation fully meets the formal requirements is interviewed by the Temporary Faculty Commission. In accordance with the procedure established by the legal acts of GTU, the Temporary Faculty Commission ensures the assessment of persons wishing to be admitted to the programme in compliance with the principles of objectivity, fairness and transparency. Consideration is given to the assessment of the candidate's experience and abilities necessary for the successful completion of the doctoral educational programme, including (where available) the candidate's scientific publications, experience of participation in scientific conferences, and other documents and materials related to teaching/research activities (certificates, diplomas, patents, etc.).

Full information on the rules of admission to doctoral studies and the conditions of enrolment, as well as sample(s) of the English language examination tests, is available on the official website of the University. https://gtu.ge/apply/phd.php/

Enrolment in the programme by way of mobility is possible twice a year, within the time frames established by the Ministry of Education, Science and Youth of Georgia, in compliance with the conditions and rules defined by the legislation of Georgia and the legal acts of GTU.

Enrolment in the programme from a recognised higher education institution of a foreign country is carried out in accordance with the procedure established by the legislation of Georgia.

Programme Goal

The goal of the Doctoral Programme in Oil and Gas Production Technologies is to prepare a researcher equipped with knowledge based on the latest achievements and with the skills to apply modern research methods and technologies, and oriented towards pedagogical activity, for:

- The prospecting and exploration of oil and gas fields;
- The drilling of explored structures;
- The development of discovered natural hydrocarbon fields.

Learning Outcomes/Competences (General and Professional)

- Defines the latest achievements in scientific communication techniques, the accuracy of parameter estimation and the law of distribution of random variables in well drilling, the criteria for forecasting the oil and gas potential of reservoirs, indicator (tracer) solutions and the conditions for their use, and the processes of post-sedimentary transformation of sediments in sedimentary basins;
- Describes the possibility of applying innovative methods, productive formation models, design documentation for well construction, indicator (tracer) solutions and the conditions for their use, the specific features of the differentiation of hydrocarbon reservoirs, and the regularities of the distribution of hydrocarbon accumulations in the geological structures of the Earth;
- On the basis of a systematic understanding of the field of oil and gas technologies, examines methods for estimating the quantity of hydrocarbon resources, the method of primary processing of measurement results, the directions of filtration flow established by indicator (tracer) studies, the specific features of the structure of the sedimentary cover, and the processes of post-sedimentary transformation of sediments in basins;
- Combines teaching and learning strategies, and classifies reservoir fracture systems and the technological parameters of field development;
- On the basis of new, complex and contradictory ideas and approaches, critically evaluates the oil and gas prospects of a reservoir, well drilling performance indicators, and the influence of errors in field geological parameters on the field development process;
- Applies innovative teaching methodology in the field, the methodology for the quantitative assessment of oil and gas prospects, the equipment and special devices required for indicator (tracer) injection, methods of dispersion and regression analysis in well drilling, and innovative methods, tools and technologies in practical activities;
- Selects methods for the recovery of residual oil reserves, the main field geological parameters and their maximum permissible values for constructing a hydrodynamic model of a field, new technical means of drilling and innovative technologies, the necessary scope of experimental investigations, and an injection well for indicator (tracer) injection;
- Observing the principles of professional integrity and using modern technologies, prepares recommendations for solving field development problems.

Student Knowledge Assessment System

Assessment is carried out on a 100-point scale.

Assessment of the study 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)** – Did not pass – 41–50 points, which means that the student needs more work to pass and is given the right to sit an additional examination once after independent work;
(F) – Failed – 40 points or less, which means that the work carried out by the student is not sufficient and the subject must be studied anew.

If FX is received, an additional examination is scheduled no earlier than 5 days after the announcement of the results. The grade obtained in the additional examination is not added to the points received in the final assessment.

Assessment of the scientific research component/components:

a) Excellent (summa cum laude) – an outstanding piece of work;

b) Very good (magna cum laude) – a result that exceeds the set requirements in every respect;

c) Good (cum laude) – a result that exceeds the set requirements;

d) Average (bene) – a work of average level that meets the basic set requirements;

e) Satisfactory (rite) – a result that, despite shortcomings, still meets the set requirements;

f) Unsatisfactory (insufficienter) – a work of unsatisfactory level that does not meet the set requirements due to the significant shortcomings it contains;

g) Completely unsatisfactory (sub omni canone) – a result that completely fails to meet the set requirements.

The research component is assessed once, at the stage of the dissertation defence, by a final assessment.

The study and research components of the doctoral educational programme and the rules for their assessment are available on the University website:

https://www.gtu.edu.ge/uploads/2026/03/edu-research-components.pdf

Subject	**Credits**
Scientific Communication Techniques	4
Research Methods in Oil and Gas Technologies	5
Teaching Methods	6
Modelling of Oil and Gas Field Development	10
Optimisation of Well Drilling Processes	5
Professor's Assistantship	10
New Promising Directions of Oil and Gas Exploration in the Territory of Georgia	5
Elective courses (choose 5 credits)	
Study of Oil-Bearing Formations by the Indicator (Tracer) Method	5
Mathematical Processing of Drilling Data	
Classification and Evolution of Oil and Gas Basins	
Total	**50**