

Admission Prerequisites

The right to study in the doctoral educational programme is granted to a person who holds a Master's degree or an equivalent academic degree in one of the following detailed fields of the Classifier of Fields of Study: "Informatics", "Engineering", "Exact and Natural Sciences", "Economics".

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.).

Programme Goal

The goal of the doctoral programme is to prepare highly qualified, competitive specialists/researchers with in-depth knowledge who, in the field of informatics, will be able to:

1. Acquire modern scientific research experience and high-level knowledge in the scientific directions of informatics in order to carry out independent scientific research;
2. Generate new knowledge and ensure its innovative application and dissemination in various fields;
3. Develop the design of computer systems and computing environments in order to provide their software and user applications;
4. Define problem-oriented methods, algorithms and models in order to formulate the research process competently and increase the effectiveness of critical analysis;
5. Master methods for the systematic evaluation of research results based on scientific innovations and for drawing logical conclusions, for their further development and practical application, including in an interdisciplinary context;

and carry out scientific research and pedagogical activities.

Learning Outcomes/Competences (General and Professional)

1. **Has** in-depth knowledge of research methods in the field of informatics and of the creation and use of decision-support information systems, which enables their further improvement and the creation of new knowledge;
2. **Defines** the fundamental principles and directions of informatics, the problems of information acquisition and processing, and the latest methods and approaches to solving them;
3. **Analyses** the technological processes of various research objects and, with the aim of improving organisational management, determines the need to develop appropriate supporting intelligent methods, algorithms and software;
4. **Substantiates** the validity of applying scientific research methods such as: systems analysis and modelling, risk assessment and decision-making, big data processing and intelligent analysis, software systems development and data management, systems security, etc.;
5. **Uses** modern research and analytical methods, algorithms and software oriented towards the creation of new knowledge in order to identify systems and obtain optimal results;
6. **Recognises** the need to apply the scientific direction of informatics for the effective management and operational analysis of organisational processes, using secure methodologies and international standards;
7. **Develops** software and, on the basis of modern development methods and information and communication technologies, solves organisational management tasks in various fields;
8. **Participates** in local/international projects and research work; presents research results to a wide audience in local and international thematic discussions and makes effective decisions based on the experience gained;
9. **Shares** the experience of others, observes the norms of ethical and professional responsibility, and presents research results in a well-argued manner at the level of the standards required for international peer-reviewed publications;
10. Independently plans and conducts the teaching process **using** innovative methods and new technical means. **Creates** appropriate teaching and scientific-methodological materials for the purposes of modern educational technologies and the didactics of informatics.

Student Knowledge Assessment System

The mastery of the topics envisaged by the programmes (syllabi) of the study courses defined by the educational programme is assessed on a 100-point scale. A study course is considered passed by the doctoral student if, as a result of the midterm assessments and the final examination, they accumulate 51 or more points. A doctoral student who obtains at least 30 points in the midterm assessments is admitted to the final examination. The doctoral student must accumulate at least 21 points in the final examination.

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 Research Component

Five positive and two negative grades are used to assess the doctoral student's dissertation.

Positive grades are:

- Excellent (summa cum laude) – an outstanding piece of work, 91–100 points;
- Very good (magna cum laude) – a result that exceeds the set requirements in every respect, 81–90 points;
- Good (cum laude) – a result that exceeds the set requirements, 71–80 points;
- Average (bene) – a result that meets the set requirements in every respect, 61–70 points;
- Satisfactory (rite) – a result that, despite shortcomings, still meets the set requirements, 51–60 points;

Negative grades are:

- Unsatisfactory (insufficenter) – a result that does not meet the set requirements due to significant shortcomings, 41–50 points;
- Completely unsatisfactory (sub omni canone) – a result that completely fails to meet the set requirements, less than 41 points.

The scientific research component of the doctoral educational programme is assessed once, by a final assessment. The assessment system of the scientific research component is available at the link:

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

Subject	Credits
Academic and Scientific Communication Techniques A	4
Research Methods in Informatics	7
Modern Educational Technologies and Didactics of Informatics	6
Specialised courses related to the doctoral programme:	15
Elective Block 1:	
Mathematical Models for Decision-Making	8
Information Security	
Organisation and Management of Technology-Based Learning Processes	
Modern Informatics Technologies and Their Development Trends	
Elective Block 2:	

Risk Assessment under Uncertainty	7
Applied Software Engineering	
Artificial Intelligence	
Blockchain Challenges	8
Planning and Development of Strategic Information Systems and Technologies	
Information Protection and Cybersecurity Systems	
Specialised courses related to the doctoral programme:	15
Elective Block 3:	
Challenges of the IoT Ecosystem and Design Paradigms	7
Problems of Computer Networks and Methods for Solving Them	
Fuzzy Technologies and Systems for Control and Decision-Making	
Artificial Neural Networks	
Implementation of Business Solutions on a Cloud Platform	
Operations Research Models and Methods	
Elective Block 4:	
Randomised Algorithms	8
Machine Learning Methods and Algorithms	
Big Data Technology – Business Analytics, Development and Implementation	
Data Science and Artificial Intelligence	
Professor's Assistantship in Informatics	5
Total	60