Computing and Information Technologies

Bachelor's Educational Programme | 190 credits | Georgian Technical University

Programme admission prerequisite

The prerequisites for admission to the bachelor's educational programme are:

- Passing the unified national examinations in accordance with the procedure established by the legislation of Georgia: in mathematics or physics; in the Georgian language; in a foreign language (English).
- Enrolment on the programme may take place through internal and external mobility, in accordance with the regulations established by the Ministry of Education and Science of Georgia and by Georgian Technical University.
- Enrolment on the programme without passing the unified national examinations is possible in accordance with the procedure established by the Ministry of Education, Science and Youth of Georgia.

Programme objectives

- To prepare a competitive specialist with systemic, fundamental, theoretical and practical knowledge for practical and research activity on the local and international labour market, in the main directions of information technologies: programming, databases, web technologies and computer networks, taking into account the main theoretical and technological principles of human-computer interaction;
- To provide the graduate with knowledge of the practical and research issues of information technologies;
- To develop in the graduate the skills of analysis and research of objects in the field of information technologies.

Learning outcomes / competences (general and professional)

The learning outcomes correspond to the objectives and content of the educational programme; they are measurable and achievable, and they correspond to the relevant qualification level and to the academic degree to be awarded.

Upon completion of the programme, the graduate:

1. Demonstrates broad knowledge of information technologies, by means of which he/she defines the issues connected with the main directions of information technologies;
2. Using standard and the latest methods, and on the basis of systemic knowledge, identifies and formulates the tasks to be solved in the main areas of information technologies;
3. On the basis of the acquired knowledge, analyses user requirements in databases, computer networks and web technologies;
4. Solves practical tasks in accordance with predetermined instructions, using the tools of the main areas of information technologies;
5. Together with a group, carries out the design, development and management of software systems, databases, web systems and computer networks;
6. Presents documentation clearly and in full compliance with linguistic norms, and presents knowledge to the academic and professional community, taking ethical issues into account;
7. Plans his/her own development using information technologies and/or in the theoretical field.

Student knowledge assessment system

Assessment is carried out on a 100-point system.

Assessment of the learning component — positive grades:

- 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:

- (FX) Did not pass — 41–50 points, which means that the student needs to do more work in order to pass and is granted the right to sit an additional examination once on the basis of independent work;
- F. Failed — 40 points or fewer, which means that the work carried out by the student is not sufficient and he/she must study the subject anew.

A student who does not agree with the assessment of the learning outcomes is entitled, within five working days of being informed of the assessment result, to apply to the dean with a reasoned complaint and to request a review of the results, link: https://www.gtu.edu.ge/uploads/2026/03/appeal-restore.pdf

Detailed information about the assessment system is provided in the Instruction for the Management of the Learning Process at Georgian Technical University, link: https://www.gtu.edu.ge/students/stsavleba-da-mkhardachera/sastsavlo-protsesi/sauniversito-maregulirebeli-dokumentebi/

Practice is assessed in accordance with the GTU Rule for Conducting and Assessing Student Practice and in accordance with the procedure and criteria described in the relevant syllabus, link: https://www.gtu.edu.ge/students/stsavleba-da-mkhardachera/sastsavlo-protsesi/pormebi-instruqtsiebi/

The defence of the bachelor's thesis is assessed in accordance with the Rule for Carrying Out a Bachelor's Research Project/Thesis, link: https://www.gtu.edu.ge/uploads/2026/03/sabakalavro-kvlevithi-proeqtisnashromis-shesrulebis-tsesi.pdf

Curriculum

Where several subjects are listed in one row, they form an elective group sharing the same credit value.

Subject	Credits
Discrete Mathematics	5
General Physics 1 (CIT)	5
Applied Digital Technologies and Artificial Intelligence Tools	4
Fundamentals of Programming (based on C++) (CIT)	5
Special Course in the State Language (Georgian Language)	5
English Language — B1 (intensive)	5
Linear Algebra	5
General Physics 2 (CIT)	5
Data Structures and Algorithms (CIT)	5
Design of Digital Products and Web Development (UI/UX, HTML5, CSS3 and JavaScript)	6
English Language — B2 (intensive)	5
Computer Architecture and Organisation (CIT)	5
Applied Mathematics (Probability Theory and Statistics)	5

Database Architecture and Management	6
Fundamentals of Computer Networks (CIT)	5
Programming Based on the Multifunctional Python Language	5
Object-Oriented Programming and Systems Development in Java Building Software Applications with C#/.NET Technologies	6
Operating Systems in Multiplatform Corporate Environments Operating Systems and Open Source Technologies	5
Fundamentals of Engineering Ecology — Informatics	3
Administration of Computer Networks	5
Non-Relational Databases	5
Fundamentals of Information Security (CIT)	5
Ethics in Information Technologies	4
Fundamentals of Artificial Intelligence and Machine Learning	5
Web Programming (based on PHP) Web Technologies (Django Framework) Programming of Web Applications in the .NET Environment	5
Elements of Academic Writing Principles of Economics History and Culture of Georgia History of Georgia Sociology Introduction to Sociology Fundamentals of Philosophy Introduction to Philosophy Introduction to Psychology	3
Fundamentals of Software Engineering	5
Human-Computer Interactions (CIT)	5
Cybersecurity Challenges	5
Free Component	3
Practice (CIT)	5

Programming of Mobile Applications for Android Programming of Mobile Applications for iOS	5
TOTAL	**190**