



საქართველოს ტექნიკური უნივერსიტეტი
GEORGIAN TECHNICAL UNIVERSITY

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

Amended by
Resolution № 01-05-04/115 of the
Academic Council of GTU dated
August 14, 2020

Bachelor's Educational Program

Program Title

ინფორმატიკა

Informatics

Faculty

ინფორმატიკისა და მართვის სისტემების

Informatics and Control Systems

Program Head/Heads

Professor Medea TEVDORADZE

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

Bachelor in Informatics, 240 credits

By combining the main specialty (220 credits) and free components (20 credits) in the educational program, if at least 240 credits are completed

Language of Teaching

Georgian

Prerequisite for Admission to the Program

Only the holder of a state certificate proving complete general education, or an equivalent person enrolled in accordance with the procedure established by Georgia law, shall have the right to study at the Bachelor's Educational Program.

Program Description

The educational program is compiled according to the ECTS system, 1 credit is equal to 25 hours, which includes both contact and independent work hours. The distribution of credits is presented in the curriculum. The educational program lasts 4 years (8 semesters) and includes 240 credits (ECTS).

The educational program is based on the principle of optionality of educational components, it includes basic educational courses (which include compulsory educational courses, elective educational courses and concentrations) and free components. Within the framework of the educational program, the student can choose from elective core courses, concentrations, and free components.

The educational program includes:

- Industrial internship - 5 credits;
- 8 concentrations - the capacity of each concentration is 30 credits;
- Bachelor's project – 10 credits (included in the concentration).

Academic year schedule:

The academic year consists of two semesters - fall and spring. Study schedule, mid-semester and final/supplementary exam dates are determined at the beginning of each semester by the rector's order on the basis of the "Instructions for managing the educational process at the Georgian Technical University".

During the development of the Bachelor's educational program, the recommendations of the ACM and the best practices of various leading universities were used:

<https://www.acm.org/binaries/content/assets/education/curricula-recommendations/cc2005-march06final.pdf>;

<http://catalog.mit.edu/degree-charts/computer-science-engineering-course-6-3/>;

<https://www.tuas.fi/en/study-tuas/degree-programmes/bachelor-engineering-information-technology/>

<http://ci.uky.edu/sis/ict>

<https://fontys.edu/Bachelors-masters/Bachelors/Information-Communication-Technology-Eindhoven.htm>

<https://studee.com/search-programs/informatics-bachelor-arizona-state-university/>

<https://webapp4.asu.edu/programs/t5/majorinfo/ASU00/ESCPiBS/undergrad/false>

Program Objective

The objective of the educational program is to prepare competitive specialists in informatics who will be able to:

- Design computer systems and computing environments in the field of informatics and develop consumer applications, solve relevant tasks and problems;
- Operate, administer and service software, hardware, software-hardware systems in the field of informatics;
- Use appropriate methods, methods and tools - software and hardware tools in various industrial fields based on knowledge based on the latest achievements of information and communication technologies.

Learning Outcomes/Competences (general and professional)

- Understands the main theses of information and communication technologies, fundamental and natural sciences, which he/she uses to identify problems related to the specialty, formulate and determine ways to solve them;
- Characterizes such modern issues from a wide range of tasks in the field of informatics, such as: information technology management and infrastructure, data processing centers, mobile and web technologies, multimedia systems and computer games, information systems for business process management and business analysis, decision-making support technologies , Internet of Things and intelligent sensors, SCADA-systems, robotics, machine learning, widely used programming languages and technologies, information security;
- Identifies, formulates, analyzes theoretical and practical problems and tasks in various branches of the industry, draws reasonable conclusions related to them and solves the mentioned problems and tasks in information systems, decision support systems, information technologies, multimedia systems, computer systems and networks, software engineering, web - using modern methods and methods of technologies and artificial intelligence, software and hardware tools;
- Designs and implements software and hardware, software-hardware systems and products in the directions of information systems, decision-making support systems, information technologies, multimedia systems, computer systems and networks, software engineering, web technologies and artificial intelligence with modern methods and tools;
- Performs maintenance, service and administration of software and hardware, software-hardware systems and products in the field of informatics;
- Communicates with specialists and non-specialists about ideas, existing problems and tasks, their solutions, in forms appropriate to the context, using information and communication technologies;
- Effectively conducts development-oriented professional activities in a group and multidisciplinary context while maintaining professional and ethical norms, professional values;
- Determines the need for further education in the conditions of rapid development of directions and technologies in the field of informatics;
- Makes independent decisions about professional and career development.

Methods of achieving learning outcomes (teaching-learning)

Lecture Seminar (group work) Practical Laboratory
 Practice Course work/project Independent work Consultation

Activities corresponding to teaching-learning methods

In the educational process, depending on the specifics of a particular study course program, the following teaching-learning methods are used, which are given in the relevant education course programs (syllabi):

Discussion/debate, cooperative learning, group(collaborative)work, case study, brain storming, demonstration, inductive, deductive, analysis, synthesis, verbal, written work, explanatory, action-oriented learning, 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 FX, an additional exam is held, not less than 5 days after the announcement of the results. The mark obtained in the additional exam is not added to the mark obtained in the final assessment

Detailed information is provided on the GTU website: Instruction for managing the educational process at the Georgian Technical University.

Fields of Employment

- State and private organizations and enterprises that need information systems (organizational and production management, financial, business analysis, decision-making), web and multimedia systems, artificial intelligence systems, IT infrastructure, and where planning, design, implementation, maintenance, administration, service of infrastructure, information and web systems are carried out in the field of information technologies;
- Software and web product manufacturing companies, where software products are developed, delivered to other organizations, followed by implementation, administration, services;

- Computer systems manufacturing and service companies, where systems are designed, assembled, delivered to other organizations, maintained, administered and serviced;
- IT- • Infrastructure component manufacturing companies

Opportunities for continuing education

Master's degree 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.