The University Of Georgia

Program name:	**Computer Science (Eng)**
Study Level:	Undergraduate
Program leader:	Sulkhan Sulkhanishvili
Study language:	English
Qualification:	Bachelor of Computer Science
Program capacity:	180
Program permission:	A prerequisite for admission to the program (for citizens of Georgia): Admission of students to the first level of academic higher education (undergraduate programs) is carried out based on the results of the Unified National Examinations or in accordance with Order №224/N (December 29, 2011) of the Minister of Education and Science of Georgia, upon completion of administrative registration and based on the order of the Rector of the university. A prerequisite for admission to the program (for foreign citizens): Foreign applicants who have received full general secondary education abroad or its equivalent, and/or have studied abroad during the last two years of general secondary education, or students who have lived in a foreign country for the past two or more years and are studying in higher education institutions recognized by the legislation of the host country, may be admitted to the program without taking the Unified National Examinations, in accordance with Order №224/N (December 29, 2011) of the Minister of Education and Science of Georgia. A prerequisite for admission to the program is proof of English language proficiency at the B2 level. This can be confirmed by an internationally recognized certificate (TOEFL iBT – minimum score 72, IELTS – minimum score 5.5, PTE General – minimum level B2, FCE – minimum level B2, CPE – a pass is sufficient; CAE – a pass is sufficient). In the absence of such a certificate, English language proficiency may be confirmed by a university-administered exam, where achieving at least 50% of the total score is considered sufficient.
Program goals:	The aim of the program is to provide students with both theoretical and practical knowledge and experience, enabling them to carry out complex professional tasks such as developing algorithms, designing optimized computer systems, and applying digital solutions across various applications.The program is designed to ensure that students acquire a solid foundation in computer science, including areas such as programming, data structures, and artificial intelligence. It aims to develop their analytical and critical thinking skills, as well as teamwork and communication abilities, so they can effectively address professional problems and challenges. Furthermore, the program equips students with the necessary knowledge and competencies to pursue further studies and engage in technological research.
Methods for Attaining Learning Outcomes:	• Lectures and seminars • Demonstration method • Discussion of innovations (ან Analysis of new developments) • Practical work • Laboratory work • Presentations • Teamwork • Critical analysis • Literature review • Textbook-based learning method • Searching for relevant materials in electronic format or in the library
Learning outcomes:	**Outcomes** • Analyzes problems in the field of programming by assessing user requirements and applies relevant principles and ICT-based approaches to develop effective solutions; • Designs and implements solutions in the context of programming as a discipline, according to computational requirements; • Operates effectively in various professional contexts; • Recognizes professional responsibility and makes evidence-based decisions in computing practice, considering legal and ethical principles; • Works effectively as a team member and engages in programming-related activities; • Applies computer science theory and software development fundamentals in the process of developing computational solutions (CS).
Date of approval:	03-04-2025
Approval protocol number:	13PDC6061-01
Date of program update:	
Update protocol number:	

Program details:	The learning outcomes of core courses correspond with the program's goals and serve the development of general field competencies. The content and logical sequence of core courses ensure opportunities for in-depth study within specific modules, allowing graduates to acquire competencies aligned with qualification and labor market demands. Elective courses allow students to deepen their knowledge in various specializations according to their interests.
Teaching Process Characteristics:	To obtain a bachelor's degree, a student needs to earn 180 ECTS, which means completing the core subjects of the program, which includes 120 ECTS and the remaining (60 ECTS) can be accumulated by the student from elective subjects of the bachelor's program.

Program Core

Code	Subject	ECTS	Semester
INFO2117E	C++ Programming	6	1
MATH1115E	Calculus I	6	1
MATH1123E	Linear Algebra and Analytical Geometry	6	1
INFO2119E	Theory and Practice of Programming Languages	6	2
INFO2410E	Computer Architecture	6	2
INFO4259E	Data Structures and Algorithms	6	2
MATH1166E	Calculus II	6	2
EENG1105E	Fundamentals of Physics	6	3
INFO2130E	Front-End Development	6	3
INFO2217E	Operation System	6	3
INFO3230E	Programming language Java I	6	3
MATH3112E	Discrete Mathematics	6	3
INFO3109E	Computer Network I	6	4
INFO3149E	Machine Learning and Artificial Intelligence	6	4
MATH2004E	Probability and Statistics	6	4
INFO3153E	Cybersecurity	6	5
INFO3252E	Oracle Database Design and Programming	6	5
AINT1008E	Computer Vision	6	6
INFO1108E	IT Services and Projects Management	6	6
INFO3027E	Software Modeling and Design Patterns	6	6

Total ECTS to be taken: 120

Program Elective

Code	Subject	ECTS	
BUSN1210E	Basics of Business and Economics	6	
HIST1117E	Introduction to World History	6	
HIST1230E	Introduction to the History of Georgia	6	
KART1220E	Academic Writing	6	
LING0015	Georgian as a Foreign Language I (General)	6	
INFO4171E	Bachelor Project in Computer Science	12	

Total ECTS to be taken: 42

Program Elective - programming

Code	Subject	ECTS	Semester
INFO0112E	Android platform-based development	6	
INFO5555E	Arduino and Intro to Hardware Security	6	
INFO0111E	IOS Development	6	
INFO4250E	Programming language Java II	6	
INFO0105E	Programming language Swift	6	
INFO0107E	Visual programming (C#) I	6	
INFO0113E	Visual programming (C#) II	6	
	Total ECTS to be taken:	42	

Program Elective - Physics - Mathematics

Code	Subject	ECTS	Semester
MATH4118E	Fundamentals of Cryptology	6	
EENG1120E	Fundamentals of Electronicss	6	
MATH3111E	Methods of Optimization	6	
MATH2212E	Numerical Analysis	6	
MATH1121E	Precalculus	6	
	Total ECTS to be taken:	30	

Program Elective - Network Technologies, Blockchain, Games, and Databases

Code	Subject	ECTS	Semester
INFO3290E		6	
INFO3050E	3dsMax basic - Basic course	6	
INFO0116E	Computer graphics systems	6	
INFO3208E	Computer Networks II	6	
INFO2549E	Computer Structural Organization	6	
INFO4152E	Computer Systems Operation and Service	6	
INFO0122E	Data Science - Data Analysis and Visualization	6	
INFO0124E	Database Management Systems (MS SQL)	6	
INFO0115E	Geoinformatics	6	
INFO1225E	Geo-Information Systems (Arc GIS)	6	
INFO3011E	Introduction to Blockchain and BlockDAG technologies	6	
INFO3233E	Introduction to game design	6	
INFO4451E	Introduction to Game Development I	6	
INFO4461E	Introduction to game development II	6	
INFO0114E	Non-Relational Databases (MongoDB)	6	
INFO0123E	Office Systems	6	
INFO4246E	Organization of computer peripherals	6	
	Total ECTS to be taken:	102	

Program Elective - Web

Code	Subject	ECTS	Semester

INFO4335E	ASP.NET MVC	6	
INFO4117E	Laravel Framework	6	
INFO4113E	Vue.js Framework	6	
INFO3147E	Web Development (NextJS)	6	
INFO2213E	Web Development (Node.js Express.js)	6	
INFO3141E	Web Development (PHP, MySQL)	6	
	Total ECTS to be taken:	36	

Program Elective - Cloud Infrastructure and Cybersecurity

Code	Subject	ECTS	Semester
INFO0101E	Administering Microsoft's cloud solution Azure	6	
INFO0103E	Administering Microsoft's cloud solution Azure	6	
INFO0109E	Amazon Cloud Solutions AWS Architecture	6	
INFO0102E	Amazon Cloud Solutions AWS Security Technologies	6	
INFO0118E	Cybersecurity analysis and architecture	6	
CYBR3017E	Data Privacy and Cyber law	6	
INFO0121E	Hacking Tools and Methods	6	
INFO0108E	Introduction to Container Security	6	
INFO0117E	Malware analysis	6	
INFO2214E	Operating System Linux	6	
INFO0119E	Penetration testing	6	
	Total ECTS to be taken:	66	

Matrix Of Privequisites

Point	GPA	The university assessment	The general assessment in Georgia	
97-100	4,00	A+	A	Excellent
94-96	3,75	A		
91-93	3,50	A-		
87-90	3,25	B+	B	Very good
84-86	3,00	B		
81-83	2,75	B-		
77-80	2,50	C+	C	good
74-76	2,25	C		
71-73	2,00	C-		
67-70	1,75	D+	D	Satisfactory
64-66	1,50	D		
61-63	1,25	D-		
51-60	1,00	E	E	Sufficient
Not passed				
41-50		FX	FX	Insufficient
<40		F	F	Failed