

Caucasus University



კავკასიის ტექნოლოგიების სკოლა
CAUCASUS SCHOOL OF TECHNOLOGY

Undergraduate Program in
Computer Science



Program Name	Computer Science		
Program Name in Georgian	კომპიუტერული მეცნიერება		
Degree level	Bachelor's		
Type of the educational program	Academic		
Language of Instruction	Georgian		
Expected Qualification and Code			
In Georgian:	კომპიუტერული მეცნიერების ბაკალავრი	0613	
In English:	Bachelor of Computer Science	0613	
Date of Program Approval	10 May 2007		
Academic head of the Program	Professor Maksim Iavich, PhD.		
Program Volume in Credit Hours			
<p>The Bachelor's Degree Program in Computer Science comprises 240 credits. 1 ECTS equals to 25 hours, which includes class hours and time spent on independent work (midterm and final examinations, as well as homework assignments).</p> <p>Consequently, the standard official duration of the Bachelor's Degree Program is four years, but maximum six years. After expiration of the standard duration of the Bachelor's Degree Academic Program, the students having academic debts, with the view of completing the program, are allowed to continue education through additional semesters by retaining the student's status.</p> <p>The program envisages a narrow sphere and free components learning courses:</p> <p><u>Learning courses of narrow sphere (182 ECTS credits):</u></p> <ul style="list-style-type: none"> - Mandatory learning courses -140 ECTS - Optional learning courses - 42 ECTS <p><u>Learning courses of free component (58 ECTS credits):</u></p> <ul style="list-style-type: none"> - Mandatory learning courses of university - 20 ECTS - Optional learning courses of university - 20 ECTS - Free credits - 18 ECTS 			

Program Description

Admission Requirements

- Any person having a secondary education is entitled to enroll in the Undergraduate Program in Computer Science.
- The precondition for admission to the program is to pass the Unified National Examination. Any exceptions to the Law on Enrolment at Higher Education Institutions are allowed only in the cases prescribed by Law.
- Mobility to the program is allowed in accordance with the procedures set by the relevant law.

Program Objectives

The objectives of the Program in Computer Science are to:

- Provide the student with an in-depth knowledge of the theoretical aspects of higher education disciplines, which prepares the person for further study at the Master's degree program or work with a qualification.
- Give student an interdisciplinary education in Computer Science, based on fundamental theories and principles of mathematics and Computer Science, which will enable him / her to develop professionally and contribute to the development of the field.
- Prepare high-level, competitive specialists with the broad theoretical knowledge and practice-oriented, transferable skills necessary for professional development in the field of Computer Science in Georgia and abroad as well.

Learning Outcomes

Upon completion of the Bachelor's degree program in Computer Science, the graduate will acquire the following competencies:

- Describes the basic concepts of computer science. Based on the knowledge of the principles of mathematical and computer technology, explains the theoretical and practical aspects of the field, the main features of the field and modern trends.
- Analyzes complex computational problems and selects the appropriate algorithm for their solution.
- Develops and implements complex software systems.
- Participates effectively in teamwork in program-related activities.
- Applies the principles of programming, computer systems, the latest approaches and technological tools in practice
- Realizes the importance of evaluating the learning process, the need to constantly update professional knowledge and acquire new knowledge, conducts oral and written communication.
- Appreciates and shares technology-related values, ethical and social responsibilities with others.

Building a Career

Internships and Job Placements

The program structure allows students to be "job ready" early in the program and offers opportunities for career advancement. Students will be offered to be part of the coordinated internship programs or get a job placement through the support of the CU Career Center.

Career Opportunities

Program graduates will have an opportunity to work in a variety of environments such as industry, media, government, private and business organizations. As a rule, the work of graduates involves the following types of activities: analyzing problems for solutions, formulating and testing, using advanced communications or multimedia equipment, or working in teams for product development. Examples of job titles of program graduates may include: Software Developer, Computer Communications Specialist, System and Security Administrator, Network Systems and Data Communications Analyst, IT Business Management Consultant, Product Line Manager, Telecommunications Manager, Multimedia Developer, Animator etc.

Study Continuation Opportunities

The program graduates can continue their studies at any of Master's Degree programs in Georgia or abroad, in accordance with the regulation required by the law.

Nº	Code	Prerequisite	Course	Year								ECTS
				I		II		III		IV		
				Semester								
				I	II	III	IV	V	VI	VII	VIII	
Optional learning courses - 42 ECTS												
26.	ELC 2240	PHYS 2140	Electronics				x				5	
27.	MATL 1240		Data Modelling I		x						5	
28.	CTC 3143	CTC 2241	Web Technologies III					x			6	
29.	CTC 3145		System Administration I					x			6	
30.	CTC 3148	CTC 2144	Virtualization Technology					x			6	
31.	SEC 3140		Usable Security					x			6	
32.	SEC 3141		Etical Hacking					x			6	
33.	SEC 3142		Web penetration testing					x			6	
34.	NW 3141	CTC 2144	Management of Computer Networks I					x			6	
35.	MK 3140		Digital Marketing					x			6	
36.	DSY 3140	CTC 2245	Distributed Systems					x			6	
37.	HPC 3140	CTC 2144	Introduction to High-Performance Computing (HPC) System					x			6	
38.	CTC 4145	CTC 2243	Database Administration					x			6	
39.	NW 3241	NW 3141	Management of Computer Networks II						x		6	
40.	CTC 3241	CTC 1243	User Interfaces						x		6	
41.	CTC 3242		Software Security						x		6	
42.	CTC 3243	CTC 1243	Java Programming Language I						x		6	
43.	SEC 3241	SEC 3142	Web penetration testing II						x		6	
44.	OSS 3240	CTC 3145	Server-side operating systems security						x		6	
45.	WEB 3240	CTC 3143	Web Technologies IV						x		6	
46.	CTC 3245		System Administration II						x		6	
47.	CTC 3246		Network Security						x		6	
48.	CTC 3247	CTC 2144	Corporate Wireless Networks						x		6	
49.	DA 3240		Digital Art						x		6	
50.	PRW 3240		Specialization Project						x		6	
51.	TELC 3240		Communication Theory						x		6	
52.	PHY 3240	CTC 4247	Python Programming Language II						x		6	

№	Code	Prerequisite	Course	Year								ECTS		
				I	II	III	IV							
				Semester										
I	II	III	IV	V	VI	VII	VIII							
Optional learning courses of university - 20 ECTS														
79.	CIS 1241	CIS 1140	Data Analysis and Visualisation		x							5		
80.	ENGL 0009	ENGL 0008	C1.0 General English Language			x						5		
81.	ENGL 0010	ENGL 0009	C1 General English Language				x					5		
82.	ENGL 0005		B1.0 General English Language ⁱⁱⁱ	x								5		
83.	ENGL 0006	ENGL 0005	B1 General English Language		x							5		
84.	MATH 0001		PreCalculus ^{iv}	x								5		
85.	HIST 0001		Introduction to World History & Civilization	x								5		
86.	POLS 0002		Political Science									5		
87.	HIST 0003		History of Georgia									5		
88.	SOCI 0004		Sociology									5		
89.	PHIL 0005		Philosophy									5		
90.	PSYC 0006		Psychology											
91.	ENTP 0009		Entrepreneurship											5
Free credits - 18 ECTS														
92.			Free Course ^v							x		6		
ECTS Per Year				60	60	60	60							
Courses Per Year				12	12	10	9							

ⁱ Student, who already has accumulated 120 ECTS credits after the first two academic years, instead of the course - Algorithms & Data Structures I, will take the course - CTC 3141 Algorithms & Data Structures (In accordance to the previous program).

ⁱⁱ "Probability & Statistics" is elective before Intake 2017-2018.

ⁱⁱⁱ General English Language B1 Level is mandatory for those students who have competency lower, than the Level B2.

^{iv} "PreCalculus" is mandatory for those students who have low competency in Math.

^v Student can take courses in terms of "Free Course" from the other Bachelor's degree programs and/or form the Elective Specialization Courses in this program.