Awarding qualification – Bachelor of Computing

Number of Credits - 240 ECTS Credits

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The University is equipped with modern equipment and computer labs, which, together with theoretical knowledge, provides students with the ability to apply the latest information technology.

The specifics of the program include the implementation of many practical projects by the student. The program is tailored to meet current market demands and future prospects in information technology, thereby it increases the competitiveness of graduates in employment.

The program offers students an in-depth study of computer science and, if they wish, an additional specialization.

The standard duration of the course is 8 semesters (4 years).

The program includes: 150 credits of specialty courses, including: 120 - compulsory courses and 30 - electives. In addition, 12 credits are required for the student to collect from the project group; Students must complete 240 credits in the form of additional (minor) specialties, free credits or elective courses.

The bachelor's degree in computer science is virtually unlimited, as government agencies, educational institutions, and various forms of property management are currently actively using and / or developing software. In Georgia's example, there are organizations that process audio and video information (communication and television, computer game makers, geoinformatics companies), care for the processing and protection of large amounts of information (banking, law enforcement and other government agencies, search engines, social media). In some cases, employment may involve participation in various research projects, or service to any intellectual field - planning and management of various streams (transport, pipeline, air), service and development of existing programs.

Based on the experience of successful foreign universities, program management involves the active participation of practitioners and practice in the curriculum, who are both potential employers and are well aware of labor market requirements.

A bachelor of computer science will be able to pursue a master's degree in educational programs both in Georgia and abroad, where admission requirements are met.

It is also possible to pursue doctoral programs at American universities that provide undergraduate admissions by enhancing their teaching component, subject to the requirements for admission to relevant educational programs.

1. Aim:

Training of a competitive specialist in the labor market, who, in addition to general competencies, will have broad and deep knowledge of the field;

Output of a graduate with practical skills and professional values, which is important in terms of employment. Therefore, many courses along with theoretical knowledge focus on the practical aspects of this knowledge;

Provide students with high quality and thorough knowledge, based on labor market needs and ACM (http://www.acm.org/education/CS2013-final-report.pdf) basic curriculum recommendations;

The mathematics courses offered in the program provide the student with the necessary foundation to further his / her self-development;

On projects, the team works to develop the skills and ability to communicate with colleagues, which will help the graduate to succeed;

Giving proper attention to modern trends in field development. In particular, offering courses such as software development methods, multi-core programming, computer security and law, and others that will make the program graduate competitive in the job market;

To reflect those aspects that distinguish computer science from other fields of informatics. Also, the aspects that are common to different areas of informatics;

Develop the technological skills needed to successfully apply the knowledge gained in research, research and creative work.

2. Learning outcomes

Outcome 1

· Professionally uses discrete mathematics structures: function, set, sequence, direction, predicate, graph, tree.

· Uses standard models of operations research in mathematical programming and decision making (uncertainty, risk, cooperative) when solving practical tasks.

· In turn, relevant models are guided by the principles of basic logic, methods of validation, accounting elements, discrete probability and statistics, and when evaluating - calculate integrals and derivatives and / or use a variety of mathematical software mastered in basic courses.

Outcome 2

· Uses search, sorting, hashing algorithms when designing programs, as well as using standard algorithms when processing graphs and rows. Evaluates the complexity of the algorithms. Uses libraries of C ++ STL and Java algorithms.

· Effectively uses data structures (arrays, dynamic arrays, hash tables, tree structures, iterators, C ++ (STL) and java algorithm library);

· If necessary, if the relevant language library does not contain such, it can implement medium to high complexity algorithms and data structures by providing recommended time for a specific task.

Outcome 3

· Uses software development and testing methods: Debugging, Logging, Unit Test with different frameworks, Version Control.

· Uses basic approaches to software engineering. Plans the process, cycle, and phases of software system development. Uses Modern Patterns of Design Pattern.

· Uses parallel and split programming tools (synchronization, duplication, and parallel algorithm elements);

· Uses HTML to create web documents and Javascript to program dynamic actions.

Outcome 4

· Describes the operation of the computer at the hardware level, uses the computer organization at the assembly level, manages information at the level of web systems and databases.

· Creates physical network using required protocols and perform routing.

· Effectively use operating systems: Install and customize the system, administer it

Outcome5

· Uses modern communication tools. Document the software. Present a paper or abstract using modern presentation tools.

· Uses English in learning materials and professional activities.

· Uses version control systems when working in a team on a software project.

· In the process of software development, actively uses Internet search engines and forums to gain knowledge of the latest software design or construction.

· Draws relevant conclusions from the analysis of training and professional activities.

Outcome 6

· Guided by the legal principles of cyberspace in carrying out their professional activities.

· Interprets cyberspace regulatory norms and adapts them to specific cases.

· Shares and strives for the principles of professional ethics.

3. assessment system

Students in each component of the program are graded through a 100-point system that includes midterm assessment and final assessment. Within each course, the student completes the syllabus assignments, prepares a presentation, participates in discussions, and engages in all other activities necessary to achieve the goals of the course.

100 point distribution is given in the table below, besides , types of checking their knowledge includes presentation, and checking other types of information that are given in syllabus in details.

100 point					
Midterm assessment - 60 points			Final assessment - 40 points		
Assessment components	point	Threshold	Assessment of the component	point	Threshold
Weekly/seminar assessment	20	8	Final exam	40	21
Presentation	10	4			
Midterm exam	30	8			

The final exam is compulsory in each course. The final exam is given to a student who has earned at least 20 points in the midterm assessment.

Bachelor's Thesis Evaluation is carried out in accordance with the instruction of Undergraduate Thesis performance, defense, and Evaluation Instructions.

Student's achievement is evaluated by 100 grade system

Students' grading system provides for:

a) five types of positive evaluation:

a.a) (A) Excellent– 91-100 points;

a.b) (B) Very good - 81- 90 points;

a.c) (C) Good - 71 – 80 points;

a.d) (D) Satisfactory - 61 – 70 points ;

a.f) (E) Enough - 51 – 60 points;

b) two types of negative evaluation:

b.a) (FX)- Not passed - 41-50 points, which means that in order to pass the examination the student needs to work more, therefore he/she is given a chance to work individually and take the additional examination.

b.b) (F)- Fail- 40 points and less of the maximum evaluation, which means that the work individually done by the student's is not enough and he/she has to study the discipline once more.

The student's marks on the additional exam are not added to the scores on the final grade. Assessment for the additional exam is a final assessment and will be reflected in the final assessment of the course.

In the event of a score of 0-50 in the final grade, the student receives a score of F – 0.

4. Pre requisite for admitting at the program

Unified National Exams. Persons with full general education have the right to study in the educational program. Enrollment in the program is based on the ranking of ratios as a result of the Unified National Exams, in accordance with the rules established by the legislation.
Enrollment without Unified National Exams.-

Enrollment without Unified National Exams- is possible based on the rule approved by the Ministry and education of Georgia December 29, 2011 №224 / N, pursuant to the rule of admission of the entrants to the Bachelor's and Master's degree without passing unified national examination.

Mobility. Enrollment in the educational program is also possible through mobility, according to the Order of the Minister of Education and Science of Georgia of February 2, 2010 No. 10 / N "On the Transfer from Higher Education to another Higher Education Institution".

Internal mobility. Applicants will also be eligible for internal mobility. Internal mobility terms and procedures are set by the Rector of the University and are regularly posted on the University's website at www.sangu.edu.ge

5. სწავლა-სწავლების ფორმები და სწავლის შედეგების მიღწევის მეთოდები

The methods for achieving the results of the program are lecture, practical, seminar and laboratory. For each method, the following activities are used:

Lectures: Verbal, Problem-Based Learning (PBL), Demonstration, Case Analysis, Induction, Deduction, Analysis and Synthesis etc.

Seminars, Practicals and Labs: Verbal, Book Work, Demonstration, Action Oriented Learning, Induction, Analysis, Synthesis, E-Learning Attendance, and more.

Group project: Verbal, problem-based learning, face-to-face E-learning, cooperative learning, collaborative work, and more.

Taking into account the specifics of the specific course, the methods and activities are planned within the academic freedom of the course lecturers and are specifically defined by the syllabuses of the respective courses.