

SUSU EECS Bachelor's Program in Fundamental Computer Science and Information Technology.

Major: Informatics and Computer Science

Within the "Fundamental Computer Science and Information Technology" bachelor program, you would learn trends and latest IT approaches, including fundamentals of Programming and Software development, Operation Research, Internet of Things technologies, Optimization Methods, Computer Networks, Parallel programming, Database management.

Today we are living in the digital age, and information technologies are rapidly developing with increasing speed. "Industry 4.0", "Internet of Things", "E-commerce", "Parallel and Distributed Programming" are the concepts that are changing the world around us now. In this regard, companies worldwide are experiencing a staff shortage in IT professionals who are ready to create software systems for various needs of people and business taking into account the latest achievements in IT and software development. Within the framework of the bachelor program **Informatics and Computer Science** students would study the latest methods and technologies in IT and software development:

- programming on C++, C#, Java, Prolog, Ruby, Python;
- web-applications development;
- internet of things;
- operation research;
- technology of parallel and distributed programming: MPI, OpenMP;
- mobile development;
- database technologies;
- algorithm analysis;
- computer games development.

The educational process will be organized in English. Leading specialists in training areas from around the world will be involved in the teaching of disciplines. Students would be able to study cutting-edge solutions from the leaders of the market. The education and project work of the students would be provided using the facilities of such Laboratories of School of Electronics Engineering and Computer Science of SUSU as "Samsung IoT Academy", "Emerson PlantWeb", "Smart Home Lab", etc.

The director of the program: prof. Franck Leprevost, University of Luxembourg, head of Laboratory of Algorithmics, Cryptology and Security (LACS).

Program outline¹

		1	2	3	4	5	6	7	8
	ECTS	1A	1S	2A	2S	3A	3S	4A	4S
CORE COMPETENCE									
GENERAL EDUCATION	19	3				7	2	7	
B.00 – Physical Training	2						2		
B.02 – History	3	3							
B.03 – Philosophy	3					3			
B.04 – Economics	4					4			
B.28 – Safety of Life	3							3	
B.19 – Ecology	2							2	
B.16 – Jurisprudence	2							2	
FUNDAMENTAL MODULE	63	12	12	15	12	5		4	3
B.20 – Discrete Mathematics	4	4							
B.05.01 – Algebra and Geometry	4	4							
B.05.02 – Mathematical Analysis	10	4	6						
B.06 – Physics	12		6	6					
B.21 – Complex Analysis	3			3					
B.05.03 – Special Chapters in Mathematics	6			6					
B.09 – Differential and Difference Equations	5				3	2			
B.10 – Computational Methods	2				2				
B.15 – Probability Theory and Statistics	4				4				
B.24 – Functional Analysis	3				3				
B.08 – Theory of automata and formal languages	3					3			
B.13 – Optimization Methods and Operation Research	4							4	
B.26 – Applied Stochastics	3								3

¹ Preliminary edition. Subject to change.

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		1	2	3	4	5	6	7	8
	ECTS	1A	1S	2A	2S	3A	3S	4A	4S
INTERNET OF THINGS AND ARTIFICIAL INTELLIGENCE	26					12	10	4	
FD.01 – Internet of Things Technologies (Samsung)	8					4	4		
FD.02 – Artificial Intelligence (Samsung)	6					4	2		
FD.03 – Foreign Language for Professional Communication	12					4	4	4	

Additional information:

<https://eecs.susu.ru/en/>

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