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, Cybersecurity, Internet of Things technologies, Computer Networks, Parallel programming, Database management, methods of Data Mining and Artificial Intelligence.

Today we are living in the digital age, and information technologies are rapidly developing with increasing speed. "Industry 4.0", "Deep Learning", "Data Mining", "Artificial Intelligence", "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;
- artificial intelligence technology;
- 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", Supercomputer Centre of SUSU, NapoleonIT Research and Education Center.

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

Program outline[1]

	ECTS	1 1A	2 1S	3 2A	4 2S	5 3A	6 3S	7 4A	8 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.09 - Safety of Life	**3**							3	
B.20 - Ecology	**2**							2	
B.17 - Jurisprudence	**2**							2	
FUNDAMENTAL MODULE	**63**	**12**	**12**	**15**	**12**	**5**		**4**	**3**
B.21 - 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.22 Complex Analysis	**3**			3					
B.05.03 - Special Chapters in Mathematics	**6**			6					
B.10 Differential and Difference Equations	**5**				3	2			
B.11 Computational Methods	**2**				2				
B.07 - Probability Theory and Statistics	**4**				4				
B.25 – Functional Analysis	**3**				3				
B.08 - Theory of automata and formal languages	**3**					3			
B.14 – Optimization Methods and Operation Research	**4**							4	
B.27 – Applied Stochastics	**3**								3

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[1] Preliminary edition. Subject to change.

SUSU EECS FCSIT Bachelor's Program Major: Informatics and Computer Science

		1	2	3	4	5	6	7	8
	ECTS	1A	1S	2A	2S	3A	3S	4A	4S
ENGLISH LANGUAGE	**20**	**5**	**5**	**5**	**5**				
B.01 - Foreign Language	**15**	5	5	5					
B.18 - Foreign Language for Business	**5**				5				
BASICS OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGIES	**44**	**7**	**8**	**7**	**5**	**9**	**2**	**6**	
B.07 – Computer Science	**3**	3							
B.12.01 – Basics of Programming	**4**	4							
B.12.02 – Programming on High-level Languages	**4**		4						
B.24 – Applied Software Packages	**2**		2						
BF.P1.07.1 - Social and Ethical Problems of IT	**2**		2						
B.12.03 – Object-oriented programming	**4**			4					
B.15 – Algorithms and Complexity Analysis	**3**			3					
BF.P1.01 - Physical foundations of computer construction	**2**				2				
BF.02 – Mathematical Logic and Theory of Algorithms	**3**				3				
B.13 – Operating Systems	**3**					3			
B.19 – Database Technologies	**3**					3			
B.23 – Computer Networks	**3**					3			
BF.P1.02 - Theory of Finite Graphs and Applications	**2**						2		
B.26 – Geoinformation Systems	**3**							3	
BF.12 - Functional and Logical Programming	**3**							3	

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	ECTS	1 1A	2 1S	3 2A	4 2S	5 3A	6 3S	7 4A	8 4S
SOFTWARE DEVELOPMENT AND INTELLIGENT DATA PROCESSING									
SOFTWARE DEVELOPMENT	**48**		**2**		**2**	**6**	**20**	**8**	**10**
BF.04 - Computer Architecture	**2**		2						
BF.P1.05 - Modeling of Information Processes	**2**				2				
BF.01 - Basics of Web Programming	**3**					3			
BF.08.01 - Programming on .NET	**3**					3			
BF.08.02 - Java Programming	**3**						3		
BF.05 - Practice on Professional Activities	**6**						2	2	2
BF.07 - Operating Systems Unix/Linux	**4**						4		
BF.09 - Software Engineering	**4**						4		
BF.11 - Web-design	**3**						3		
BF.P1.08.01 - Basics of Game Development	**4**						4		
BF.10 - Enterprise Automation	**3**							3	
BF.P1.03 - Computer Graphics	**3**							3	
BF.13 - Mobile development (Samsung)	**3**								3
BF.16 - IT-Management	**2**								2
BF.P1.04 - Cyber Security	**3**								3
INTELLIGENT DATA PROCESSING	**13**				**3**		**3**	**2**	**5**
BF.03 - Structures and algorithms of data processing	**3**				3				
BF.06 - Basics of parallel programming	**3**						3		
BF.P1.06 - Intellectual Systems and Technologies	**2**							2	
BF.14 - Technologies for analytical processing of information	**2**								2
BF.15 - Basics of Cloud Processing	**3**								3

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	ECTS	1 1A	2 1S	3 2A	4 2S	5 3A	6 3S	7 4A	8 4S
INTERNET OF THINGS AND ARTIFICIAL INTELLIGENCE	**14**					**8**	**6**		
FD.01 - Internet of Things Technologies (Samsung)	**8**					4	4		
FD.02 - Artificial Intelligence (Samsung)	**6**					4	2		

Additional information:

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

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