Curriculum of Bachelor's Program of Informatics

№	Studying Component	Prerequisites	Credits	Semesters I	II	III	IV	V	VI	VII	VIII
				Semester Credits							
				30	30	30	30	30	30	30	30
	Mandatory free component focused on the development of general, transferable skills		**34**			- Credits					
1	*Academic writing*		4		4						
2	*Computer skills*		5	5							
3	*English language B1.1*	-	5	5							
4	*English language B1.2*	*English language B1.1*	5		5						
5	*English language B2.1*	*English language B1.2*	5			5					
6	*English language B2.2*	*English language B2.1*	5				5				
7	*English language (Specialty)*	*English language B2.2*	5					5			
	Compulsory study courses of the main field of study		**144**			Credits					
8	*Basics of programming based on Python*		5	5							
9	*Computer maintenance*		5	5							
10	*Computer graphics tools(PhotoShop)*		5	5							
11	*Bases of web design*		5	5							
12	*Linear Algebra and analytic Geometry*		6		6						
13	*Operating systems*	*Computer maintenance*	5		5						
14	*Basics of programming based on C, C++*	*Basics of programming based on Python*	5		5						
15	*Web Programming (Client Side)*	*Bases of web design; Basics of programming based on Python*	5		5						
16	*Calculus*	*Linear Algebra and analytic Geometry*	6			6					
17	*Computer networks*	*Operating systems*	4			4					
18	*Object Oriented Programming C++*	*Basics of programming based on C, C++*	5			5					
19	*Web Programming (Server Side)*	*Web Programming (Client Side)*	5			5					
20	*Database management system Ms SQL Server*	*Computer skills*	5			5					
21	*Discrete mathematics*	*Linear Algebra and analytic Geometryჳ*	5				5				
22	*Bases of system administration*	*Operating systems*	4				4				
23	*Programming on the Arduino platform*	*Basics of programming based on C, C++*	5				5				
24	*Web technologies based on frameworks*	*Web programming (server side); English language B2.1*	6				6				
25	*Probability theory and mathematical statistics*	*Calculus*	5					5			

№	Course	Prerequisites	Credits								
26	*Applied programming*	*Calculus;* *Basics of programming based on Python*	5					5			
27	*Non-relational databases*	*Database management system Ms SQL Server;* *Basics of programming based on C, C++;* *English language B2.2*	5					5			
28	*Fundamentals of Artificial Intelligence* *Fundamentals of Artificial Intelligence*	*Discrete mathematics* *Discrete mathematics English language B2.2*	4					4			
29	*Algorithms and data structures*	*Basics of programming based on C, C++;* *English language B2.2*	5						5		
30	*Bases of Project Management*	*Academic writing;* *English languageB2.2*	4						4		
31	*Fundamentals of system programming*	*Basics of programming based on C, C++;* *Basics of system administration;* *English language B2.2*	5						5		
32	*Technologies based on a cloud platform*	*Database management system Ms SQL Server;* *Fundamentals of Artificial Intelligence*	5						5		
33	*Information security*	*Linear algebra and analytic geometry;* *Computer networks;* *Algorithms and data structures;* *English language B2.2*	5							5	
34	*Programming of computer games*	*Web Programming (Server Side)* *English language B2.2*	5							5	
35	*Designing and building mobile applications*	*Object Oriented Programming C++;* *English languageB2.2*	5							5	
36	*Machine Learning* *Machine Learning*	*Probability theory and mathematical statistics;* *Basics of programming based on Python* *Probability theory and mathematical statistics;* *Basics of programming based on Python* *English language B2.2*	5								5
	Optional courses of the main field of study		**27**	- Credit							
1	*Introduction in Biology*		5								
2	*Three-dimensional graphics AutoCad*		5								
3	*Calculus (advanced course)*	*Calculus*	5				5				
4	*General Physics*		5								
5	*Three-dimensional graphics ArchiCad*		5								
6	*Optimization models*	*Linear algebra and analytic geometry;*	5								
7	*Programming on the JVM Platform 1*	*Object Oriented Programming C++;*	6				6				
8	*Programming on the .NET platform 1*	*Object Oriented Programming C++;*	6								
9	*Programming on the JVM Platform 2*	*Programming on the JVM Platform 1;* *Database management system Ms SQL Server;* *English languageB2.2*	6					6			
10	*Programming on the .NET platform 1*	*Programming on the .NET platform 1;* *Database management system Ms SQL Server;*	6								

#	Course	Prerequisites	Credits	Hours						
11	Mathematical modeling	Calculus	6							
12	Programming on the JVM Platform 3	Programming on the JVM Platform 2; English languageB2.2	6						6	
13	Programming on the .NET platform 3	Programming on the .NET platform 2; English languageB2.2	6							
14	Professional career development		5						5	
		Prerequisites	Credits	Hours						
Practice			**5**		- Credit					
	Practice	Passing all mandatory course credits d including the 6th semester	5							5
Bachelor thesis			**15**		- Credit					
	Bachelor thesis	Passing all mandatory course credits d including the 7th semester	15							15
	Optional free component, which is focused on the development of general transferable skills and within which the student is given the opportunity to choose study courses from any educational program of the relevant level operating in the university, observing the prerequisites for admission to the study course.		15		- Credit					
								5	5	5

Note:

1. Confirmation of knowlegde of English language at the B2 level or achievement within the program is mandatory. The student confirms the level of knowledge of the English language in accordance with the "Rule for determining the language competence of a student of European University";

2. Within the framework of the program, the student starts learning English from the level confirmed by the "Rules for determining the language competence of a student of European University". In case the student cannot prove his/her knowledge of the English language at the A2 level, he/she starts studying the English language within the program from the appropriate level confirmed according to the mentioned rule (English language A1 / English language A2). The student learns the levels required to start at the B1 level of English (English language A1 / English language A2) by utilizing the free credits provided by the program;

3. In case the student confirms his/her knowledge of the English language at the B2 level in accordance with the "Rule for determining the language competence of a student of European university , he/she is exempted from the acquisition of the English language component and acquires the credits (20 credits) of the main field of study with optional courses or free credits. Whether the level confirmed by the student is higher than the initial level defined by the program (B1.1), the student fills up the volume of remaining credits with optional courses or free credits of the main field of study;

4. The credits of the optional free component, within the framework of which the student is given the opportunity to choose study courses from any educational program of the relevant level operating in the university, can be acquired by the optional study courses of the main field of study of the bachelor's program of informatics;

5. Within the study courses, where the prerequisite for admission is the obligation to know the English language at the B2 level, English-language textbook(s) are used as mandatory literature.