

CURRICULUM
Bachelor's degree program in Computer Science and Engineering
as of 2020/2021 academic year

ECTS Subject code T CSE No													
- T – type of course: B for BEng, M for MEng;													
- I - IV semester – fundamental subjects - professional field 5.3. Communications and Computer Engineering;													
- CSC – specialty “Computer Science and Engineering” in English;													
- No – number of the subject;													
Lectures (L), Tutorials (Tut.), Labs (Lab.), Auditorium Total (AT), Self-Study (SS), Exam (E), Continuous Assessment (CA), Semester Project (SP), Semester Assignment (course work) (SA).													
№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
SEMESTER I													
1	MATe13	Mathematics I	30	30	0	60	120	180	1				6
2	PHYe03	Physics	30	15	15	60	120	180	1				6
3	CCEe01	Introduction to Programming	30	15	30	75	135	210	1				7
4	ENGe04	Fundamentals of Engineering	30	15	30	75	135	210		1			7
5	LNGe11	Design	0	30	0	30	60	90		1			3
6	SPRe01	Foreign Language I	0	0	0	0	30	30		1			1
Total			120	105	75	300	600	900	3	3	0	0	30
SEMESTER II													
7	MATe22	Mathematics II	30	30	0	60	120	180	1				6
8	ENGe05	Materials Science	30	0	30	60	120	180	1				6
9	CCEe02	Fundamentals of Programming Languages	30	15	30	75	105	180	1				6
10	EEAe24	Electrical Engineering	30	15	15	60	120	180		1			6
11	LNGe21	Foreign Language II	0	30	0	30	60	90		1			3
12	PRCe01	Practicum in Communications and Computer Engineering	0	0	0	0	60	60		1			2
13	SPRe02	Sport	0	0	0	0	30	30		1			1
Total			120	90	75	285	615	900	3	4	0	0	30
SEMESTER III													
14	MATe33	Mathematics III	30	30	0	60	120	180	1				6
15	EEAe25	Semiconductor Devices	30	0	30	60	120	180		1			6
16	MECe24	Mechanical Systems	30	0	15	45	75	120		1			4
17	CCEe03	Platform Independent Programming Languages	30	15	30	75	135	210	1				7
18	CCEe04	Synthesis and Analysis of Algorithms	30	0	30	60	120	180	1			1	6
19	SPRe03	Sport	0	0	0	0	30	30		1			1
Total			150	45	105	300	600	900	3	3	0	1	30
SEMESTER IV													
20	CCEe05	Computer Systems	30	0	30	60	90	150	1				5
21	CCEe06	Signals and Systems	30	15	15	60	90	150	1			1	5
22	CCEe07	Fundamentals of Computer and Communication Networks	30	0	30	60	90	150	1			1	5
23	CCEe08	Databases	30	0	30	60	120	180		1			6
24	EEAe26	Measurements in Communications and Computer Engineering	30	0	15	45	75	120		1			4
25	CCEe09	Databases – project	0	0	0	0	60	60			1		2
26	PRCe02	Practicum in Communications and Computer Engineering	0	0	0	0	60	60		1			2
27	SPRe04	Sport	0	0	0	0	30	30		1			1
Total			150	15	120	285	615	900	3	4	1	2	30

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
SEMESTER V													
28	BCSCe01	Computer Architectures	30	0	15	45	75	120	1			1*	4
29	BCSCe02	Fundamentals of Logic Design	30	15	15	60	90	150	1			1*	5
30	BCSCe03	Operating Systems	30	0	15	45	105	150	1			1*	5
31	BCSCe04	Programming Languages	30	0	30	60	90	150		1		1*	5
32	BCSCe05	Advanced Software Technologies (C#)	30	0	15	45	75	120	1			1*	4
33	BCSCe06	Software Design and Software Testing	30	0	30	60	90	150		1		1*	5
34	BCSCe07	Project (on selected discipline №28–33)	0	0	0	0	60	60			1		2
Total			180	15	120	315	585	900	4	2	1	2	30
SEMESTER VI													
35	BCSCe08	Agent Based Technologies	30	0	15	45	105	150	1			1*	5
36	BCSCe09	High Performance Computer Systems	30	0	30	60	90	150	1			1*	5
37	BCSCe10	Development of Linux-based software	30	0	15	45	75	120		1		1*	4
38	BCSCe11	Programming Environments	30	0	30	60	90	150	1			1*	5
39	BCSCe12	Computer Graphics	30	0	30	60	90	150	1			1*	5
40	BCSCe13	Elective Discipline (List 1)	30	0	15	45	75	120		1		1*	4
41	BCSCe14	Semester Project (on selected discipline №35–40)	0	0	0	0	60	60			1		2
Total			180	0	135	315	585	900	4	2	1	2	30
SEMESTER VII													
42	BCSCe15	Parallel Programming	30	0	30	60	90	150	1			1*	5
43	BCSCe16	Programming Technologies for Secure Code	30	0	30	60	90	150		1		1*	5
44	BCSCe17	Web Programming Fundamentals	30	0	30	60	90	150	1			1*	5
45	BCSCe18	Artificial Intelligence	30	0	15	45	75	120	1			1*	4
46	BCSCe19	Metaheuristics	30	0	15	45	75	120	1			1*	4
47	BCSCe20	Elective Discipline (List 2)	30	0	15	45	105	150		1			5
48	BCSCe21	Semester Project (on selected discipline №42–47)	0	0	0	0	60	60			1		2
Total			180	0	135	315	585	900	4	2	1	2	30
SEMESTER VIII													
49	BCSCe22	Information Security	20	10	10	40	80	120	1			1**	4
50	BCSCe23	Multimodal Systems	20	10	10	40	80	120	1			1**	4
51	BCSCe24	Elective Discipline (List 3)	20	5	10	35	85	120	1			1**	4
52	BCSCe25	Elective Discipline (List 4)	20	5	10	35	85	120		1		1**	4
53	BCSCe26	Elective Discipline (List 5)	20	15	0	35	85	120		1		1**	4
54	BCSCe27	Diploma project	0	0	0	0	300	300	Defense of diploma			10	
Total			100	45	40	185	715	900	3	2	0	1	30

*Remark: Students prepare two courseworks, the disciplines of the semester project and the coursework should be different.

**Remark: Students prepare one coursework on selected discipline.

LIST OF THE OPTIONAL SUBJECTS

List 1 Elective Discipline (semester 6)		ECTS = 4
1	Discrete Structures	BCSCe13.1
2	Embedded Systems	BCSCe13.2
3	Java Technologies	BCSCe13.3
List 2 Elective Discipline (semester 7)		ECTS = 5
1	Programmable Logic Systems	BCSCe20.1
2	Software Patterns	BCSCe20.2
List 3 Elective Discipline (semester 8)		ECTS = 4
1	Distributed Systems and Computer Communications	BCSCe24.1
2	Bioinformatics	BCSCe24.2
List 4 Elective Discipline (semester 8)		ECTS = 4
1	Intelligent Systems	BCSCe25.1
2	Programming for Embedded Systems	BCSCe25.2
3	Virtual Reality	BCSCe25.3
List 5 Elective Discipline (semester 8)		ECTS = 4
1	Innovation Management and Entrepreneurship	BCSCe26.1
2	Management of IT Projects	BCSCe26.2

LIST OF THE FACULTATIVE SUBJECTS

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
SEMESTER II													
1	FaBCSCe01	Bulgarian Language	0	30	0	30	60	90					3
SEMESTER V													
1	FaBCSCe02	Elective Humanitarian Discipline (List 6)	30	15	0	45	45	90		1			3
2	FaSPR05	Sport	0	0	0	0	30	30		1			1
SEMESTER VI													
1	FaBCSCe03	Elective Law Discipline (List 7)	30	15	0	45	45	90		1			3
2	FaSPR06	Sport	0	0	0	0	30	30		1			1
SEMESTER VII													
1	FaSPR07	Sport	0	0	0	0	30	30		1			1
SEMESTER VIII													
1	FaSPR08	Sport	0	0	0	0	30	30		1			1
List 12 Elective Humanitarian Discipline												ECTS = 3	
1	The Global Society and Technologies											FaBCSCe02.1	
2	Research and Analysis of Digital Content											FaBCSCe02.2	
3	Business Ethics											FaBCSCe02.3	
List 13 Elective Law Discipline												ECTS = 3	
1	Information Technologies Law											FaBCSCe03.1	
2	Tech Giants and Legal Protection of Competition											FaBCSCe03.2	
3	Protection of Intellection Property											FaBCSCe03.3	