

CURRICULUM

Bachelor's degree program in Computer systems and technologies as of 2021/2022 academic year

ECTS Subject code: T p CST No													
- T – type of course: B for BEng, M for MEng;													
- I - IV semester – fundamental subjects - professional field 5.3. Communications and Computer Engineering;													
- p – Plovdiv branch													
- CST – “Computer systems and technologies” in Bulgarian;													
- 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	MAT13	Mathematics I	30	30	0	60	120	180	1				6
2	PHY03	Physics	30	15	15	60	120	180	1				6
3	CCE01	Introduction to Programming	30	15	30	75	135	210	1				7
4	ENG04	Fundamentals of Engineering Design	30	15	30	75	135	210		1			7
5	LNG11	Foreign Language I	0	30	0	30	60	90		1			3
6	SPR01	Sports	0	0	0	0	30	30		1			1
Total			120	105	75	300	600	900	3	3	0	0	30
SEMESTER II													
7	MAT22	Mathematics II	30	30	0	60	120	180	1				6
8	ENG05	Materials Science	30	0	30	60	120	180	1				6
9	CCE02	Fundamentals of Programming Languages	30	15	30	75	105	180	1				6
10	EEA24	Electrical Engineering	30	15	15	60	120	180		1			6
11	LNG12	Foreign Language II	0	30	0	30	60	90		1			3
12	PRC01	Practicum in Communications and Computer Engineering	0	0	0	0	60	60		1			2
13	SPR02	Sports	0	0	0	0	30	30		1			1
Total			120	90	75	285	450	900	3	4	0	0	30
SEMESTER III													
14	MAT31	Mathematics III	30	30	0	60	120	180	1				6
15	EEA25	Semiconductor Devices	30	0	30	60	120	180		1			6
16	MEC24	Mechanical Systems	30	0	15	45	75	120		1			4
17	CCE03	Platform Independent Programming Languages	30	15	30	75	135	210	1				7
18	CCE04	Synthesis and Analysis of Algorithms	30	0	30	60	120	180	1			1	6
19	SPR03	Sports	0	0	0	0	30	30		1			1
Total			150	45	105	300	465	900	3	3	0	1	30
SEMESTER IV													
20	CCE05	Computer Systems	30	0	30	60	90	150	1				5
21	CCE06	Signals and Systems	30	15	15	60	90	150	1			1	5
22	CCE07	Fundamentals of Computer and Communication Networks	30	0	30	60	90	150	1			1	5
23	CCE08	Databases	30	0	30	60	120	180		1			6
24	EEA26	Measurements in Communications and Computer Engineering	30	0	15	45	75	120		1			4
25	CCE09	Databases – project	0	0	0	0	60	60			1		2
26	PRC02	Practicum in Communications and Computer Engineering	0	0	0	0	60	60		1			2
27	SPR04	Sports	0	0	0	0	30	30		1			1
Total			150	15	120	285	495	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	BpCST01	Analysis and design of logic circuits	30	0	25	55	95	150	1				5
29	BpCST02	Digital design	30	0	15	45	75	120	1				4
30	BpCST03	Computer Peripherals	30	0	15	45	75	120		1			4
31	BpCST04	Operating systems	30	0	25	55	95	150		1		1	5
32	BpCST05	Bases of computer graphics	30	0	30	60	90	150	1				5
33	BpCST06	Programming projects	30	0	25	55	95	150		1		1	5
34	BpCST07	Project (by choice from subjects № 28, 29, 30, 32)	0	0	0	0	60	60			1		2
Total			180	0	135	315	585	900	3	3	1	2	30
SEMESTER VI													
35	BpCST08	Computer architectures	30	0	30	60	90	150	1				5
36	BpCST09	Programming Environments	30	0	30	60	90	150	1			1	5
37	BpCST10	Object-Oriented Programming	30	0	30	60	90	150	1			1	5
38	BpCST11	Elective subject* (List 1)	30	0	15	45	105	150	1				5
39	BpCST12	Elective subject* (List 2)	30	0	15	45	75	120		1			4
40	BpCST13	Freely Elective subject* (List 3)	30	0	15	45	75	120		1			4
41	BpCST14	Project (by choice from subjects № 35,39)	0	0	0	0	60	60			1		2
Total			180	0	135	315	585	900	4	2	1	2	30
SEMESTER VII													
42	BpCST15	Parallel programming	30	0	30	60	90	150	1				5
43	BpCST16	Applied network programming	30	0	30	60	90	150	1				5
44	BpCST17	Elective subject* (List 4)	30	0	15	45	105	150		1		1	5
45	BpCST18	Elective subject* (List 5)	30	0	15	45	105	150		1		1	5
46	BpCST19	Elective subject* (List 6)	30	0	15	45	105	150	1				5
47	BpCST20	Elective management subject (List 7)	30	15	0	45	45	90		1			3
48	BpCST21	Project (by choice from subjects № 42, 43, 46)	0	0	0	0	60	60			1		2
Total			180	15	105	300	600	900	3	3	1	2	30
SEMESTER VIII													
49	BpCST22	Elective subject* (List 8)	30	0	20	50	100	150		1			5
50	BpCST23	Freely Elective subject* (List 9)	30	0	20	50	100	150		1		1**	5
51	BpCST24	Freely Elective subject* (List 10)	30	10	10	50	100	150		1		1**	5
52	BpCST25	Freely Elective subject* (List 11)	30	20	0	50	100	150		1			5
53		Diploma project	0	0	0	0	300	300	Defense of diploma thesis				10
Total			120	30	50	200	700	900	0	4	0	1	30

*Remark: Subjects 38.1, 39.1, 44.1, 45.1, 46.1, 49.1 form module „Computer Engineering”.
Subjects 38.2, 39.2, 44.2, 45.2, 46.2, 49.2 form module „Programming systems”.

**Remark: Students choose one of subjects 50, 51 to implement course work.

LIST OF ELECTIVE SUBJECTS

List 1 (BpCST11 – ECTS 5)		
1	Microprocessor systems	BpCST11.1
2	Modern Java technologies	BpCST11.2
List 2 (BpCST12 – ECTS 4)		
1	Embedded Systems	BpCST12.1
2	Discrete Structures	BpCST12.2
List 3 (BpCST13 – ECTS 4)		
1	Robotics	BpCST13.1
2	Digital Signal Processing	BpCST13.2
List 4 (BpCST17 – ECTS 5)		
1	Reconfigurable logic	BpCST17.1
2	Web Programming	BpCST17.2
List 5 (BpCST18 – ECTS 5)		
1	Testing and diagnostics of computer systems	BpCST18.1
2	Building application software with C#	BpCST18.2
List 6 (BpCST19 – ECTS 5)		
1	System programming	BpCST19.1
2	Learning and self-learning in programming	BpCST19.2
List 7 (BpCST20 – ECTS 3)		
1	Management	BpCST20.1
2	Marketing	BpCST20.2
3	Small Firm Management	BpCST20.3
List 8 (BpCST22 – ECTS 5)		
1	Real-time Operating Systems	BpCST22.1
2	XML-Technologies	BpCST22.2
List 9 (BpCST23 – ECTS 5)		
1	Android programming	BpCST23.1
2	3D modeling and printing	BpCST23.2
3	Programming Software Systems with Python	BpCST23.3
List 10 (BpCST24 – ECTS 5)		
1	High-performance computer systems	BpCST24.1
2	Computer-aided design	BpCST24.2
3	Writing of security code	BpCST24.3
List 11 (BpCST25 – ECTS 5)		
1	Statistical methods for data processing	BpCST25.1
2	Technical safety	BpCST25.2
3	Quantum computer systems	BpCST25.3

LIST OF THE FACULTATIVE SUBJECTS

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits	
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA		
SEMESTER I														
1	FaBpCST01	Professional orientation in ICT	15	0	0	15	15	30					1	
SEMESTER V														
1	FaSPR05	Sport	0	0	0	0	30	30		1			1	
2	FaBpCST02	Foreign language	0	30	0	30	30	60		1			2	
SEMESTER VI														
1	FaSPR06	Sport	0	0	0	0	30	30		1			1	
2	FaBpCST03	Elective subject from List 12	15	0	30	45	45	90		1			3	
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												ECTS = 3		
1	English for professional communication (in English)												FaBpCST03.1	
2	Project management (in English)												FaBpCST03.2	