

CURRICULUM

Bachelor's degree program in Mehatronics, part-time

ECTS Subject code T p MEH No													
- T – type of course: B for BEng, M for MEng;													
- I - IV semester – fundamental subjects - professional field 5.1. Mechanical engineering;													
- p - additional symbol for Plovdiv Branch													
- MEH – specialty “Mehatronics” 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	MAT12	Mathematics I	15	15	0	30	180	210	1				7
2	PHY01	Physics	25	10	15	50	160	210	1				7
3	CHE01	Chemistry	15	0	10	25	125	150		1			5
4	CCE23	Information and Communication Technologies	15	0	25	40	200	240	1			1	8
5	LNG01	Foreign Language I	0	15	0	15	45	60		1			2
6	PRC11	Practikum	0	0	0	0	30	30		1			1
Total			70	40	50	160	740	900	3	3	0	1	30
SEMESTER II													
7	MAT22	Mathematics II	15	15	0	30	150	180	1				6
8	ENG01	Material Science	25	0	25	50	160	210	1			1	7
9	MEC01	Mechanics I	15	10	10	35	175	210	1			1	7
10	EEA21	Basics of Electrical Engineering and Electronics	15	0	15	30	120	150		1			5
11	LNG02	Foreign Language II	0	15	0	15	45	60		1			2
12	PRC12	Practicum	0	0	0	0	90	90		1			3
Total			70	40	50	160	740	900	3	3	0	2	30
SEMESTER III													
13	MAT31	Mathematics III	15	15	0	30	150	180	1				6
14	MEC02	Mechanics II	15	0	15	30	180	210	1			1	7
15	MEC03	Strength of Materials	25	0	15	40	170	210	1			1	7
16	ENG02	Engineering Graphics	15	0	25	40	140	180		1		1	6
17	CCE24	Internet Technologies	10	10	0	20	70	90		1			3
18	PRC13	Practicum	0	0	0	0	30	30		1			1
Total			80	25	55	160	740	900	3	3	0	3	30
SEMESTER IV													
19	MEC04	Machine Elements	25	10	15	50	160	210	1				7
20	MEC08	Hydro and Pneumatic Drive	15	0	15	30	120	150	1				5
21	EEA22	Electrical Signals and Measurements	15	0	10	25	65	90	1				3
22	MEC09	Theory of Machines and Mechanisms	15	0	10	25	95	120	1			1	4
23	EEA23	Analog and Digital Circuits	15	10	10	35	115	150		1			5
24	MEC07	Machine Elements - project	0	0	0	0	90	90			1		3
25	PRC14	Practicum	0	0	0	0	90	90		1			3
Total			85	20	60	165	735	900	4	2	1	1	30

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
SEMESTER V													
26	BpMEH01	Engineering metrology	15	0	15	30	120	150	1			1	5
27	BpMEH02	Automation of discrete production	25	0	10	35	115	150	1				5
28	BpMEH03	Production technologies	15	0	10	25	95	120	1				4
29	BpMEH04	Elements and mechanisms of mechatronic systems	15	0	10	25	95	120		1			4
30	BpMEH05	Microelectronics	10	0	10	20	100	120		1			4
31	BpMEH06	Fundamentals of the design of mechatronic systems	25	0	10	35	115	150	1				5
32	BpMEH07	Discrete automation production - project	0	0	0	0	90	90			1		3
Total			105	0	65	170	730	900	4	2	1	1	30
SEMESTER VI													
33	BpMEH08	Optical technology	15	0	15	30	90	120	1				4
34	BpMEH09	Programming of automatic production machines	15	0	10	25	95	120	1			1	4
35	BpMEH10	Sensors and actuators	15	0	10	25	95	120		1			4
36	BpMEH11	Industrial robots	15	0	15	30	120	150	1				5
37	BpMEH12	Measuring Equipment	15	0	15	30	120	150	1				5
38	BpMEH13	Technical logistics	10	0	10	20	70	90		1			3
39	BpMEH14	Project (by subject BpMEH08, BpMEH10, BpMEH11 or BpMEH12)	0	0	0	0	90	90			1		3
40	PRC03	Practicum	0	0	0	0	60	60		1			2
Total			85	0	75	160	740	900	4	3	1	1	30
SEMESTER VII													
41	BpMEH15	Modelling and simulation of mechatronic systems	25	0	15	40	140	180	1				6
42	BpMEH16	Electronic regulating and control devices and systems	15	0	15	30	120	150	1				5
43	BpMEH17	Precision mechanical systems in mechatronics	25	0	15	40	140	180	1				6
44	BpMEH18	Robotic technologies	15	0	10	25	125	150	1				5
45	BpMEH19	Microprocessor technology	15	10	0	25	125	150		1			5
46	BpMEH20	Precision mechanical systems in mechatronics - project	0	0	0	0	90	90			1		3
Total			95	10	55	160	740	900	4	1	1	0	30
SEMESTER VIII													
47	BpMEH21	Quality management	15	0	10	25	95	120	1			1	4
48	BpMEH22	Economics and Management	15	0	0	15	75	90		1			3
49	BpMEH23	Reliability and diagnostics of mechatronic systems	10	0	10	20	70	90	1				3
50	BpMEH24	Elective course (List 1)	15	0	10	25	95	120	1				4
51	BpMEH25	Elective course (List 2)	15	0	10	25	95	120	1				4
52	PRC04	Practicum	0	0	0	0	60	60		1			2
53	BpMEH26	Diploma project	0	0	0	0	300	300	Defense of diploma thesis			10	
Total			70	0	40	110	790	900	4	2	0	1	30

LIST OF THE OPTIONAL SUBJECTS

List 1		ECTS = 4
1	Modelling and simulation of robotic systems	BpMEH24.1
2	Intelligent production systems	BpMEH24.2
List 2		ECTS = 4
1	Optoelectronic and laser technology	BpMEH25.1
2	Synthesis, kinematics and dynamics of robots	BpMEH25.2
3	Microtechnics	BpMEH25.3

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	FaSPR01	Sport	0	0	0	0	30	30		1			1
SEMESTER II													
1	FaSPR02	Sport	0	0	0	0	30	30		1			1
SEMESTER III													
1	FaSPR03	Sport	0	0	0	0	30	30		1			1
SEMESTER IV													
1	FaSPR04	Sport	0	0	0	0	30	30		1			1
SEMESTER V													
1	FaSPR05	Sport	0	0	0	0	30	30		1			1
2	FaBpMEH01	Specialty english	0	30	0	30	30	60					2
SEMESTER VI													
1	FaSPR06	Sport	0	0	0	0	30	30		1			1
2	FaBpMEH02	Project management(in english)	15	0	30	45	45	90					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