CURRICULUM
Bachelor's degree program in Mehatronics – full 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	30	30	0	***60***	150	***210***	1				**7**
2	**PHY01**	Physics	45	15	30	***90***	120	***210***	1				**7**
3	**CHE01**	Chemistry	30	0	15	***45***	105	***150***		1			**5**
4	**CCE23**	Information and Communication Technologies	30	0	45	***75***	165	***240***	1			1	**8**
5	**LNG01**	Foreign Language I	0	30	0	***30***	30	***60***		1			**2**
6	**SPR01**	Sport	0	0	0	***0***	30	***30***		1			**1**
Total			**135**	**75**	**90**	**300**	**600**	**900**	**3**	**3**	**0**	**1**	**30**
SEMESTER II													
7	**MAT22**	Mathematics II	30	30	0	***60***	120	***180***	1				**6**
8	**ENG01**	Material Science	45	0	45	***90***	120	***210***	1			1	**7**
9	**MEC01**	Mechanics I	30	15	15	***60***	150	***210***	1			1	**7**
10	**EEA21**	Basics of Electrical Engineering and Electronics	30	0	30	***60***	90	***150***		1			**5**
11	**LNG02**	Foreign Language II	0	30	0	***30***	30	***60***		1			**2**
12	**PRC01**	Practicum	0	0	0	***0***	60	***60***		1			**2**
13	**SPR02**	Sport	0	0	0	***0***	30	***30***		1			**1**
Total			**135**	**75**	**90**	**300**	**600**	**900**	**3**	**4**	**0**	**2**	**30**
SEMESTER III													
14	**MAT31**	Mathematics III	30	30	0	***60***	120	***180***	1				**6**
15	**MEC02**	Mechanics II	30	0	30	***60***	150	***210***	1			1	**7**
16	**MEC03**	Strength of Materials	45	0	30	***75***	135	***210***	1			1	**7**
17	**ENG02**	Engineering Graphics	30	0	45	***75***	105	***180***		1		1	**6**
18	**CCE24**	Internet Technologies	15	15	0	***30***	60	***90***		1			**3**
19	**SPR03**	Sport	0	0	0	***0***	30	***30***		1			**1**
Total			**150**	**45**	**105**	**300**	**600**	**900**	**3**	**3**	**0**	**3**	**30**
SEMESTER IV													
20	**MEC04**	Machine Elements	45	15	30	***90***	120	***210***	1				**7**
21	**MEC08**	Hydro and Pneumatic Drive	30	0	30	***60***	90	***150***	1				**5**
22	**EEA22**	Electrical Signals and Measurements	30	0	15	***45***	45	***90***	1				**3**
23	**MEC09**	Theory of Machines and Mechanisms	30	0	15	***45***	75	***120***	1			1	**4**
24	**EEA23**	Analog and Digital Circuits	30	15	15	***60***	90	***150***		1			**5**
25	**MEC07**	Machine Elements - project	0	0	0	***0***	90	***90***			1		**3**
26	**PRC02**	Practicum	0	0	0	***0***	60	***60***		1			**2**
27	**SPR04**	Sport	0	0	0	***0***	30	***30***		1			**1**
Total			**165**	**30**	**105**	**300**	**600**	**900**	**4**	**3**	**1**	**1**	**30**

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
SEMESTER V													
28	**BpMEH01**	Engineering metrology	30	0	30	***60***	90	***150***	1			1	**5**
29	**BpMEH02**	Automation of discrete production	45	0	15	***60***	90	***150***	1				**5**
30	**BpMEH03**	Production technologies	30	0	15	***45***	75	***120***	1				**4**
31	**BpMEH04**	Elements and mechanisms of mechatronic systems	30	0	15	***45***	75	***120***		1			**4**
32	**BpMEH05**	Microelectronics	15	0	15	***30***	90	***120***		1			**4**
33	**BpMEH06**	Fundamentals of the design of mechatronic systems	45	0	15	***60***	90	***150***	1				**5**
34	**BpMEH07**	Discrete automation production - project	0	0	0	***0***	90	***90***			1		**3**
Total			**195**	**0**	**105**	**300**	**600**	**900**	**4**	**2**	**1**	**1**	**30**
SEMESTER VI													
35	**BpMEH08**	Optical technology	30	0	30	***60***	60	***120***	1				**4**
36	**BpMEH09**	Programming of automatic production machines	30	0	15	***45***	75	***120***	1			1	**4**
37	**BpMEH10**	Sensors and actuators	30	0	15	***45***	75	***120***		1			**4**
38	**BpMEH11**	Industrial robots	30	0	30	***60***	90	***150***	1				**5**
39	**BpMEH12**	Measuring Equipment	30	0	30	***60***	90	***150***	1				**5**
40	**BpMEH13**	Technical logistics	15	0	15	***30***	60	***90***		1			**3**
41	**BpMEH14**	Project (by subject **BpMEH08**, **BpMEH10**, **BpMEH11** or **BpMEH12**)	0	0	0	***0***	90	***90***			1		**3**
42	**PRC03**	Practicum	0	0	0	***0***	60	***60***		1			**2**
Total			**165**	**0**	**135**	**300**	**600**	**900**	**4**	**3**	**1**	**1**	**30**
SEMESTER VII													
43	**BpMEH15**	Modelling and simulation of mechatronic systems	45	0	30	***75***	105	***180***	1				**6**
44	**BpMEH16**	Electronic regulating and control devices and systems	30	0	30	***60***	90	***150***	1				**5**
45	**BpMEH17**	Precision mechanical systems in mechatronics	45	0	30	***75***	105	***180***	1				**6**
46	**BpMEH18**	Robotic technologies	30	0	15	***45***	105	***150***	1				**5**
47	**BpMEH19**	Microprocessor technology	30	15	0	***45***	105	***150***		1			**5**
48	**BpMEH20**	Precision mechanical systems in mechatronics - project	0	0	0	***0***	90	***90***			1		**3**
Total			**180**	**15**	**105**	**300**	**600**	**900**	**4**	**1**	**1**	**0**	**30**
SEMESTER VIII													
49	**BpMEH21**	Quality management	30	0	15	***45***	75	***120***	1			1	**4**
50	**BpMEH22**	Economics and Management	30	0	0	***30***	60	***90***		1			**3**
51	**BpMEH23**	Reliability and diagnostics of mechatronic systems	20	0	15	***35***	55	***90***	1				**3**
52	**BpMEH24**	Elective course (List 1)	30	0	15	***45***	75	***120***	1				**4**
53	**BpMEH25**	Elective course (List 2)	30	0	15	***45***	75	***120***	1				**4**
54	**PRC04**	Practicum	0	0	0	***0***	60	***60***		1			**2**
55	**BpMEH26**	Diploma project	0	0	0	***0***	300	***300***	Defense of diploma thesis				**10**
Total			**140**	**0**	**60**	**200**	**700**	**900**	**4**	**2**	**0**	**1**	**30**

LIST OF THE OPTIONAL SUBJECTS

List 1		**ECTS = 4**
1	Modelling and simulation of robotic systems	**BpMEH25.1**
2	Intelligent production systems	**BpMEH25.2**
List 2		**ECTS = 4**
1	Optoelectronic and laser technology	**BpMEH26.1**
2	Synthesis, kinematics and dynamics of robots	**BpMEH26.2**
3	Microtechnics	**BpMEH26.3**

LIST OF THE FACULTATIVE SUBJECTS

№	**Code**	**SUBJECT**	**Semester Load**						**Assesment**				**ECTS credits**
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
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**