

I. ПЛАН НА УЧЕБНИЯ ПРОЦЕС

ECTS Subject code TMig SN

- T - type of course: B for BEng, M for MEng
- BMig – “Mechatronic and information technics” in German
- FBEE – F fundamental, B - bachelor program, EE – electrical engineering group of specialties
- SN - subsequent number of the subject

Lectures (L), tutorials (Tut.), labs (Lab.);

exam (E), continuous assessment (CA); semester projects (SP)/ semester assignment (course work) (SA)

№	ECTS Subject code	Subject	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	Audit. Total	Self Study.	Total	E	CA	SP	SA	
Semester I													
1	BMIg01	Pre - Mathematics	30	30	0	60	150	210	1			1	7
2	BMIg02	Physics	60	30	15	105	135	240	1				8
3	BMIg03	Chemistry	45	0	15	60	150	210	1				7
4	BMIg04	Electrical engineering and electronics	30	0	15	45	75	120	1				4
5	BMIg05	Workshop electrical engineering and information technology I	0	0	15	15	45	60			1		2
6	BMIg06	Sports	0	0	0	0	30	30		1			1
Total			165	60	60	285	585	870	4	1	1	1	29
Semester II													
7	BMIg07	Mathematics I	60	30	0	90	120	210	1				7
8	BMIg08	Technical mechanics I	45	30	0	75	135	210	1				7
9	BMIg09	Linear electrical networks	60	0	15	75	135	210	1				7
10	BMIg10	Digital technology	45	0	15	60	120	180	1				6
11	BMIg11	Machine design theory I	30	0	15	45	45	90		1			3
12	BMIg12	Sports	0	0	0	0	30	30		1			1
Total			240	60	45	345	585	930	4	2	0	0	31
Semester III													
13	BMIg13	Mathematics II	60	30	0	90	120	210	1				7
14	BMIg14	Technical mechanics II	30	30	0	60	120	180	1				6
15	BMIg15	Electronic circuits	45	0	15	60	120	180	1				6
16	BMIg16	Machine design theory II	30	0	45	75	75	150	1				5
17	BMIg17	Electromagnetic fields	60	30	0	90	90	180	1				6
18	BMIg18	Workshop electrical engineering and information technology II	0	0	15	15	15	30			1		1
19	BMIg19	Sports	0	0	0	0	30	30		1			1
Total			225	90	75	390	570	960	5	1	1	0	32
Semester IV													
23	BMIg20	Mathematics III	60	30	0	90	120	210	1				7
24	BMIg21	Technical mechanics III	30	30	0	60	90	150	1				5
25	BMIg22	Electrical machines and power converters	30	0	30	60	120	180	1				6
26	BMIg23	Signals and systems	30	30	0	60	120	180		1		1	6
27	BMIg24	Workshop electrical engineering and information technology III	0	0	15	15	15	30			1		1
28	BMIg25	Production management	30	0	0	30	30	60	1				2
29	BMIg26	Communication training	15	15	0	30	30	60		1			2

30	BMIg27	Sports	0	0	0	0	30	30		1			1
Total			195	105	45	345	555	900	4	3	1	1	30

№	ECTS Subject code	Subject	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	Audit. Total	Self Study.	Total	E	CA	SP	SA	
Semester V													
28	BMIg28	Cooperation in interdisciplinary teams (key qualifications)	0	0	15	15	45	60			1		2
29	BMIg29	System dynamics and control engineering	30	0	30	60	120	180	1		1		6
30	BMIg30	Mechatronic systems and products (incl. workshop)	45	0	30	75	105	180		1		1	6
31	BMIg31	Elective course 1 (List 1)	30	0	0	30	90	120	1				4
32	BMIg32	Elective course 2 (List 2)	30	15	0	45	75	120	1				4
33	BMIg33	Elective course 3 (List 3)	45	30	0	75	165	240	1				8
Total			180	45	75	300	600	900	4	1	2	1	30
Semester VI													
34	BMIg34	Information technology	30	15	0	45	75	120		1			4
35	BMIg35	Workshop information technology	0	0	30	30	30	60			1		2
36	BMIg36	Elective course 4 (List 4)	30	15	0	45	105	150	1				5
37	BMIg37	Elective course 5 (List 5)	30	15	0	45	105	150	1				5
38	BMIg38	Elective course 6 (List 6)	45	15	30	90	90	180	1				6
39	BMIg39	Elective course 7 (List 7)	60	30	0	90	150	240	1				8
Total			195	90	60	345	555	900	4	1	1	0	30
Semester VII													
40	BMIg40	Data exchange in mechatronic systems	30	0	45	75	105	180		1		1	6
41	BMIg41	Patents and Patent Strategies in the Enterprise	45	15	0	60	90	150		1			5
42	BMIg42	Elective course 8 (List 8)	45	0	30	75	135	210	1				7
43	BMIg43	Elective course 9 (List 9)	45	0	30	75	135	210	1				7
44	BMIg44	Elective course 10 (List 10)	45	0	30	75	135	210	1		1		7
Total			210	15	135	360	600	960	3	2	1	1	32
№	ECTS Subject code	Subject	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	Audit. Total	Self Study.	Total	E	CA	SP	SA	
Semester VIII													
45	BMIg45	Internship 13 weeks, 8 hours a day total - 480 hours	0	0	0	0	480	480	internship report				16
46	BMIg46	Bachelor thesis 9 weeks, 8hours a day - 360 hours	0	0	0	0	360	360	Diploma defense				12
Total							840	840	0	0	0	0	28

*Remark: The course "German language" from the list of optional subjects in the I and II semesters is mandatory, according to the decision of the AC Protocol 8 / 29.09.2021

**Remark: The form of control in the discipline "Sport" is "Pass / No-Pass"

II. ОСНОВНИ ПАРАМЕТРИ НА УЧЕБНИЯ ПЛАН

1. Срок на обучение –	4 години,	8 семестъра
2. Аудиторна заетост по учебен план		
2.1. Общо –	2370	часа
2.2. Лекции –	1410	часа
2.3. Семинарни упражнения –	465	часа
2.4. Лабораторни упражнения –	495	часа
3. Извън аудиторна заетост по учебен план –	4890	часа
4. Пълна заетост по учебен план –	7260	часа
5. Общ брой учебни дисциплини –		
5.1. Задължителни –	36	
5.2. Избираеми –	10	
5.4. Факултативни –	9	
5.5. Чужд език –	3	
5.6. Спорт –	8	
5.7. Проекти –	7	
5.8. Практикуми –	1	
6. Контрол		
6.1. Изпити –	28	
6.2. Текущи оценки –	8	
6.3. Курсови проекти –	7	
6.4. Курсови работи –	4	
7. Практическа подготовка	13	седмици
8. Общ брой кредити по ECTS:	242	

Дата: 17.6.2021

Декан на ФаГИОПМ :
/ доц. д-р Ал. Ценов/

Приет от ФС на ФаГИОПМ на 17.6.2021
Утвърден от АС на ТУ–София на 7.7.2021

с Протокол № 5
с Протокол № 7

List of elective subjects

List 1 Elective Subject		ECTS = 4
1	Hybrid and electric vehicles	BMIg31.1
2	Methods for product generation development	BMIg31.2
3	Railway vehicle technology	BMIg31.3
List 2 Elective Subject		ECTS = 4
1	Materials science I	BMIg32.1
2	Processes of product generation development	BMIg32.2
3	Product development in a laboratory for virtual ideas	BMIg32.3
List 3 Elective Subject		ECTS = 8
1	Technical thermodynamics and heat transfer I	BMIg33.1
2	Fluid mechanics 1,2	BMIg33.2
List 4 Elective Subject		ECTS = 5
1	Materials science II	BMIg36.1
2	Machine design theory III	BMIg36.2
3	Probability theory	BMIg36.3
List 5 Elective Subject		ECTS = 5
1	Electrical energy systems	BMIg37.1
2	Selected topics in virtual engineering applications	BMIg37.2
List 6 Elective Subject		ECTS = 6
1	Computer architectures	BMIg38.1
2	Software in robotics and automation	BMIg38.2
3	Electricity generation and technology for photovoltaic systems	BMIg38.3
List 7 Compulsory Elective Subject		ECTS = 8
1	Machine design theory IV	BMIg39.1
2	Computer-aided development in mechatronics	BMIg39.2
3	Robotics	BMIg39.3
List 8 Compulsory Elective Subject		ECTS = 7
1	BioMEMS – Microsystem technology for life sciences and medicine	BMIg42.1
2	Fundamentals of high frequency technology	BMIg42.2
List 9 Compulsory Elective Subject		ECTS = 7
1	Machine tools and handling technology	BMIg43.1
2	Sensor systems	BMIg43.2
3	Production technologies	BMIg43.3
List 10 Elective Subject		ECTS = 7
1	Biomechatronics	BMIg44.1
2	Real-time systems	BMIg44.2

List of facultative subjects

№	ECTS Subject code	Subject	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	Audit. Total	Self Study.	Total	E	CA	SP	SA	
Semester I													
1	FaBMIg01	Introduction to specialty	15	0	0	15	15	30					1
	FaBMIg02	German language - preparatory	0	150	0	150	150	300		1			10
Semester II													
1	FaBMIg03	German language - preparatory	0	150	0	150	150	300		1			10
Semester III													
1	FaBMIg04	German Studies	15	15	0	30	30	60		1			2
Semester IV													
1	FaBMIg05	English Language	0	45	0	45	45	90		1			3
Semester V													
1	FaBMIg06	Sports	0	0	0	0	30	30		1			1
Semester VI													
1	FaBMIg07	Sports	0	0	0	0	30	30		1			1
Semester VII													
1	FaBMIg08	Sports	0	0	0	0	30	30		1			1
Semester VIII													
1	FaBMIg09	Sports	0	0	0	0	30	30		1			1

Remark : The content of the lists of elective and optional subjects is subject to updating before the beginning of the academic year by decision of the Faculty Council.

Дата: 17.6.2021

Декан на ФаГИОПМ :

/ доц. д-р Ал. Ценов /

Приет от ФС на ФаГИОПМ на

17.6.2021

с Протокол № 5