CURRICULUM
Bachelor's degree program in INDUSTRIAL ENGINEERING in English
as of 2021/2022 academic year

ECTS Subject code T IEe No
- T – type of course: B for BEng, M for MEng;
- I - IV semester – fundamental subjects - professional field 5.13. General Engineering;
- BIEe – "Industrial 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	BIEe01	Mathematics I	22	20	0	***42***	108	***150***	1				**5**
2	BIEe02	Physics I	22	20	15	***57***	93	***150***	1				**5**
3	BIEe03	Chemistry	22	0	15	***37***	83	***120***		1			**4**
4	BIEe04	Mechanics I	22	15	0	***37***	83	***120***	1				**4**
5	BIEe05	Applied Geometry and Engineering Graphics	15	0	30	***45***	*75*	***120***		1		1	**4**
6	BIEe06	Computing I	15	15	22	***52***	68	***120***		1			**4**
7	BIEe07	Introduction to Manufacturing and Industrial Practice I	0	0	0	***0***	*30*	***30***		1			**1**
8	BIEe08	English Language	0	30	0	***30***	*30*	***60***		1			**2**
9	BIEe09	Sports	0	0	0	***0***	30	***30***		1			**1**
Total			**118**	**100**	**82**	**300**	**600**	**900**	**3**	**6**	**0**	**1**	**30**
SEMESTER II													
10	BIEe10	Mathematics II	22	15	0	***37***	83	***120***	1				**4**
11	BIEe11	Physics II	22	15	12	***49***	71	***120***	1				**4**
12	BIEe12	Mechanics II	22	15	0	***37***	53	***90***	1			1	**3**
13	BIEe13	Computing II	15	0	12	***27***	63	***90***		1			**3**
14	BIEe14	Electrical Engineering I	22	15	12	***49***	101	***150***		1			**5**
15	BIEe15	Electronics I	22	0	12	***34***	86	***120***		1		1	**4**
16	BIEe16	Materials Science	22	0	15	***37***	53	***90***		1			**3**
17	BIEe17	English Language	0	30	0	***30***	30	***60***		1			**2**
18	BIEe18	Introduction to Manufacturing and Industrial Practice II	0	0	0	***0***	30	***30***		1			**1**
19	BIEe19	Sports	0	0	0	***0***	30	***30***		1			**1**
Total			**147**	**90**	**63**	**300**	**600**	**900**	**3**	**7**	**0**	**2**	**30**
SEMESTER III													
20	BIEe20	Mathematics III	22	16	0	***38***	82	***120***	1				**4**
21	BIEe21	Strength of Materials	22	16	15	***53***	97	***150***	1			1	**5**
22	BIEe22	Electrical Engineering II	22	16	15	***53***	97	***150***	1			1	**5**
23	BIEe23	Electronics II	24	0	21	***45***	75	***120***		1			**4**
24	BIEe24	Computing III	16	0	21	***37***	83	***120***		1			**4**
25	BIEe25	Economics	22	15	0	***37***	53	***90***		1			**3**
26	BIEe26	Measurements and Instrumentation I	22	0	15	***37***	83	***120***		1			**4**
27	BIEe27	Sports	0	0	0	***0***	30	***30***		1			**1**
Total			**150**	**63**	**87**	**300**	**600**	**900**	**3**	**5**	**0**	**2**	**30**

SEMESTER IV													
28	BIEe28	Control Theory I	26	0	15	***41***	79	***120***		1			**4**
29	BIEe29	Fluid Mechanics	15	15	15	***45***	75	***120***	1				**4**
30	BIEe30	Principles of Mechanical Engineering Design	26	15	15	***56***	64	***120***	1				**4**
31	BIEe31	Computing IV	15	0	15	***30***	60	***90***		1			**3**
32	BIEe32	Measurements and Instrumentation II	15	0	30	***45***	75	***120***	1				**4**
33	BIEe33	Enterprise Management	26	16	0	***42***	78	***120***	1				**4**
34	BIEe34	Operations Research	26	15	0	***41***	79	***120***		1			**4**
35	BIEe35	Industrial Training	0	0	0	***0***	30	***30***		1			**1**
36	BIEe36	Principles of Mechanical Engineering Design - project	0	0	0	***0***	30	***30***			1		**1**
37	BIEe37	Sports	0	0	0	***0***	30	***30***		1			**1**
Total			**149**	**61**	**90**	**300**	**600**	**900**	**4**	**5**	**1**	**0**	**30**

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
SEMESTER V													
38	BpIEe38	Mathematics IV	22	16	0	***38***	82	***120***	1				**4**
39	BpIEe39	Control Theory II	15	18	15	***48***	102	***150***	1				**5**
40	BpIEe40	Materials Technology	26	0	15	***41***	79	***120***	1				**4**
41	BpIEe41	Computer Aided Design	22	0	15	***37***	83	***120***		1		1	**4**
42	BpIEe42	Industrial Manufacturing Systems I	22	18	0	***40***	80	***120***		1		1	**4**
43	BpIEe43	Production Operation Management I	22	18	0	***40***	80	***120***		1			**4**
44	BpIEe44	Measurements Systems	26	0	30	***56***	64	***120***	1				**4**
45	BpIEe45	Project of choice by BpIEe38, BpIEe39, BpIEe40, BpIEe43, BpIEe44	0	0	0	***0***	30	***30***			1		**1**
Total			**155**	**70**	**75**	**300**	**600**	**900**	**4**	**3**	**1**	**2**	**30**
SEMESTER VI													
46	BpIEe46	Industrial Manufacturing Systems II	24	15	15	***54***	96	***150***	1				**5**
47	BpIEe47	Thermodynamics and Heat	22	15	15	***52***	98	***150***	1				**5**
48	BpIEe48	Technical Safety	16	0	15	***31***	59	***90***		1			**3**
49	BpIEe49	Production Operation Management II	22	15	0	***37***	83	***120***	1				**4**
50	BpIEe50	Manufacturing Design I	22	0	30	***52***	68	***120***		1			**4**
51	BpIEe51	Human Resource Management	22	15	0	***37***	83	***120***		1			**4**
52	BpIEe52	Manufacturing Design I - project	0	0	0	***0***	30	***30***			1		**1**
53	BpIEe53	Optional Subject from list L1	22	0	15	***37***	83	***120***		1			**4**
Total			**150**	**60**	**90**	**300**	**600**	**900**	**3**	**4**	**1**	**0**	**30**
SEMESTER VII													
54	BpIEe54	Quality Control	26	15	15	***56***	94	***150***	1				**5**
55	BpIEe55	Control Engineering	26	0	15	***41***	79	***120***	1				**4**
56	BpIEe56	Systems Modelling and Simulation	26	0	15	***41***	79	***120***		1		1	**4**
57	BpIEe57	Manufacturing Design II	26	0	15	***41***	79	***120***	1				**4**
58	BpIEe58	Computer Integrated Manufacturing I	26	0	15	***41***	79	***120***		1			**4**
59	BpIEe59	Elements of Industrial Automation	26	0	15	***41***	79	***120***	1				**4**
60	BpIEe60	Manufacturing Design II - project	0	0	0	***0***	30	***30***			1		**1**
61	BpIEe61	Optional Subject from list L2	24	0	15	***39***	81	***120***		1			**4**
Total			**180**	**15**	**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 VIII													
62	BpIEe62	Computer Integrated Manufacturing II	20	0	15	***35***	55	***90***		1			**3**
63	BpIEe63	Environmental Production Engineering	20	0	15	***35***	55	***90***		1			**3**
64	BpIEe64	Manufacturing Strategies	20	20	0	***40***	80	***120***		1			**4**
65	BpIEe65	Financial Accounting	20	20	0	***40***	80	***120***		1			**4**
66	BpIEe66	Optional Subject List L3	15	0	10	***25***	65	***90***	1				**3**
67	BpIEe67	Optional Subject List L4	15	0	10	***25***	65	***90***	1				**3**
68	BpIEe68	Diploma project	0	0	0	***0***	300	***300***	Defense of diploma thesis				**10**
Total			**110**	**40**	**50**	**200**	**700**	**900**	**2**	**4**	**0**	**0**	**30**

LIST OF THE OPTIONAL SUBJECTS

List 1		**ECTS = 4**
1	Programming and use of industrial robots	**BpIEe53.1**
2	Industrial electronics and electric drives	**BpIEe53.2**
List 2		**ECTS = 4**
1	Introduction to SAP	**BpIEe61.1**
2	Multivariable control systems	**BpIEe61.2**
List 3		**ECTS = 3**
1	Control systems with microcontrollers	**BpIEe66.1**
2	Communication networks in systems automation	**BpIEe66.2**
List 4		**ECTS = 3**
1	Industrial applications of laser technology	**BpIEe67.1**
2	Manufacturing in Electronics Industry	**BpIEe67.2**

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	**FaBpIEe01**	Bulgarian Language (for foreigners)	0	30	0	***30***	30	***60***		1			**2**
SEMESTER II													
1	**FaBpIEe02**	Bulgarian Language (for foreigners)	0	30	0	***30***	30	***60***		1			**2**
SEMESTER V													
1	**FaBpIEe03**	Sport	0	0	0	***0***	30	***30***		1			**1**
SEMESTER VI													
1	**FaBpIEe04**	Sport	0	0	0	***0***	30	***30***		1			**1**
SEMESTER VII													
1	**FaBpIEe05**	Sport	0	0	0	***0***	30	***30***		1			**1**
SEMESTER VIII													
1	**FaBpIEe06**	Sport	0	0	0	***0***	30	***30***		1			**1**

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

II. MAIN PARAMETERS OF THE CURRICULUM

1. Programme duration	4 years,	8 semesters
2. Auditorium time according to the curriculum		
2.1.Total -	2300	hours
2.2. Lectures -	1159	hours
2.3. Seminars -	499	hours
2.4. Labs -	642	hours
3.Non auditorium time (SS) according to the curriculum -	4900	hours
4. Total time according to the curriculum -	7200	hours
5. Total number of the subject positions		
5.1. Compulsory -	63	
5.2. Optional -	4	
5.4. Facultative -	2	
5.5. Languages -	2	
5.6. Sport -	8	
5.7. Projects -	4	
5.8. Practicums -	3	
6. Assessment		
6.1. Exams -	26	
6.2. Continuous assessments -	37	
6.3. Semester projects -	4	
6.4. Coursework -	8	
7. Practice	3	weeks
8. Diploma project	10	weeks
9. Total ECTS credits	240	

Data: 20.5.2021

Dean of FEA:
/assoc. prof., G. Ganev, PhD /

Accepted by FC of FEA on 20.5.2021 with Protocol 10
Confirmed by the AC of TU – Sofia with 7.7.2021 with Protocol 7