

Bachelor's degree program in INDUSTRIAL ENGINEERING
as of 2013/2014 academic year

II. Curriculum

<p>ECTS Subject code T IE e No</p> <ul style="list-style-type: none"> • T - type of course: B for BEng • IE e - Industrial Engineering , teaching language English • No - subsequent number of the subject <p>Lectures (L), tutorials (Tut.), labs (Lab.) weekly; exam (E), continuous assessment (CA); semester projects (SP)/ semester assignment (course work) (SA)</p>
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No	SUBJECT	Week Load						Assessment				ECTS subject code	ECTS credits
		L	Tut.	Lab.	Acad. total	Self study	Total	E	CA	SP	SA		

SEMESTER I

1	Mathematics I	2	2	0	4	4	8	1				BIEe01	5
2	Physics I	2	1	1	4	5	9	1				BIEe02	5
3	Chemistry	2	0	1	3	3	6		1			BIEe03	4
4	Mechanics I	2	1	0	3	4	7	1				BIEe04	4
5	Applied Geometry and Engineering Graphics	1	0	2	3	4	7		1		1	BIEe05	4
6	Computing I	1	1	2	4	4	8					BIEe06	5
7	Introduction to Manufacturing and Industrial Practice	1	0	1	2	3	5		1			BIEe07	3
8	English Language	(1)	(2)	0	(3)	(3)	(6)					BIEe08	-
9	Sports	0	0	(3)	(3)	0	(3)					BIEe09	-
10	Bulgarian Language (for foreigners)	0	(2)	0	(2)	(2)	(4)					BIE10	-
Total		11	5	7	23	27	50	3	3	0	1		30

SEMESTER II

11	Mathematics II	2	1	1	4	4	8	1				BIEe11	5
12	Physics II	2	0	1	3	3	6	1				BIEe12	4
13	Mechanics II	2	1	0	3	3	6	1			1	BIEe13	4
14	Computing I	1	0	1	2	3	5		1			BIEe14	3
15	Electrical Engineering I	2	1	1	4	4	8	1				BIEe15	5
16	Electronics	2	0	1	3	5	8				1	BIEe16	5
17	Materials Science	2	0	1	3	3	6		1			BIEe17	3
18	English Language	(1)	(2)	0	(3)	(3)	(6)					BIEe18	-
19	Introduction to Manufacturing and Industrial Practice	0	0	1	1	2	3					BIEe19	1
20	Sports	0	0	(3)	(3)	0	(3)					BIEe20	-
21	Bulgarian Language (for foreigners)	0	(2)	0	(2)	(2)	(4)					BIE21	-
Total		13	3	8	24	26	50	4	2	0	2		30

No	SUBJECT	Week Load						Assessment				ECTS subject code	ECTS credits
		L	Tut.	Lab.	Acad. total	Self study	Total	E	CA	SP	SA		

SEMESTER III

22	Mathematics III	2	1	0	3	3	6	1				BIEe22	4
23	Strength of Materials	2	1	1	4	4	8	1			1	BIEe23	5
24	Electrical Engineering II	2	1	1	4	4	8	1			1	BIEe24	5
25	Electronics	2	0	2	4	4	8	1				BIEe25	5
26	Computing II	1	0	2	3	4	7					BIEe26	4
27	Economics	2	1	0	3	3	6		1			BIEe27	3
28	Measurements and Instrumentation	2	0	1	3	4	7					BIEe28	4
29	English Language	(1)	(1)	0	(2)	(2)	(4)					BIEe29	-
30	Sports	0	0	(3)	(3)	0	(3)					BIEe30	-
31	Bulgarian Language (for foreigners)	0	(2)	0	(2)	(2)	(4)					BIE31	-
Total		13	4	7	24	26	50	4	1	0	2		30

SEMESTER IV

32	Control Theory I	2	0	1	3	4	7					BIEe32	4
33	Fluid Mechanics	1	1	1	3	4	7	1				BIEe33	4
34	Principles of Mechanical Engineering Design	2	1	1	4	5	9	1		1		BIEe34	5
35	Computing II	1	0	1	2	3	5		1			BIEe35	3
36	Measurements and Instrumentation	1	0	2	3	3	6	1				BIEe36	4
37	Enterprise Management	2	1	0	3	3	6	1				BIEe37	4
38	Operations Research	2	1	0	3	3	6		1			BIEe38	4
39	English Language	(1)	(1)	0	(2)	(2)	(4)					BIEe39	-
40	Industrial Training	0	0	2	2	2	4					BIEe40	2
41	Sports	0	0	(3)	(3)	0	(3)					BIEe41	-
42	Bulgarian Language (for foreigners)	0	(2)	0	(2)	(2)	(4)					BIE42	-
Total		11	4	8	23	27	50	4	2	1	0		30

SEMESTER V

43	Mathematics IV	2	1	0	3	4	7	1				BIEe43	4
44	Control Theory I	1	1	1	3	5	8	1				BIEe44	5
45	Materials Technology	2	0	1	3	3	6	1				BIEe45	3
46	Computer Aided Design	2	0	1	3	5	8		1		1	BIEe46	5
47	Industrial Manufacturing Systems I	2	1	0	3	5	8		1		1	BIEe47	5
48	Production Operation Management	2	1	0	3	2	5					BIEe48	3
49	Measurements Systems	2	0	2	4	4	8	1				BIEe49	5
Total		13	4	5	22	28	50	4	2	0	2		30

No	SUBJECT	Week Load						Assessment				ECTS subject code	ECTS credits
		L	Tut.	Lab.	Acad. total	Self study	Total	E	CA	SP	SA		

SEMESTER VI

50	Industrial Manufacturing Systems II	2	1	1	4	5	9	1				BIEe50	5
51	Thermodynamics and Heat	2	1	1	4	5	9	1				BIEe51	5
52	Technical Safety	1	0	1	2	2	4		1			BIEe52	2
53	Production Operation Management	2	1	0	3	3	6	1				BIEe53	4
54	Manufacturing Design I	2	0	2	4	5	9			1		BIEe54	5
55	Human Resource Management	2	1	0	3	3	6		1			BIEe55	4
56	Optional Subject from list L1	2	0	1	3	4	7		1			BIEe56	5
Total		13	4	6	23	27	50	3	3	1	0		30

SEMESTER VII

57	Quality Control	2	1	1	4	5	9	1				BIEe57	5
58	Control Engineering	2	0	1	3	4	7	1				BIEe58	4
59	Systems Modelling and Simulation	2	0	1	3	4	7		1		1	BIEe59	4
60	Manufacturing Design II	2	0	1	3	6	9	1		1		BIEe60	5
61	Computer Integrated Manufacturing	2	0	1	3	3	6					BIEe61	4
62	Elements of Industrial Automation	2	0	1	3	3	6	1				BIEe62	4
63	Optional Subject from list L2	2	0	1	3	3	6		1			BIEe63	4
Total		14	1	7	22	28	50	4	2	1	1		30

SEMESTER VIII– 10 weeks

64	Computer Integrated Manufacturing	2	0	2	4	4	8		1			BIEe64	3
65	Environmental Production Engineering	2	0	2	4	4	8		1			BIEe65	3
66	Manufacturing Strategies	2	2	0	4	4	8		1			BIEe66	3
67	Financial Accounting	2	2	0	4	4	8		1			BIEe67	3
68	Optional Subject List L3	2	0	2	4	5	9	1				BIEe68	4
69	Optional Subject List L4	2	0	2	4	5	9	1				BIEe69	4
70	Final Year Project – 8 weeks	Final Year Project Presentation										BIEe70	10
Total		12	4	8	24	26	50	2	4	0	0		30

OPTIONAL SUBJECTS LIST

List1 (BIEe56 – ECTS 5)

BIEe56.1 Industrial Electronics and Electrical Drives

BIEe56.2 Vibrations and Dynamics

BIEe56.3 Nonlinear Systems and Neural Networks

BIEe56.4 Electrical equipment of the automotive vehicle

BIEe56.5 Electrical Equipment of Industrial Mechanisms

BIEe56.6 Geographic Information Systems

List2 (BIEe63 – ECTS 4)

BIEe63.1 Control Theory II

BIEe63.2 Composite Materials

BIEe63.3 Industrial Power Supply and Switchgear

BIEe63.4 Embedded Systems

BIEe63.5 Multidimensional Systems

BIEe63.6 Introduction to Business Intelligence

BIEe63.7 Fundamentals of Telecommunications Engineering

BIEe63.8 Databases

BIEe63.10 Internet Multimedia Communications

PRACTICE - 2 weeks

List3 (BIEe68 – ECTS 4, BIEe69 – ECTS 4)

BIEe68.1 Networks Communications in Process Control Systems

BIEe68.2 Object - Oriented Programming

BIEe68.3 Materials and Technologies Selection

BIEe68.4 XML Based CAD/CAM/CAX Integration

BIEe68.5 Mechanical Fundamentals of Microelectromechanical Systems

List4 (BIEe69 – ECTS 4)

BIEe69.1 Finite Element Structures Analyses

BIEe69.2 Manufacturing in Electronics Industry

BIEe69.3 Corrosions of Metals and Methods of Protection