National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

WORK CURRICULUM

APPROVED

by Vice-rector for educational work of Igor Sikorsky Kyiv Polytechnic Institute

_____ **Anatoly MELNICHENKO**

"____"_____ **2021 year**

on 2021/ 2022 academic year

Enrolment 2019

Faculty (Institute) — **Biomedical Engineering**

Speciality - 163 Biomedical Engineering

Form of study — **full-time**

according to the educational and professional program - Medical Engineering

Study duration — **3 years 10 months (4 ed.year)**

Level — **Bachelor**

Qualification — 3439 Specialist in Biomedical Engineering

Graduation Department - Biomedical Engineering

№ п/п	Subjects	Department	The volume of discipline		Classroom hours								Independent work of students	Control measures and their distribution by semester							Distribution of class hours per week by courses and semesters							
						including															3 YEAR БМ-91(12+6), БМ-92 (13+7)							
						Lecture		Practice		Laboratory											5 semester 18 weeks				6 semester 18 weeks			
																						у тому числі				у тому числі		
			ECTS Credits	Hours	Total	according to the curriculum	into account individual lessons	according to the curriculum	into account individual lessons	according to the curriculum	into account individual	individual lessons		Exams	Final tests	Module control work	Course projects	Coursework	CGW,CW,GW	HCW	Abstracts	Total	Lecture	Practice	Laboratory	Total	Lecture	Practice	Laboratory
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1. NORMATIVE educational components																													
1.1. GENERAL TRAINING																													
1	Foreign Language for Specific Purposes-I. Practical foreign language course for professional communication I	Department of the English Language of Humanities Orientation № 3	**3**	90	72			72					18		6	5						2		2		2		2	
2	Business Law	Department of Economic and Administrative Law	**2**	60	36	18		18					24		5	5						2	1	1					
3	Coursework in Analog and Digital Circuitry	Department of Biomedical Engineering	**1**	30	0								30					6											
		Total number of part 1.1.	**6**	**180**	**108**	**18**		**90**					**72**		**2**	**2**		**1**				**4**	**1**	**3**		**2**		**2**	
1.2. Professional training																													
4	Radiation Safety and Dozimitriya	Department of Biomedical Engineering	**5**	150	72	36		36					78	5		5				5		4	2	2					
5	Analog and Digital Circuitry I. Analog Circuitry	Department of Biomedical Engineering	**5,5**	165	72	36		18		18			93	5		5			5			4	2	1	1				
6	Analog and Digital Circuitry II. Digital Circuitry	Department of Biomedical Engineering	**7**	210	108	54		54					102	6		6										6	3	3	
7	Biomedical Devices, Sets and Systems	Department of Biomedical Engineering	**4,5**	135	54	18		36					81	6		6			6							3	1	2	
		Total number of part 1.2.	**22**	**660**	**306**	**144**		**144**		**18**			**354**	**4**		**4**			**2**	**1**		**8**	**4**	**3**	**1**	**9**	**4**	**5**	
		TOTAL NORMATIVE:	**28**	**840**	**414**	**162**		**234**		**18**			**426**	**4**	**2**	**6**		**1**	**2**	**1**		**12**	**5**	**6**	**1**	**11**	**4**	**7**	
2. SELECTIVE educational components																													
2.1. Professional training (Selective educational components from interfaculty / faculty / department Catalogs)																													
	Subjects	**Department**	**Number of students who chose discipline**																										
			B	**C**																									
8	Educational component 1. Biomedical Mechanics	Department of Biomedical Engineering	0	20	**4**	120	72	36		36			48		5	5				5		4	2	2					
8	Освітній компонент 1. Engineering mechanics	Department of Biomedical Engineering	0	0	**4**	120	72	36		36			48		5	5				5		4	2	2					
9	Educational component 2. Registration and Processing of Biosignals and Medical Images	Department of Biomedical Engineering	0	20	**4**	120	72	26		28		18	48		5	5					5	4	1,5	1,5	1				

10	Educational component 3. Telemedicine and Computer Networks.	Department of Biomedical Engineering	0	20	4	120	72	26		28		18			48		5	5					5	4	1,5	1,5	1				
10	Educational component 3. Automated design systems	Department of Biomedical Engineering	0	0	4	120	72	26		28		18			48		5	5					5	4	1,5	1,5	1				
11	Educational component 4. Design of Automatic Monitoring and Control Systems	Department of Biomedical Engineering	0	20	4	120	72	28		44					48		5	5					5	4	1,5	2,5					
11	Educational component 4. Biomedical Product Technologies	Department of Biomedical Engineering	0	0	4	120	72	28		44					48		5	5					5	4	1,5	2,5					
12	Educational component 5. Biomedical sensor systems	Department of Biomedical Engineering	0	0	4	120	72	36		36					48		6	6					6					4	2	2	
12	Educational component 5. Measuring transducers and sensors	Department of Biomedical Engineering	0	0	4	120	72	36		36					48		6	6					6					4	2	2	
13	Educational component 6. Medical Information Systems	Department of Biomedical Engineering	0	0	4	120	72	36		36					48		6	6					6					4	2	2	
13	Educational component 6. Statistical Methods in Biomedical Research	Department of Biomedical Engineering	0	0	4	120	72	36		36					48		6	6					6					4	2	2	
14	Educational component 7. Biothermodynamics and Mass-transfer Theory	Department of Biomedical Engineering	0	20	4	120	72	36		36					48		6	6					6					4	2	2	
14	Educational component 7. Thermodynamics of biological processes and systems	Department of Biomedical Engineering	0	20	4	120	72	36		36					48		6	6					6					4	2	2	
15	Educational component 8. Fundamentals of design and engineering of medical equipment in SolidWorks	Department of Biomedical Engineering	0	0	4	120	72	36		36					48		6	6					6					4	2	2	
	Total number of part 2.1.				**32**	**960**	**576**	**260**		**280**		**36**			**384**		**8**	**8**				**1**	**7**	**16**	**6,5**	**7,5**	**2**	**16**	**8**	**8**	
	TOTAL SELECTED:				**32**	**960**	**576**	**260**		**280**		**36**			**384**		**8**	**8**				**1**	**7**	**16**	**6,5**	**7,5**	**2**	**16**	**8**	**8**	
	TOTAL:				**60**	**1800**	**990**	**422**		**514**		**54**			**810**	**4**	**10**	**14**		**1**	**2**	**2**	**7**	**28**	**11,5**	**13,5**	**3**	**27**	**12**	**15**	**0**
		Quantity			**Exams**												**4**							**2**				**2**			
					Final tests												**10**								**5**				**5**		
					Module control work													**14**								**8**				**6**	
					Course projects																										
					Coursework													**1**										**1**			
					CGW,CW,GW														**2**						**1**				**1**		
					HCW														**2**						**2**					**0**	
					Abstracts														**7**						**3**						**4**

ABBREVIATION:

CGW - calculation and graphic work;

CW - calculation work;

GW -graphic work;

HCW - home control work.

Approved by Faculty Biomedical Engineering Academic Council, Meeting protocol № _ from ___2021 year

Head of the Department ______________ **/V. Shlykov /**
(підпис) (П.І.Б.)

Dean of the Faculty ______________ **/ V. Maksimenko /**
(П.І.Б.)

ПРИМІТКА: складається на кожний навчальний рік окремо відповідно до навчального плану.