MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

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

CURRICULUM

(Enrolment 2021)

APPROVED
by Academic Council
Igor Sikorsky Kyiv Polytechnic Institute
(meeting protocol № __ from _____ 2021)

Head of Academic Council

_____ Mykhaylo ILCHENKO

Level Bachelor

Speciality 162 - Biotechnology and bioengineering

Educational and Professional program Biotechnologies

(Title of the program)

Graduation Department Industrial biotechnology, Bioenergetics, Bioinformatics and Ecobiotechnology

Form of study full-time (full-time, part-time)

Faculty (Institute) Biotechnology and biotechnics

Qualification Bachelor of biotechnologies and bioengineering

Study duration 3 years 10 months

Base level Full Secondary Education

I. Schedule of educational process

YEAR	September				October					November					December				January				February				March					April				May				June				July					August			
	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	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
I																			E	E	H	H																			E	E	H	H	H	H	H	H	H	H	H	H
II																			E	E	H	H																			E	E	H	H	H	H	H	H	H	H	H	H
III																			E	E	H	H																			E	E	H	H	H	H	H	H	H	H	H	H
IV																			E	E	H	H										E	P	P	P	P	P	R	R	R	R	A	A									

Symbols: Learning period; E Examination; P Practice; R Research; A Assessment; H Holiday

II. Summary table of time budget (Weeks)

YEAR	Learning period	Examination	Practice	Assessment	Research	Holiday	Total
I	36	4				12	52
II	36	4				12	52
III	36	4				12	52
IV	27	3	5	4	2	2	43

III. Practice

Type of practice	YEAR	Weeks
Pre-diploma	4	5

IV. Graduates assessment

Subjects	Form of graduates assessment (exam, graduation project)	YEAR
Diploma planning	Bachelor project	4

V. Plan of Educational process

Code	Educational components	Distribution for terms (semesters)				ECTS Credits	Number of hours				
		Exams	Final tests	Individual task	Module test		Total	Lectures/practical lessons			Self-study
								Lectures	Practical	Laboratory	
1	2	3	4	5	6	7	8	9	10	11	12
1. NORMATIVE educational components											
1.1. General training cycle											
ЗО 1	Principles of Oral Professional Speech (Rhetoric)		1		1	**2**	60	18	18		24
ЗО 2	History of Science and Technology		2		2	**2**	60	18	18		24
ЗО 3	Basics of a Healthy Lifestyle		2		1,2	**3**	90	18	54		18
ЗО 4	Foreign Language		2, 4		1,3	**6**	180		144		36
ЗО 5	Foreign Language for Professional Purposes	8	6		5,7	**6**	180		126		54
ЗО 6	Labor Safety and Civil Defence		7		7	**4**	120	36	28	8	48
ЗО 7	Industrial Ecology		3		3	**3**	90	28	26		36
ЗО 8	Philosophical Foundations of Scientific Knowledge		4		4	**2**	60	18	18		24
ЗО 9	Business Law		6		6	**2**	60	18	18		24
ЗО 10	Information Technology		3	3	3	**4**	120	36	36		48
1.2. Vocational training cycle											
ПО 1	Higher Mathematics	2	1	2	1,2	**10**	300	72	90		138
ПО 2	Physics	1	2	1	1,2	**10**	300	72	36	54	138
ПО 3	Inorganic Chemistry	1		1	1	**6**	180	36	18	36	90
ПО 4	Organic Chemistry	2		2	2	**6**	180	54		36	90
ПО 5	Analytical Chemistry		2		2	**4**	120	36		36	48
ПО 6	Physical and Colloid Chemistry	4		4	4	**5**	150	36		36	78
ПО 7	Economics and Organization Production		7		7	**4**	120	36	36		48
ПО 8	Biochemistry	3		3	3	**8**	240	72	18	36	114
ПО 9	Biology of Cells	1			1	**5**	150	36	18	18	78
ПО 10	Human and Animal Physiology		3		3	**3,5**	105	36	18		51
ПО 11	Plant Anatomy and Physiology	2			2	**5**	150	36	18	18	78
ПО 12	General Microbiology and Virology	3		3	3	**8**	240	90		36	114
ПО 13	Biophysics		4		4	**4**	120	36		36	48
ПО 14	Genetics	5		5	5	**8,5**	255	72	54		129
ПО 15	Engineering and Computer Graphics		1		1	**4**	120	36	18	18	48
ПО 16	Biostatistics and Biometrics		4	4	4	**3**	90	18	36		36
ПО 17	Methods Analysis in Biotechnology		4	4	4	**4**	120	36		36	48
ПО 18	Processes, Apparatus and Equipment of Biotechnological Production	6	5		5,6	**10**	300	72	54	36	138
ПО 19	General Biotechnology	4		4	4	**8,5**	255	72		54	129
ПО 20	Biotechnological Production Design	7	6	7	6,7	**10**	300	72	72		156
ПО 21	Biotechnological Processes Control and Management	8			8	**4,5**	135	36		18	81
ПО 22	Course project on Processes, Apparatus and Equipment of Biotechnological Production		6			**1,5**	45				45
ПО 23	Course project on Biotechnological Production Design		7			**1,5**	45				45
ПО 24	Pre-diploma Practice		8			**6**	180				180
ПО 25	Diploma Planning					**6**	180				180
	TOTAL of NORMATIVE educational components	**15**	**25**	**13**	**38**	**180**	**5400**	**1252**	**972**	**512**	**2664**
2. ELECTIVE educational components											
2.1. General training cycle (Optional subjetcs from University catalogue)											
ЗВ 1	Educational components 1 from U-cataloque		4		4	**2**	60	18	18		24
ЗВ 2	Educational components 2 from U-cataloque		3		3	**2**	60	18	18		24
2.2. Vocational training cycle (Optional subjetcs from Faculty catalogue)											
ПВ 1	Educational components 1 from F-cataloque		5		5	**4**	120	28	26		66
ПВ 2	Educational components 2 from F-cataloque		5		5	**4**	120	28	26		66
ПВ 3	Educational components 3 from F-cataloque		5		5	**4**	120	28	26		66
ПВ 4	Educational components 4 from F-cataloque		5		5	**4**	120	28	26		66
ПВ 5	Educational components 5 from F-cataloque		6	6	6	**4**	120	36	36		48
ПВ 6	Educational components 6 from F-cataloque		6	6	6	**4**	120	36	36		48
ПВ 7	Educational components 7 from F-cataloque		6	6	6	**4**	120	36	36		48
ПВ 8	Educational components 8 from F-cataloque		6	6	6	**4**	120	36	36		48
ПВ 9	Educational components 9 from F-cataloque		7	7	7	**4**	120	36	36		48
ПВ 10	Educational components 10 from F-cataloque		7	7	7	**4**	120	36	36		48
ПВ 11	Educational components 11 from F-cataloque		7	7	7	**4**	120	36	36		48
ПВ 12	Educational components 12 from F-cataloque		8		8	**4**	120	36	18		66
ПВ 13	Educational components 13 from F-cataloque		8		8	**4**	120	36	18		66
ПВ 14	Educational components 14 from F-cataloque		8		8	**4**	120	36	18		66
	TOTAL of ELECTIVE educational components	**0**	**16**	**7**	**16**	**60**	**1800**	**508**	**446**	**0**	**846**
	TOTAL	**15**	**41**	**20**	**24**	**240**	**7200**	**1760**	**1418**	**512**	**3510**

Approved by University Academic Council, Meeting protocol № __ from _____ 2021

Head of the Department _____/ Tetiana TODOSIICHUK /
Head of the Department _____/ Nataliia GOLUB /
Dean of the Faculty _____ / Olexiy DUGAN /