



CURRICULUM

(Enrolment 2017)

APPROVED

by Rector of Igor Sikorsky Kyiv Polytechnic Institute

Level Bachelor

Form of study

full-time

(full-time, part-time)

Mykhailo Zgurovsky

Speciality 141 Electricity, electrical engineering and electromechanics

Faculty (Institute)

FEA

2017

Profile program Electric machines and apparatus

Qualification Junior electrical engineer

Graduation Department Electromechanics

Study duration 3 years 10 months

Base level Complete general 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	E	H	H	H	H	H	H	H	H	H	H

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	5				11	52
IV	27	3	5	2	4	2	43

III. Practice

Type of practice	YEAR	Weeks
Pre-diploma Practice	4	5

IV. Graduates assessment

Subjects	Form of graduates assessment (exam, graduation project)	YEAR
Preparation of the diploma work	Defending the diploma work	4

V. Plan of Educational process

Code	Subjects	Distribution for terms (semesters)				ECTS Credits	Number of hours				
		Exams	Final tests	Course projects	Coursework		Total	Lectures/practical lessons			Self-study
								Lectures	Practical	Laboratory	
1	2	3	4	5	6	7	8	9	10	11	12
I. GENERAL TRAINING											
I.1. Natural-scientific training											
1/I	Higher mathematics: 1-Linear algebra. Differential calculus , Integral calculus, Probability theory	2- 3-	1,2,3			19,5	585	180	180		225
2/II	General Physics : Mechanics. Warmth, Electromagnetism	2-	1,2			11	330	90	36	36	168
3/II	Engineering Graphics		1Д			4	120	36	36		48
4/II	Computer Engineering and Programming		1	2Д		12	360	36		144	180
5/II	Tekhnical Mechanics		2			4	120	54	18		48
total number of part I.1			6	3		50,5	1515	396	270	180	669
I.2. Basic training (major courses)											
1/II	Theoretical Fundamentals of Electrical Engineering: Linear electric circuits, Transient processes in linear electric circuits. 3- Nonlinear electric and magnetic circuits, Fundamentals of the theory of electromagnetic field	1- 2-	3,4,5			16	480	126	18	54	282
2/II	Electric Machines : 1Transformers and Asynchronous Machines, 2 Synchronous electric machines and dc machines		4,5			14	420	144	44	48	184
3/II	Electrotechnical Materials		2Д			3	90	36		18	36
4/II	Fundamentals of Metrology and Electrical Measurements		3			4	120	36		18	66
5/II	Electrical systems and networks		6			6	180	54		18	108
6/II	High-voltage technology		8			4	120	36		18	66
7/II	Electrical equipment of electric power stations and substations		5Д			4	120	36		18	66
8/II	Relay protection and automation of power systems		7			4	120	36		18	66
9/II	Electric Drive		5			4	120	36		18	66
10/II	Economics and Production Organization		7			3	90	36	18		36
11/II	Labor Safety and Civil Protection		6			4	120	36	28	8	48
total number of part I.2			10	4		66	1980	612	108	236	1024
I.3. Basic training (optional courses)											
1/III	Educational discipline in Ecology		1Д			2	60	18	18		24
total number of part I.3								18	18		24
I.4. Humanities training (optional courses)											
1/IV	Educational discipline on history (block №1)		2			2	60	18	18		24
2/IV	Educational discipline in Ukrainian language (block №2)		1			2	60	18	18		24
3/IV	Educational discipline in philosophy (block №3)		4			2	60	18	18		24
4/IV	Educational discipline in psychology (block №4)		4			2	60	18	18		24
5/IV	Educational discipline in Law (block №5)		6			2	60	18	18		24
6/IV	Social and humanitarian educational discipline №1 (block №6)		5			2	60	18	18		24

7/IV	Social and humanitarian educational discipline №2 (block №6)		7		2	60	18	18		24	
8/IV	Foreign language		2,4Д		6	180		144		36	
9/IV	Foreign language of professional orientation		6,7		4	120		90		30	
total number of part I.4			11		24	720	126	360	0	234	
TOTAL IN GENERAL TRAINING		16	18	0	0	140,5	4215	1152	756	416	1951

II. VOCATIONAL TRAINING

II.1. Vocational and practical training (major courses)											
1/c	Power Transformers		4			3	90	18	18	18	36
2/c	Automatic Control Theory : 1-Characteristics, Stability, Quality of automatic control systems, 2- Nonlinear and Discrete Automatic Control Systems	7	6			8	240	90	18	18	114
3/c	Fundamentals of Electrical Machines Automated Design - 1Design of power transformers and	6	5Д	5,6		9	270	90	36		144
4/c	Theoretical Mechanics		3Д			6,5	195	72	36		87
5/c	Electric Drive Theory		6Д			4	120	36		18	66
6/c	Simulation of Electromechanical Systems	6				4,5	135	36	18		81
7/c	Mathematical modeling of electromechanical energy converters	7				4	120	36		18	66
8/c	Software packages for the electric machines designing		3		3	4,5	135	18		54	63
9/c	Software packages for electric machines modeling		7			3	90	18		36	36
10/c	Industrial electronics		2Д			2,5	75	36		18	21
11/c	Electronics and Micro Circuit Engineering	4			4	6	180	54	18	18	90
12/c	Electric Apparatus		4Д			3,5	105	36	18		51
13/c	Testing and Operation of Electric Apparatus	8				4	120	36		18	66
total number of part II.1		6	9	2	2	62,5	1875	576	162	216	921
II.2. Vocational and practical training (optional courses)											
1/cB	Educational discipline in Introduction to Electromechanics		3			2,5	75	36			39
2/cB	Educational discipline in Electrical Machinery of A		7Д			3	90	36		18	36
3/cB	Educational discipline in Production Technology of Electric Machines		7Д			3	90	36		18	36
4/cB	Educational discipline in Assembling and Operation of Electric Machines: 1Malfunctions of EM, their detection and elimination, 2 Maintenance and testing of electric machines		7,8Д		8	6,5	195	54	36		105
5/cB	Educational discipline in Brushless frequency regulated electrical machines		8			3	90	36	18		36
6/cB	Educational discipline in Alternative and Renewable Sources of Energy		5			1,5	45	27			18
7/cB	Educational discipline in Mechanical Engineering Technology		4			2	60	18		18	24
8/cB	Pre-diploma Practice		8Д			7,5	225				225
9/cB	Preparation of Bachelor diploma work					6	180				180
total number of part II.2			9		1	35	1050	243	54	54	699
TOTAL IN VOCATIONAL TRAINING		6	18	2	3	97,5	2925	819	216	270	1620
TOTAL		22	36	2	3	238,0	7140	1971	972	686	3571

Approved by Faculty Academic Council, Meeting protocol № 8_ from Marth 27, 2017

Head of the Department _____ / Shynkarenko VF /
 Dean of the Faculty (Director of the Institute) _____ / Yandulsky O.S. /