

V. EDUCATION PROCESS PLAN

No	Name of academic discipline	Semester distribution			Number of ECTS credits	Number of hours						Distribution of classroom hours per a week and ECTS credits per a semester								Department	
		Exams	Tests	Individual tasks		Total amount	Classroom					Independent work	I course				II course				
							Total	including			Semesters		Semesters								
								Lectures	Laboratory works	Practical studies	1		2	3	4						
											Number of weeks in the semester										
20		20		16																	
Classroom m hours	ECTS credits	Classroom m hours	ECTS credits	Classroom m hours	ECTS credits	Classroom m hours	ECTS credits	Classroom m hours	ECTS credits												
13	14	15	16	17	18	19	20														
1	General training				9,0	270,0	80,0	32,0		48,0	190,0	5,0	9,0								
GT 1	Production Management and Marketing		9	R	3,0	90,0	32,0	16,0		16,0	58,0	2,0	3,0						202		
GT 2	Labor and professional safety		9	R	3,0	90,0	32,0	16,0		16,0	58,0	2,0	3,0						131		
GT 3	Intellectual Property		9	R	3,0	90,0	16,0			16,0	74,0	1,0	3,0						325		
GT 4																					
2	Professional training				42,0	1260,0	160,0	96,0		64,0	1100,0	2,0	3,0	8,0	9,0		30,0		600,0		
PT 1	Basics of Research and Development		9	C	3,0	90,0	32,0	16,0		16,0	58,0	2,0	3,0						120		
PT 2	Problems, Technologies, and Prospects of Industry Development	10		R	4,0	120,0	48,0	32,0		16,0	72,0			3,0	4,0				120		
PT 3	Reliability and Diagnostics	10		C	5,0	150,0	80,0	48,0		32,0	70,0			5,0	5,0				120		
PT 10																					
	Practice*		3		15,0	450,0					450,0						15,0		120		
	Attestation*		3		15,0	450,0					450,0						15,0		120		
3	Optional disciplines				39,0	1170,0	576,0	320,0	80,0	176,0	594,0	18,0	18,0	18,0	21,0						
3.1	Optional disciplines of professional training according to blocks				39,0	1170,0	576,0	320,0	80,0	176,0	594,0	18,0	18,0	18,0	21,0						
3.1.1	Block of disciplines 01 "Electric Power Stations"				39,0	1170,0	576,0	320,0	80,0	176,0	594,0	18,0	18,0	18,0	21,0						
OB 1.1	Modeling of electric power equipment and processess	9		CW	5,0	150,0	80,0	32,0	32,0	16,0	70,0	5,0	5,0						130		
OB 1.2	Power Plants Auxiliary Systems	9		C	5,0	150,0	80,0	48,0	16,0	16,0	70,0	5,0	5,0						130		
OB 1.3	Technologies of Energy Storage and Load Following in Power Systems	9		R	4,0	120,0	64,0	32,0	16,0	16,0	56,0	4,0	4,0						130		
OB 1.4	Power Plant Dispatching and SCADA	9		C	4,0	120,0	64,0	32,0	16,0	16,0	56,0	4,0	4,0						130		
OB 1.5	Design of electric power facilities and schemes	10		CP	6,0	180,0	96,0	48,0		48,0	84,0			6,0	6,0				130		
OB 1.6	Optimization Tasks of Power Engineering	10		C	6,0	180,0	80,0	48,0		32,0	100,0			5,0	6,0				130		
OB 1.7	Energy Management		10	R	4,0	120,0	48,0	32,0		16,0	72,0			3,0	4,0				130		
OB 1.8	Ecological Aspects of Power Industry	10		R	5,0	150,0	64,0	48,0		16,0	86,0			4,0	5,0				130		
3.1.2	Block of disciplines 02 "Electrical systems and networks"				39,0	1170,0	576,0	320,0	80,0	176,0	594,0	18,0	18,0	18,0	21,0						
OB 2.1	Modern computer technologies in the transmission and distribution of electricity	9		CW	5,0	150,0	80,0	32,0	32,0	16,0	70,0	5,0	5,0						131		
OB 2.2	Organization of Energy Consumption	9		R	4,0	120,0	64,0	32,0	16,0	16,0	56,0	4,0	4,0						131		
OB 2.3	Control of Electric Power Systems Modes and Automation	9		C	4,0	120,0	64,0	32,0	16,0	16,0	56,0	4,0	4,0						131		
OB 2.4	Mathematical Basis of Technical Diagnostics	9		C	5,0	150,0	80,0	48,0	16,0	16,0	70,0	5,0	5,0						131		
OB 2.5	Design of objects of electric power branch	10		CP	6,0	180,0	96,0	48,0		48,0	84,0			6,0	6,0				131		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	29	
OB 2.6	Basics of power safety	10		C	5,0	150,0	64,0	48,0		16,0	86,0			4,0	5,0					131	
OB 2.7	Dispatch Management and information-management systems		10	R	5,0	150,0	64,0	48,0		16,0	86,0			4,0	5,0					131	
OB 2.8	Basics of objects electrical systems and networks operation	10		R	5,0	150,0	64,0	32,0		32,0	86,0			4,0	5,0					131	
3.1.5	Block of disciplines 05 "Energy Management and Energy Efficient Technologies"				39,0	1170,0	576,0	320,0	96,0	160,0	594,0	18,0	18,0	18,0	21,0						
OB 5.1	Modeling of electric power equipment and processes	9		CW	5,0	150,0	80,0	32,0	32,0	16,0	70,0	5,0	5,0							130	
OB 5.2	Renewable energy systems and secondary energy resources	9		R	4,0	120,0	64,0	32,0	16,0	16,0	56,0	4,0	4,0							130	
OB 5.3	Energy Management and Audit	9		C	5,0	150,0	80,0	48,0	16,0	16,0	70,0	5,0	5,0							130	
OB 5.4	Ukraine's energy policy and energy marketing	9		C	4,0	120,0	64,0	32,0		32,0	56,0	4,0	4,0							130	
OB 5.5	Design of electric power facilities and schemes	10		CP	6,0	180,0	96,0	48,0		48,0	84,0			6,0	6,0					130	
OB 5.6	Electricity quality and quality management	10		C	6,0	180,0	80,0	48,0	16,0	16,0	100,0			5,0	6,0					130	
OB 5.7	Ecological Aspects of Power Industry	10		R	5,0	150,0	64,0	48,0		16,0	86,0			4,0	5,0					130	
OB 5.8	Accounting and measurement of energy parameters		10	R	4,0	120,0	48,0	32,0	16,0		72,0			3,0	4,0					130	
Total for education period					90,0	2700,0	816,0	448,0	80,0	288,0	1884,0	25,0	30,0	26,0	30,0		30,0				
Hours per week												25,0	26,0								
Number of exams												4	5								
Number of tests												4	1		1						
Number of course projects (works)												1	1								

Individual tasks	
C	Calculated task
CG	Calculated and graphic task
R	Report
CP	Course project
CW	Course work
RW	Research work

Approved by the Academic Council of NTU "KhPI"
protocol № 4 from 03.07.2020

Vice-rector of Scientific-and-Pedagogical Work

Signature **Gennadiy KHRYPUNOV**
Full name

Head of the educational program

Signature **Oleksandr LAZURENKO**
Full name

Head of the Institute of Education and Science
in Power Engineering, Electronics and
Electromechanics

Signature **Roman TOMASHEVSKYI**
Full name

Head of the Department of Electric power
transmission

Signature **Sergiy SHEVCHENKO**
Full name

Head of the Department of Power Stations

Signature **Oleksandr LAZURENKO**
Full name

Head of the Department

Signature Full name

* Practices and attestations are carried out by graduating