



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 №\_3\_ from \_15.03\_ 2021)

Head of Academic Council

\_\_\_\_\_ Mykhaylo ILCHENKO

\_\_\_\_\_ 2021

Level PhD

Field of knowledge 14 Electrical engineering

Speciality 144 Heat power

Educational and Scientific program Heat power

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

Qualification \_\_\_\_\_

Study duration 4 years

Base level Master degree

Educational component **50 ECTS Credits**

**Schedule of study**

YEAR	October					November				December					January				February				March				April					May					June				July				August				September														
	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	E	R	R	RT	RT	RT																				E	E	H	H	H	H	H	H	H	H	H	H	H	H	H	H	R	RT	RT	RT		
II															I	I	E	E	E	R	R	RT	RT	RT																				E	E	H	H	H	H	H	H	H	H	H	H	H	H	H	H	R	RT	RT	RT
III	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	RT	RT	RT	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	H	H	H	H	H	H	H	H	H	H	H	H	R	RT	RT	RT		
IV	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	RT	RT	RT	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	H	H	H	H	H	H	H	H	H	H	H	R	RT	RT	RT			

Symbols:   Learning period E Examination I Internship R Research RT Report A Assessment H Holiday

**I. Educational component**

**Summary table of time budget (Weeks)**

YEAR	Learning period	Examination	Internship	Holiday	Total
I	28	5		9	42
II	26	5	2	9	42

**Internship**

Type of Internship	YEAR	Weeks
Pedagogically	3	2

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
<b>1. Normative components</b>											
<i>Educational disciplines for mastering general scientific (philosophical) competencies</i>											
GO 1	Philosophical principles of scientific activity	2	1	2	1	6	80	31	49		100
<i>Educational disciplines for acquiring language competencies</i>											
GO 2	Foreign language for scientific activity	2	1	1	2	6	75		75		105
<i>Educational disciplines for obtaining in-depth knowledge of the specialty</i>											
GO 3	Methods of intensification of heat and mass transfer processes in heterogeneous systems	1		1	1	4	26	26			94
GO 4	Features of thermodynamics of complex systems	2			2	4	45	36	9		75
GO 5	Low-cost technologies to increase the integrated efficiency of energy production	3			3	4	39	26	13		81
GO 6	The latest trends and technologies in the energy sector	4		4	4	4	45	36	9		75
<i>Educational disciplines for the acquisition of universal competencies of the researcher</i>											
GO 7	Organization of scientific and innovative activities	1		1		4	26	20	6		94
GO 8	Research in modern software environments and 3-D modeling		2	2	2	3	36	18	18		54
GO 9	Pedagogical practice*		3			2					
TOTAL of NORMATIVE educational components		7	4	6	7	37	336	175	161		624
<b>2. Optional components</b>											
V1	Educational component 1. P-Catalog	3			3	6.5	65	52	13		130
V2	Educational component 2. P-Catalog	4			4	6.5	72	54	18		123
TOTAL of OPTIONAL educational components		2			2	13	137	106	31		253
TOTAL		9	4	6	9	50	473	281	192		877

<b>II. Scientific component</b>		
<b>YEAR</b>	<b>The content of the graduate student's scientific work</b>	<b>Forms of control (Reporting)</b>
<b>1st year</b>	The choice of the topic of the graduate student's dissertation, the formation of an individual work plan of the graduate student; execution of the dissertation work under the guidance of the scientific supervisor; preparation and submission for publication of at least 1 publication on the topic of the dissertation in accordance with current requirements.	approval by the academic council of the institute / faculty by 30.11.2020, reporting on the implementation of the individual plan of the graduate student twice a year
<b>2nd year</b>	Execution under the guidance of the supervisor of the dissertation; preparation and submission for publication of at least 1 publication on the topic of the dissertation in accordance with current requirements.	reporting on the progress of the individual graduate student's plan twice a year
<b>3rd year</b>	Execution under the guidance of the supervisor of the dissertation; preparation and submission for publication of at least 1 publication on the topic of the dissertation in accordance with current requirements.	reporting on the progress of the individual graduate student's plan twice a year
<b>4th year</b>	Completion of the dissertation, summarizing the results of publications (at least three) on the topic of the dissertation in accordance with current requirements. Submission of documents for preliminary examination of the dissertation. Graduation certification	reporting on the progress of the individual plan of the graduate student twice a year Providing an opinion on the scientific novelty, theoretical and practical significance of the results of the dissertation. PhD thesis defense.

Head of the Scientific and Methodical Board of 144 Heat power \_\_\_\_\_ /Olga CHERNOUSENKO /

Guarantor ESP Heat power \_\_\_\_\_ /Olga CHERNOUSENKO /

Act. Head of the Department \_\_\_\_\_ /Olga CHERNOUSENKO /