



MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

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

CURRICULUM

(Enrolment 2020)

APPROVED

by Academic Council

Igor Sikorsky Kyiv Polytechnic Institute
(meeting protocol № ___ from _____ 2020)

Head of Academic Council

_____ Mykhaylo ILCHENKO

Level PhD

Speciality 122 Computer Science

Educational and Scientific program _____

Computer Science

Graduation Departments Department of Design Automation for Energy Processes and Systems
Department of Biomedical Cybernetics
Department of System Design
Department of Mathematical Methods of System Analysis

Faculties Faculty of Heat and Power Engineering
Faculty of Biomedical Engineering
Institute for Applied System Analysis

Form of study full-time

(full-time, part-time)

Qualification PhD

Study duration 4 years

Base level Master degree

Educational component 40 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																																						
II															I	I	E	E	E	R	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	R	R	R	R	R	R	R	R	R	R					
IV	R	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	R	R	R	R	R	R	R	R	R	R	R			

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	Semester	Weeks
Pedagogic	3	2

Plan of Educational process

Code	Educational components (academic disciplines, course projects (works), practices, qualification work)	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 disciplines for mastering general scientific (philosophical) competencies												
H 1	Philosophical tenets of scientific activity	2	1	2	1	6	180	31	49		100	
Educational disciplines for acquiring language competencies												
H 2	Foreign language for scientific activity	2	1	1	2	6	180		76		104	
Educational disciplines for obtaining in-depth knowledge of the speciality												
H 3	State and prospects of service-oriented computing	3			3	3	90	26	13		51	

H 4	Special topics of analysis and modeling of complex processes and systems	3			3	3	90	26	13		51
H 5	Spatial modeling and visualization	4			4	3	90	36	18		36
H 6	Contemporary methods and technologies of computational intelligence	4			4	3	90	36	18		36
Educational disciplines for the acquisition of universal competencies of the researcher											
H 7	Methodical grounds of the organization and carrying out of scientific researches	1	2	2	1	4	120	31	31		58
H 8	Practice in pedagogy		3			2	60				60
TOTAL of NORMATIVE educational components		7	4	3	7	30	900	186	218		496
2. Elective											
B1	Educational component 1 F-Catalog		3		3	5	150	13	13		124
B2	Educational component 2 F-Catalog		4		4	5	150	18	18		114
TOTAL of ELECTIVE educational components			2		2	10	300	31	31		238
TOTAL		7	6	3	9	40	1200	217	249		734

II. Scientific component		
YEAR	The content of the graduate student's scientific work	Forms of control (Reporting)
1st year	Choice and substantiation of the topic of scientific research, determination of the content, terms of performance and volume of scientific works; selection and substantiation of the research methodology, review and analysis of existing views and approaches that have been developed in modern science in the chosen field. Preparation and publication of at least 1 article (usually a review) in scientific professional publications (domestic or foreign) on the research topic; participation in scientific and practical conferences (seminars) with the publication of abstracts.	Approval of the individual plan of the PhD student at the academic council of the institute / faculty, reporting on the progress of the individual plan of the graduate student twice a year.
2nd year	Conducting research under the guidance of the supervisor, which involves solving research problems through the use of a set of theoretical and empirical methods. Preparation and publication of at least 1 article in scientific professional publications (domestic or foreign) on the research topic; participation in scientific and practical conferences (seminars) with the publication of abstracts.	Reporting on the progress of the individual plan of the PhD student twice a year.
3rd year	Analysis and generalization of the obtained results of scientific research; substantiation of scientific novelty of the obtained results, their theoretical and / or practical significance. Preparation and publication of at least 1 article in scientific professional publications on the research topic; participation in scientific and practical conferences (seminars) with the publication of abstracts.	Reporting on the progress of the individual plan of the PhD student twice a year.
4th year	Registration of scientific achievements of the post-graduate student in the form of the dissertation, summing up concerning completeness of coverage of results of the dissertation in scientific articles according to the current requirements. Implementation of the obtained results and receipt of supporting documents. Submission of documents for preliminary examination of the dissertation. Preparation of a scientific report for final certification (defense of the dissertation).	Reporting on the progress of the individual plan of the PhD student twice a year. Providing an opinion on the scientific novelty, theoretical and practical significance of the dissertation results.

Head of the Scientific and Methodical Board of Speciality

/ Natalia AUSHEVA /

Head of the Department of Design Automation for Energy Processes and Systems

/ Oleksandr KOVAL /

Head of the Department of Biomedical Cybernetics

/ Ievgen NASTENKO /

Head of the Department of System Design

/ Anatolii PETRENKO /

Head of the Department of Mathematical Methods of System Analysis

/ Oksana TYMOSCHUK /