MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

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

CURRICULUM

(Enrolment 2017)

APPROVED
by Rector of Igor Sikorsky Kyiv Polytechnic Institute

_____ Michael Zgurovsky

_____ 2017

Level Master

Speciality 124 System Analysis

Specialization System Analysis and Control

Profile program Educational and Scientific

Graduation Department Mathematical Methods for System Analysis

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

Faculty (Institute) Institute for Applied System Analysis

Qualification Systems Analyst

Study duration 1 year 9 months

Base level Bachelor degree

I. Schedule of educational process

YEAR	September				October					November					December				January				January				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	P	P	P	P	P	R	R	R	R	R	R	R	R	R	R	R	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	18	2	5	2	10	2	39

III. Practice

Type of practice	YEAR	Weeks
Pre-diploma Practice	II	5

IV. Graduates assessment

Subjects	Form of graduates assessment (exam, graduation project)	YEAR
	Master's Thesis Implementation	II

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. Basic training (major courses)											
1/I	Patenting and Intellectual Property		1			3	90	36	18		36
2/I	Decision-Making Support Systems and Methods	1			1	4.5	135	36		18	81
3/I	Modern Programming Languages	2				4	120	36		18	66
	total number of part I.1	**2**	**1**		**1**	**11.5**	**345**	**108**	**18**	**36**	**183**
I.2. Basic training (optional courses)											
1/II	Subjects on Sustainable Development Problems		1			2	60	18	18		24
2/II	Pedagogy Subjects		2			2	60	30	6		24
3/II	Subjects on Startup Projects Development		2			3	90	18	36		36
4/II	Workshop on Scientific Communication in Foreign Language		2, 3			4.5	135		108		27
	total number of part I.3		**5**			**11.5**	**345**	**66**	**168**		**111**
I.3. Science Research (optional courses)											
1/III	Fundamentals of Scientific Research		1			2	60	9	18		33
2/III	Scientific Work on the Topic of Master's Thesis		1			5.5	165		18		147
3/III	Pre-diploma Practice		4			9	270				270
4/III	Master's Thesis Implementation					21	630				630
	total number of part I.3		**2**			**37.5**	**1125**	**9**	**36**		**1080**
	TOTAL IN GENERAL TRAINING	**2**	**8**		**1**	**60.5**	**1815**	**183**	**222**	**36**	**1374**
II. VOCATIONAL TRAINING											
II.1. Vocational and practical training (major courses)											
1/c	Mathematical Programming	1				4	120	36	18		66
2/c	Theory of Control and Forecasting in Complex Systems	2			2	5.5	165	54		18	93
3/c	Risk Management		2d			3	90	36	18		36
4/c	Making Decisions in Hierarchical Systems		1			2	60	18	18		24
5/c	Bayesian Analysis of Financial Mathematics	3				5.5	165	36	18		111
	total number of part II.1	**3**	**2**		**1**	**20**	**600**	**180**	**72**	**18**	**330**
II.2. Vocational and practical training (optional courses)											
1/св	Introduction to System Mathematics		1d			3	90	36	18		36
2/св	Optimum Control Methods	1				4	120	36	18		66
3/св	Information Management		2			2	60	18	18		24
4/св	Dynamic Games Theory		2			3	90	36	18		36
5/св	Business-Analytics		1			2	60	18	18		24
6/св	Decision-Making Methods in Conflict Situations	2				4	120	36		18	66
7/св	Optimization of Stochastic Models		3			3	90	36			54
8/св	Bayesian Networks and Decision Trees	3				5.5	165	36	18		111
9/св	Time Series for Nonlinear Nonstationary Processes		3d			4.5	135	36	18		81
10/св	System Analysis and Risk Forecasting	3				5.5	165	36	18		111
11/св	Elements of Nonlinear Analysis		3			3	90	18	18		54
	total number of part II.2	**4**	**7**			**39.5**	**1185**	**342**	**162**	**18**	**663**
	TOTAL IN VOCATIONAL TRAINING	**7**	**9**		**1**	**59.5**	**1785**	**522**	**234**	**36**	**993**
	TOTAL	**9**	**17**		**2**	**120.0**	**3600**	**705**	**456**	**72**	**2367**

Approved by Faculty Academic Council, Meeting protocol № ____ from April 25, 2017

Head of the Department _____ O.L.Tymoschuk

Dean of the Faculty (Director of the Institute) _____ V.D.Romanenko