



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

Level Master

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

Michael Zgurovsky

Speciality 124 System Analysis

Faculty (Institute) Institute for Applied System Analysis

2017

Specialization System Analysis of Financial Market

Qualification Systems Analyst

Profile program Educational and Scientific

Study duration 1 year 9 months

Graduation Department Mathematical Methods for System Analysis

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																														
II																			E	E	H	H	P	P	P	P	P	P	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 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
<b>I. GENERAL TRAINING</b>											
<b>I.1. Basic training (major courses)</b>											
1/I	Patenting and Intellectual Property				1	3	90	36	18		36
2/I	Decision-Making Support Systems and Methods	1				4	120	36		18	66
3/I	Modern Programming Languages	2				4.5	135	36		18	81
<b>total number of part I.1</b>		<b>2</b>	<b>1</b>			<b>11.5</b>	<b>345</b>	<b>108</b>	<b>18</b>	<b>36</b>	<b>183</b>
<b>I.2. Basic training (optional courses)</b>											
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
<b>total number of part I.3</b>			<b>5</b>			<b>11.5</b>	<b>345</b>	<b>66</b>	<b>168</b>		<b>111</b>
<b>I.3. Science Research (optional courses)</b>											
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
<b>total number of part I.3</b>			<b>2</b>			<b>37.5</b>	<b>1125</b>	<b>9</b>	<b>36</b>		<b>1080</b>
<b>TOTAL IN GENERAL TRAINING</b>		<b>2</b>	<b>8</b>			<b>60.5</b>	<b>1815</b>	<b>183</b>	<b>222</b>	<b>36</b>	<b>1374</b>
<b>II. VOCATIONAL TRAINING</b>											
<b>II.1. Vocational and practical training (major courses)</b>											
1/c	Technical Analysis of Financial Market				1	2	60	18	18		24
2/c	Modeling and Forecasting of Financial Processes	3				6.5	196	54	18		123
3/c	Risk Management on Financial Markets				2d	3.5	105	36	18		51
4/c	Stochastic Financial Mathematics				2	3	90	36	18		36
<b>total number of part II.1</b>		<b>1</b>	<b>3</b>			<b>15</b>	<b>450</b>	<b>144</b>	<b>72</b>		<b>234</b>
<b>II.2. Vocational and practical training (optional courses)</b>											
1/cb	Fundamental Analysis of Financial Market	1				4	120	36	18		66
2/cb	Financial Accounting				1d	3	90	36	18		36
3/cb	Corporate Finance	2				4	120	36	18		66
4/cb	Fundamentals of Computational Intelligence	1			1	4.5	135	36	18		81
5/cb	System Analysis of Financial Processes				3d	4.5	135	36	18		81
6/cb	Financial Market Instruments				2	2.5	75	18	18		39
7/cb	Data Mining	3				5.5	165	36		18	111
8/cb	Bayesian Analysis of Financial Markets	3				5.5	165	36	18		111
9/cb	Fund Markets in Economics and Business				1	2	60	18	18		24
10/cb	Programmed Robots and Fund Markets Agents	2	3		3	9	270	36	36	18	180
<b>total number of part II.2</b>		<b>6</b>	<b>5</b>		<b>2</b>	<b>44.5</b>	<b>1335</b>	<b>324</b>	<b>180</b>	<b>36</b>	<b>795</b>
<b>TOTAL IN VOCATIONAL TRAINING</b>		<b>7</b>	<b>8</b>		<b>2</b>	<b>59.5</b>	<b>1785</b>	<b>468</b>	<b>252</b>	<b>36</b>	<b>1029</b>
<b>TOTAL</b>		<b>9</b>	<b>16</b>		<b>2</b>	<b>120</b>	<b>3600</b>	<b>651</b>	<b>474</b>	<b>72</b>	<b>2403</b>

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