MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

CURRICULUM

(Enrolment 2018)

APPROVED
by Rector of Igor Sikorsky Kyiv Polytechnic Institute
_____ Mykhailo Zgurovsky
_____ 2018

Level: Master
Speciality: 131 - Applied mechanics
Specialization: Dynamics and Strength of Machines / Information systems and technologies in aircraft engineering
Profile program: Educational scientific master's training
Graduation Department: Department of dynamics and strength of machines and strength of materials

Form of study: full-time (full-time, part-time)
Faculty (Institute): Institute of Mechanical Engineering
Qualification: 2145.1 Researcher
Study duration: 1 years 4 months
Base level: Bachelor degree

I. Schedule of educational process

Course	September				October					November					December					January					February				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	H
II	P	P	P	P	P	P	P	P	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)

Course	Theoretical training	Examination	Practice	Assessment	Research	Holiday	Total
I	36	4				12	52
II			8		10		18

III. Practice

Type of practice	YEAR	Weeks
Scientific research practice	4	5

IV. Graduates assessment

Subjects	Form of graduates assessment (exam, graduation project)	YEAR
Work on master's thesis	Master's thesis defense	4

V. Plan of Educational process

Code	Subjects	Distribution for terms: Exams	Final tests	Course projects	Coursework	ECTS Credits	Number of hours: Aggregate total	Total	Lectures/Practical: Lectures	Practical	Laboratory	Self-study	Distribution of class hours per week by courses and semesters: I course, Semesters 1	2	II course, Semesters 3	4
													The number of weeks in the semester: 18	18	18	17
1	2	3	4	5	6	7	8	9	10	11		13	14 15	16 17	18 19	20 21
I. GENERAL TRAINING																
I.1. Basic training (major courses)																
GM 1	Intellectual Property and Patented Science		1			3	90	54	36	18		36	3			
	total number of part I.1	1	2			3	90	54	36	18		36	3			
I.2.Science Research (optional courses)																
GM 2	Scientific work on the topic of master's thesis		1;2			4	120	45	9	36		75	1,5	1		
GM 3	Pre-diploma practice		3			14	420					420				
GM 4	Writing a Masters Dissertation					16	480					480				
	total number of part I.2		3			34	1020	45	9	36		975	1,5	1		
I.3. Basic training (optional courses)																
GS 1	Workshop on foreign language scientific communication		2			3	90	72		72		18	2	2		
GS 2	Academic discipline on sustainable development		1			2	60	36	18	18		24	2			
GS 3	Academic discipline on management		2			3	90	54	18	36		36		3		
	total number of part I.3		3			8	240	162	36	126		78	4	5	0	
	TOTAL IN GENERAL TRAINING		8	0	0	45	1350	261	81	180		1089	8,5	6	0	
II. VOCATIONAL TRAINING																
II.1. Vocational and practical training (major courses)																
PM 1.1	Information systems and technologies in aircraft engineering	1	2			9	270	126	63		63	144	2	5		
	total numberof part II.1	1	1			9	270	126	63		63	144	2	5	0	
Specialization: Dynamics and Strength of Machines																
II.2. Vocational and practical training (major courses)																
PSU 1.1	The theory of oscillation and stability of motion		1	1		2,5	75	9		9		66	0,5			
PSU 1.2	Numerical methods for dynamics and strength of machines		1		2	2,5	75	27	9		18	48	1,5			
PSU 1.3	Fatigue of materials	1				4	120	54	36	18		66	3			

PSU 1.4	Statistical dynamics and reliability	2	1			10	300	153	81	72		147	4,5	4		
PSU 1.5	Experimental methods of research	1;2				9	270	126	72		54	144	3	4		
PSU 1.6	Designing and calculating elements of aviation constructions		1;2			5	150	72	36		36	78	1	3		
PSU 1.7	Strength and fracture of structures	2				3	90	36	27	9		54		2		
	total number of part II.2	5	5	1	1	36	1080	477	261	108	108	603	13,5	13		
	TOTAL IN VOCATIONAL TRAINING	6	6	1	1	45	1350	603	324	108	171	747	15,5	18	0	
	TOTAL	6	14	1	1	90	2700	864	405	288	171	1836	24	24	0	
Number of hours per week													24	24	0	
Number of exams													3	3		
Number of credits													7	5	1	
Number of course projects													1			
Number of courseworks														1		
Specialization: Information systems and technologies in aircraft engineering																
II.1. Vocational and practical training (major courses)																
PSU 2.1	Oscillations and Stability of Mechanical Systems Motion		1	1		2,5	75	9		9		66	0,5			
PSU 2.2	The Grid Projection Methods in Mechanics		1		2	2,5	75	27	9		18	48	1,5			
PSU 2.3	Strength under non-stationary loads	1				4	120	54	36	18		66	3			
PSU 2.4	Statistical Methods in Mechanics	2	1			10	300	153	81	72		147	4,5	4		
PSU 2.5	Experimental Mechanics	1;2				9	270	126	72		54	144	3	4		
PSU 2.11	Strength Calculations of aviation structures		1;2			5	150	72	36		36	78	1	3		
PSU 2.6	Structural Strength	2				3	90	36	27	9		54		2		
	total number of part II.2	5	5	1	1	36	1080	477	261	108	108	603	13,5	13		
	TOTAL IN VOCATIONAL TRAINING	6	6	1	1	45	1350	603	324	108	171	747	15,5	18		
	TOTAL	6	14	1	1	90	2700	864	405	288	171	1836	24	24		
Number of hours per week													24	24		
Number of exams													3	3		
Number of credits													7	5	1	
Number of course projects													1			
Number of courseworks														1		
1	Civil Protection		1			1	30	18	10	8		12	1			

Approved at the Meating of the Institute's Academic Counsil No. 4 on 02/04/2018

Head of the Department / Babenko A. /

Dean of the Faculty (Director of the Institute) / Bobyr M. /