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APPROVE

Rector _____ Leonid KLYMENKO

" 01 " ___ 2024

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
PETRO MOHYLA BLACK SEA NATIONAL UNIVERSITY

CURRICULUM

Level of higher education: second (master's) degree
Educational qualification: master's degree in Software Engineering

Duration of study: 1 year 4 months

Based on: bachelor's level of higher education

master's training in the field of knowledge 12 Information Technology
by specialty: 121 Software Engineering
Educational programme: Software Engineering
Distance form of education

I. SCHEDULE OF THE 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
1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	E	H	H	H	H	T	T	T	T	T	T	T	T	T	T	T	T	T	P	P	IW	T	T	T	T	T	E	E	H	H	H	H	H	H	H	H	H	H
2	P	P	P	P	P	W	W	W	W	W	W	W	W	W	W	DW	DW																																			

Note: the number of rows is determined by the number of educational courses.

MARKING: T - theoretical study; C - credit week; E - examination session; P - practice; H - holidays; W - writing a qualification work; DW - defense of qualification work.

AE - attestation exam; IW - independent work   — synchronous education   — asynchronous education

II. SUMMARY OF TIME BUDGET DATA, weeks

Course	Theoretical study	Ind. work	Credit week	Exam. session	Practice	Certification	Writing a qualif. work	Holiday	Total
1	33	1		3	2			13	52
2					5	2	10		17
Σ	33	1	0	3	7	2	10	13	69

III. PRACTICE

Name of the practice	Semester	Weeks
Assistant internship	2	2
Pre-certification internship	3	5

IV. CERTIFICATION

Name of certification	Form of certification	Semester
Qualification work	defense	3

V. EDUCATIONAL PROCESS PLAN

№	The name of the academic component	department code	Exams	Credits	projects	works	Number of ECTS credits	The total amount	Total	synchronous education	asynchronous education	Independent work	Percentage of classroom classes	1	2	3	4
			Distribution by semesters		Course			Number of hours	Auditory	in particular:				I course		II course	
														Semester number			
														15	18	15	
1. NORMATIVE ACADEMIC DISCIPLINES																	
1.1. General training cycle																	
1	Professional foreign language	3		1			3	90	30	8	22	60	33%	2			
2	Professional pedagogy	26		1			3	90	30	8	22	60	33%	2			
3	Fundamentals of scientific research	26	2				3	90	36	10	26	54	40%		2		
	Total						9	270	96	26	70	174		4	2		
1.2. Professional training cycle																	
1	Design of information systems	26	1			1	5	150	60	20	40	90	40%	4			
2	Artificial intelligence systems	26	1				5	150	60	20	40	90	40%	4			
3	Requirements for software	26		1			5	150	60	20	40	90	40%	4			
4	Methods of decision making	26		1			5	150	60	20	40	90	40%	4			
5	Data Science methods in software engineering	26		1			4,5	135	60	20	40	75	44%	4			
6	Deep machine learning	26	2			2	6	180	72	20	52	108	40%		4		
7	Assistant internship	26		2*			3	90				90					
8	Pre-certification internship	26		3*			7,5	225				225					
9	Qualification work	26					15	450				450					
	Total						56	1680	372	120	252	1308		20	4		
	Total according to the normative part						65	1950	468	146	322	1482		24	6		
2. ELECTIVE ACADEMIC DISCIPLINES																	
2.1. General training cycle																	
1	Discipline 1 (from the university catalog of courses)			2			5	150	54	15	39	96	36%		3		
	Total						5	150	54	15	39	96			3		
2.2. Professional training cycle																	
1	Discipline 1			2			4	120	54	15	39	66	45%		3		
2	Discipline 2			2			4	120	54	15	39	66	45%		3		
3	Discipline 3			2			4	120	54	15	39	66	45%		3		
4	Discipline 4			2			4	120	54	15	39	66	45%		3		
5	Discipline 5			2			4	120	54	15	39	66	45%		3		
	Applied system analysis	26															
	Methods of developing software systems	26															
	Digital transformation of business	17															
	Logistics analysis technologies	5															
	Decision-making in conditions of ambiguity and multicriteria	5															
	Wireless computer networks	17															
	Big data processing software	26															
	Applied computer vision	26															

Fuzzy sets and fuzzy logic in data processing	5													
Methods and systems of machine learning	5													
Knowledge-oriented technologies of computational intelligence	5													
Risk modeling in socio-economic systems	5													
Intelligent decision support systems	5													
Digitization in the financial sphere	26													
Software engineering methods in Big Data	26													
Models and methods of scenario analysis	26													
Fuzzy models and methods in decision-making systems	5													
Scenario modeling	26													
Total						20	600	270	75	195	330			15
Total according to the elective part						25	750	324	90	234	426			18
RESULT														
The total number of						90	2700	792	236	556	1908			
Number of hours per week												24	24	
Number of exams		4										2	2	
Number of credits			13									5	7	1
Number of course projects														
Number of courseworks					2							1	1	

Head of the Department of of Software Engineering of Petro Mohyla Black Sea National University

_____
(signature)

Yevhen DAVYDENKO
_____
(name and surname)

Dean of the Faculty of Computer Science of Petro Mohyla Black Sea National University

_____
(signature)

Anzhela BOIKO
_____
(name and surname)

Head of the educational and methodical department of Petro Mohyla Black Sea National University

_____
(signature)

Serhii SHKIRCHAK
_____
(name and surname)

First Vice-Rector of Petro Mohyla Black Sea National University

_____
(signature)

Yurii KOTLIAR
_____
(name and surname)

Approved by the Academic Council of Petro Mohyla Bleak Sea National University Protocol No __6__ from __07/01/2024__