Ministry of Science and Higher Education of the Republic of Kazakhstan
K. Zhubanov Aktobe Regional University

"APPROVED" By the decision of the
Board of Directors of NJSC «K. Zhubanov Aktobe Regional University»
(Protocol No. __ dated "__"_____202_

MODULAR EDUCATIONAL PROGRAM

Code and name of the field of education: 7M05 Natural Sciences, Mathematics and Statistics

Code and name of the training direction: 7M054 - Mathematics and Statistics

Code and name of the educational program: 7M05401 – Mathematics

Level of education: Master's program

Awarded degree: Master of Science in the educational program “7M05401 – Mathematics” (2 years)

Total number of credits: 120 academic credits / 120 ECTS

Year of admission: 2023

Compiled by:

Full name	Position	Contact details
Employers:		
Beisov Zholdaskali Zhumabekovich	Head of the Department of the Bureau of National Statistics at the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan for the Aktobe Region	8-777-52-699-55
Seilkhanov Tolegen Bazarbayuly	Director of the Branch of Bereke Bank JSC in Aktobe	8-705-888-98-24
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Uteuov Aibek Baimuratovich	Director of BATYSMUNAIMASH LLP	8-702-326-11-44 8-701-455-30-88
Master's student Araylym Kalybek	1st year Master's student	8-701-999-67-50
Responsible Compilers from the Department: Kokotova Yelena Viktorovna Tavanova Nazgul Myrzagaliyevna	Candidate of Physical and Mathematical Sciences, Associate Professor of the Department of Mathematics Master's Degree, Lecturer	8-701-920-42-53 8-702-553-21-31
Reviewer: Alday Maktagul	PhD., Associate Professor, Eurasian National University named after L.N. Gumilyov	8-701-333-25-75

2. Mission, Vision, Values of the University

MISSION: The formation of a qualified specialist and a "perfect person" imbued with national values.

VISION: A multidisciplinary classical university that provides the western region of Kazakhstan with qualified specialists and has become a core center of applied science.

VALUES:

- Academic excellence
- Integrity
- Openness and cooperation
- Highest quality of education
- Social activity and civic initiative
- Leadership and creativity
- Respect and attention to people
- Unity of science and innovation

3. Model of a university graduate

- Has in-depth knowledge and understanding of the field of study
- Ready for professional self-realization in the modern world
- Entrepreneurial, able to make decisions and create new opportunities
- Adaptive to global challenges
- A person of high intellect
- Demonstrates global citizenship

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4. Passport of the educational program:

Scope of application	The educational program **"7M05401 – Mathematics"** (hereinafter referred to as the EP) is designed to train master's degree students at Aktobe Regional University named after K. Zhubanov. The EP is a system of documents independently developed and approved by Aktobe Regional University named after K. Zhubanov, based on the State Educational Standards for higher education in the relevant field of study, the classifier of training areas for personnel with higher and postgraduate education, and in accordance with the code of the International Standard Classification of Education (ISCED), as well as the professional standard "Teacher." When developing the educational program, the established scientific schools of K. Zhubanov ARU, as well as the needs of the regional and national labor markets, were taken into account.
Code and name of the educational program	7M05401 – Mathematics
Regulatory Framework	1. Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No319-III (with amendments and additions dated 14.07.2022 No141-VII). 2. Rules for the organization of the educational process on credit technology of education. Order of the Ministry of Education and Science of the Republic of Kazakhstan dated 20.04.2011 No152 (with amendments and additions dated September 23, 2022 No79). 3. Guidelines for the Use of the European Credit Transfer and Accumulation System (ESTS) 2015. 4. State compulsory standard of higher and postgraduate education. Order of the Ministry of Science and Higher Education of the Republic of Kazakhstan (hereinafter referred to as the Ministry of Higher Education of the Republic of Kazakhstan) dated 20.07.2022 No2. 5. Classifier of Areas of Training of Personnel with Higher and Postgraduate Education. Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 13, 2018 No 569 (with amendments and additions dated October 13, 2018. No 569). 6. Rules for the organization of dual education. Order of the Ministry of Education and Science of the Republic of Kazakhstan No 50 dated 21.01.2016 (with amendments and additions dated 27.08.2022 No 380). 7. Standard Rules for the Activities of Educational Organizations Implementing Educational Programs of Higher and (or) Postgraduate Education. Order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 30, 2018 No595 (with amendments and additions dated 18.11.2022 No145). 8. Typical Educational Programs of the Cycle of General Educational Disciplines for Organizations of Higher and (or) Postgraduate Education (Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No 603) 9. System of Coding of Educational Disciplines of Higher and Postgraduate Education. State Educational Stand-

	ards of the Republic of Kazakhstan 5.05.001-2005 10. Professional Standard "Teacher" (Order of the Acting Minister of Education of the Republic of Kazakhstan dated December 15, 2022 No 500) 11. Sectoral framework of qualifications in the field of "Education" (Approved by the sectoral commission of the Ministry of Education and Science of the Republic of Kazakhstan on social partnership and regulation of social and labor relations in the field of education and science. Protocol No3 dated 27.11.2019.). 12. Regulations on the Structure of the Modular Educational Program (Protocol No. 53 dated November 11, 2022); 13. Regulations on Master's and Doctoral Programs (Protocol No 5 of 30.11.2022). 14. Regulations on the master's thesis (Protocol No 5 of 30.11.2022). 15. Regulation on the organization of professional practice of students (Protocol No 5 of 30.11.2022).
Profile card of training within the framework of the educational program	
Purpose of the Educational Program	The purpose of the master's program "7M05401 – Mathematics" is to train competitive highly qualified scientific and pedagogical personnel for the system of higher education and the scientific field, with in-depth scientific, pedagogical and research training.
Qualification characteristics of a graduate	
Degree awarded:	Master of Natural Sciences in the educational program "7M05401 – Mathematics"
List of specialist positions	- a researcher in research institutes, laboratories, design and design bureaus, etc.; - teacher of mathematics in higher educational institutions and other educational organizations; - mathematician-analyst, specialist in production and management organizations that use mathematical methods in their work, in insurance companies, financial structures; – head of the organization, head of a structural unit, deputy head of a structural unit
Field of professional activity	- Science; - Education; - Scientific and Production Sphere, Economics and Management.
Functions and types of professional activity	Types of professional activity: - research; - organizational and managerial; - pedagogical. In accordance with the types of professional activity, a graduate of the EP "7M05401-Mathematics" can perform the following functions

	Research activities: - scientific research using mathematical methods and modern high-performance computing technologies to solve fundamental problems of mathematical modeling of processes and objects; – study of new scientific results, scientific literature or research projects in the field of mathematics in accordance with the topics of research; - compilation of scientific reviews, abstracts and bibliography, preparation of scientific publications on the subject of research; Pedagogical activity: – organization of the educational and pedagogical process, teaching a cycle of mathematical disciplines in higher education institutions and other educational organizations; - supervising scientific research of students and master's degree candidates (together with professors) ; - development of educational and methodological materials for higher education organizations and other educational organizations. Organizational and managerial activities: - organization of the work of research groups; organization of scientific and scientific-methodical seminars, conferences.

5. Learning Outcomes of the Educational Program:

1. demonstrate knowledge of philosophy and methodology of scientific knowledge; have an idea of the current methodological and philosophical problems of the natural sciences, the role of science and education in social life;
2. have an idea of modern trends in the development of scientific knowledge; know the principles and structure of the organization of scientific activity, the theoretical and methodological foundations of scientific research in a special field and in pedagogy;
3. demonstrate knowledge of the history of the development of mathematical science, topical problems of mathematical analysis, algebra and geometry, differential equations and mathematical physics, numerical methods, probability theory and mathematical statistics and other mathematical disciplines; have an idea of the state of development of mathematical science and promising areas of research;
4. be able to apply the knowledge gained in the field of fundamental disciplines in the specialty to solve theoretical and scientific-practical mathematical problems in scientific research;
5. be competent in the implementation of scientific projects and research in the professional field, know the research methods used in modern mathematical science, the latest achievements in a special field; have the skills of research activities and solving standard scientific problems;
6. be able to summarize the results of scientific research and analytical work in the form of a master's thesis, scientific article, report, etc.;
7. to be able to organize their work on a scientific basis; have the skills to expand and deepen the knowledge necessary for professional activity and continuing education in doctoral studies;
8. be competent in the field of scientific and scientific-pedagogical activities in higher educational institutions; know the classical provisions of didactics of higher education, the theory and methodology of teaching mathematics; know the psychology of students' cognitive activity in the learning process, psychological methods and means of improving the effectiveness and quality of learning;
9. be able to apply knowledge of pedagogy of higher education and psychology in their pedagogical activities; know world trends in the development of higher professional education and pedagogical concepts, educational strategies of international organizations;
10. have skills in teaching mathematical disciplines; be competent in modern educational technologies; be able to apply interactive teaching methods, modern information technologies;
11. to speak a foreign language at a level that allows them to conduct research and teach special disciplines in universities;
12. be able to carry out information and analytical and information and bibliographic work with the involvement of modern information technologies, be able to transfer scientific information using modern information and innovative technologies.

6. Modular Curriculum for the Educational Program "7M05401 – Mathematics" for 2023-2025.
Scientific and Pedagogical Direction (2 years of study)

Cycle/ component	Discipline code	Name of the discipline	Term	Academic credits	Credit of ECTS	Form of control	Coursework	Budget of working time of master's students, hour							Distribution by courses and terms			
								ALTOGETHER	Number of classroom hours	Classroom classes			Independent work		1st year		2nd year	
										Lectures	laboratory lessons	Practical lessons	MSIWI	MSIW	1-term 15 weeks	2-term 15 weeks	3-term 15 weeks	4-term 15 weeks
Module 1. - Basic Disciplines, 15 academic credits																		
BD UK	HPhS 5201	History and Philosophy of Science (in Kazakh)	1	3	3	exam		90	30	15		15	15	45	3			
BD UK	FL(P) 5202	Foreign Language (professional) (in English)	1	3	3	exam		90	30			30	15	45	3			
BD UK	HSP 5203	Higher School Pedagogy (in English)	1	3	3	exam		90	30	15		15	15	45	3			
BD UK	PM 5204	Psychology of Management (in Russian)	1	3	3	exam		90	30	15		15	15	45	3			
BD UK	OPSR 5205	Organization and planning of scientific research (in English)	1	3	3	exam		90	30	15		15	15	45	3			
Module 2.1. - Analysis and Systems of Partial Differential Equations, 15 academic credits																		
PD UK	MAMSA 5301	Mathematical analysis on manifolds and stochastic analysis (in Kazakh)	1	5	5	exam		150	45	15		30	25	80	5			
BD EC	GTSPDE FO 5206	General theory of systems of partial differential equations of the first order(in Russian)	2	5	5	exam		150	45	15		30	25	80		5		
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	1	5	5	report		150							5			
Module 2.2. - "Multidimensional Analysis and Partial Differential Equations", 15 academic credits																		
PD UK	MAMSA 5301	Mathematical analysis on manifolds and stochastic analysis (in Kazakh)	1	5	5	exam		150	45	15		30	25	80	5			
BD EC	PDEFOA	Partial differential equations of the	2	5	5	exam		150	45	15		30	25	80		5		

	5206	first order and their applications (in Russian)																
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	1	5	5	report		150							5			
Module 3. - Modern Educational Technologies, 10 academic credits																		
PD UK	TMTM-HE 5302	Theory and methods of teaching mathematics in higher education (in Kazakh)	2	5	5	exam		150	45	15		30	25	80		5		
BD	PP	Pedagogical practice	3	5	5	report		150									5	
Module 4.1. - Modern Problems of Differential Equations, 25 academic credits																		
BD EC	DEMPhNMTS 5207	Differential equations, mathematical physics and numerical methods of their solution (in English)	1	5	5	exam		150	45	15		30	25	80	5			
BD EC	NEM-PhTA 5208	Nonclassical equations of mathematical physics and their applications (in Kazakh)	2	5	5	exam		150	45	15		30	25	80		5		
PD EC	DEIA 5303	Differential equations with impulse action (in English)	2	4	4	exam		120	40	20		20	20	60		4		
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	2	11	11	report		330								11		
Module 4.2. - Probability Theory, Mathematical Statistics and Stochastic Processes, 25 academic credits																		
BD EC	AChPT 5207	Additional chapters of probability theory (in English)	1	5	5	exam		150	45	15		30	25	80	5			
BD EC	SQMS 5208	Selected questions of mathematical statistics (in Kazakh)	2	5	5	exam		150	45	15		30	25	80		5		
PD EC	TSP 5303	Theory of stochastic processes (in English)	2	4	4	exam		120	40	20		20	20	60		4		
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	2	11	11	report		330								11		
Module 5.1. – Theory of Oscillations, 15 academic credits																		
PD UK	EMTMFO 6304	Elements of the mathematical theory of multi-frequency oscillations (in Kazakh)	3	5	5	exam		150	45	15		30	25	80			5	

PD EC	SSDE-IOBSPTV 6305	Solutions of systems of differential equations of independent origin in the broad sense of the periodic table of variables (in Kazakh)	4	5	5	exam		150	45	15		30	25	80				5
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	3	5	5	report		150									5	
Module 5.2. - Almost periodic Functions and Multi-frequency Oscillations, 15 academic credits																		
PD UK	EMTMFO 6304	Elements of the mathematical theory of multi-frequency oscillations (in Kazakh)	3	5	5	exam		150	45	15		30	25	80			5	
PD EC	APFA 6305	Almost periodic functions and their applications (in Kazakh)	4	5	5	exam		150	45	15		30	25	80				5
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	3	5	5	report		150									5	
Module 6.1. – Problems of Numerical-Analytical Methods and Geometry (32 academic credits)																		
PD EC	SPSSNC 6306	Study and plotting of some surfaces of negative curvature (in Kazakh)	3	5	5	exam		150	45	15		30	25	80			5	
PD EC	NAMSSB VP 6307	Numerical-analytical methods for studying solutions to boundary value problems (in Russian)	4	5	5	exam		150	45	15		30	25	80				5
PD	RP	Research Practice	3, 4	19	19	report		570									10	9
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	4	3	3	report		90										3
Module 6.2. - Applications of Boundary Value Problems and Methods of Probability Theory, 32 academic credits																		
PD EC	PTAAP 6306	Probability-theoretic approach to analysis problems (in Kazakh)	3	5	5	exam		150	45	15		30	25	80			5	
PD EC	NBVPM-PhEA 6307	Nonlocal boundary value problems of mathematical physics equations and their applications (in Russian)	4	5	5	exam		150	45	15		30	25	80				5
PD	RP	Research Practice	3, 4	19	19	report		570									10	9
RWMSICMT		Research work of a master's student,	4	3	3	report		90										3

	including the completion of a master's thesis																
Final attestation (8 academic credits)																	
FA	Final attestation**.** Preparation and defense of a master's thesis	4	**8**	**8**	ИА		**240**										**8**
ALTOGETHER																	
ALTOGETHER	on a cycle BD UC		15	15			450	150	60	0	90	75	225	15			
ALTOGETHER	on a cycle BD EC		15	15			450	135	45	0	90	75	240	5	10		
	BD Pedagogical Practice		5	5			150	0	0	0	0	0	150			5	
TOTAL	**on a cycle BD**		**35**	**35**			**1050**	**285**	**105**	**0**	**180**	**150**	**615**	**20**	**10**	**5**	**0**
ALTOGETHER	on a cycle PD UK		15	15			450	135	45	0	90	75	240	5	5	5	
ALTOGETHER	on a cycle PD EC		19	19			570	175	65	0	110	95	300		4	5	10
	PD Research Practice		19	19			570	0	0	0	0	0	570			10	9
TOTAL	**on a cycle PD**		**53**	**53**			**1590**	**310**	**110**	**0**	**200**	**170**	**1110**	**5**	**9**	**20**	**19**
ALTOGETHER	RWMSICMT		**24**	**24**			**720**						720	**5**	**11**	**5**	**3**
	Final attestation**.**		**8**	**8**			**240**						240				**8**
Total Credits:			**120**	**120**			**3600**	**595**	**215**	**0**	**380**	**320**	**2685**	**30**	**30**	**30**	**30**

7.1. Map of the Master's Degree Programme in the scientific and pedagogical direction (full-time study, term of study 2 years)

Cycle/ component	Discipline code	Name of the discipline	Term	Academic credits	Credit of ECTS	Learning Outcomes
1	*2*	*3*	*4*	*5*	*6*	*7*
Module 1. - Basic Disciplines, 15 academic credits						
BD UK	HPhS 5201	History and Philosophy of Science (in Kazakh)	1	3	3	LO -1, LO -7, LO -12
BD UK	FL(P) 5202	Foreign Language (professional) (in English)	1	3	3	LO -7, LO -11, LO -12
BD UK	HSP 5203	Higher School Pedagogy (in English)	1	3	3	LO -1, LO -2, LO -8, LO-9, LO-10, LO-11
BD UK	PM 5204	Psychology of Management (in Russian)	1	3	3	LO-7, LO-8, LO-9, LO-12
BD UK	OPSR 5205	Organization and planning of scientific research (in English)	1	3	3	LO-2, LO-6, LO-7, LO-11, LO-12
Module 2.1. - Analysis and Systems of Partial Differential Equations, 15 academic credits						
PD UK	MAMSA 5301	Mathematical analysis on manifolds and stochastic analysis (in Kazakh)	1	5	5	LO-3, LO-4, LO-5, LO-7
BD EC	GTSPDEFO 5206	General theory of systems of partial differential equations of the first order(in Russian)	2	5	5	LO-3, LO-4, LO-7, LO-12
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	1	5	5	LO-4, LO-5, LO -6, LO-8, LO-11, LO-12
Module 2.2. - "Multidimensional Analysis and Partial Differential Equations", 15 academic credits						
PD UK	PD UK	MAMSA 5301	1	5	5	LO-3, LO-4, LO-5, LO-7
BD EC	BD EC	PDEFOA 5206	2	5	5	LO-3, LO-4, LO-7, LO-12
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	1	5	5	LO-4, LO-5, LO -6, LO-8, LO-11, LO-12

Module 3. - Modern Educational Technologies, 10 academic credits						
PD UK	TMTMHE 5302	Theory and methods of teaching mathematics in higher education (in Kazakh)	2	5	5	LO-7, LO-8, LO-9, LO-10
BD	PP	Pedagogical practice	3	5	5	LO-7, LO-8, LO-9, LO-10
Module 4.1. - Modern Problems of Differential Equations, 25 academic credits						
BD EC	DEMPhN MTS 5207	Differential equations, mathematical physics and numerical methods of their solution (in English)	1	5	5	LO-3, LO-4, LO-5, LO-7, LO-11
BD EC	NEM-PhTA 5208	Nonclassical equations of mathematical physics and their applications (in Kazakh)	2	5	5	LO-3, LO-4, LO-5, LO-7
PD EC	DEIA 5303	Differential equations with impulse action (in English)	2	4	4	LO-3, LO-4, LO-5, LO-11
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	2	11	11	LO-4, LO-5, LO -6, LO-8, LO-11, LO-12
Module 4.2. - Probability Theory, Mathematical Statistics and Stochastic Processes, 25 academic credits						
BD EC	AChPT 5207	Additional chapters of probability theory (in English)	1	5	5	LO-3, LO-4, LO-7, LO-11, LO-12
BD EC	SQMS 5208	Selected questions of mathematical statistics (in Kazakh)	2	5	5	LO-3, LO-4, LO-7, LO-12
PD EC	TSP 5303	Theory of stochastic processes (in English)	2	4	4	LO-3, LO-4, LO-7, LO-11, LO-12
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	2	11	11	LO-4, LO-5, LO -6, LO-8, LO-11, LO-12
Module 5.1. – Theory of Oscillations, 15 academic credits						
PD UK	EMTMFO 6304	Elements of the mathematical theory of multi-frequency oscillations (in Kazakh)	3	5	5	LO-3, LO-4, LO-5, LO-7
PD EC	SSDE-IOBSPTV 6305	Solutions of systems of differential equations of independent origin in the broad sense of the periodic table of variables (in Kazakh)	4	5	5	LO-3, LO-4, LO-5, LO-7
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	3	5	5	LO-4, LO-5, LO -6, LO-8, LO-11, LO-12
Module 5.2. - Almost periodic Functions and Multi-frequency Oscillations, 15 academic credits						
PD UK	EMTMFO 6304	Elements of the mathematical theory of multi-frequency oscillations (in Kazakh)	3	5	5	LO-3, LO-4, LO-5, LO-7
PD EC	APFA 6305	Almost periodic functions and their applications (in Kazakh)	4	5	5	LO-3, LO-4, LO-7, LO-12
RWMSICMT		Research work of a master's student, including the	3	5	5	LO-4, LO-5, LO -6, LO-8, LO-11, LO-12

		completion of a master's thesis				
Module 6.1. – Problems of Numerical-Analytical Methods and Geometry, 32 academic credits						
PD EC	SPSSNC 6306	Study and plotting of some surfaces of negative curvature (in Kazakh)	3	5	5	LO-3, LO-4, LO-7, LO-12
PD EC	NAMSSB VP 6307	Numerical-analytical methods for studying solutions to boundary value problems (in Russian)	4	5	5	LO-3, LO-4, LO-5, LO-12
PD	RP	Research Practice	3,4	19	19	LO-3, LO-4, LO - 5, LO-6, LO-11
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	4	3	3	LO-4, LO-5, LO -6, LO-8, LO-11, LO-12
Module 6.2. - Applications of Boundary Value Problems and Methods of Probability Theory, 32 academic credits						
PD EC	PTAAP 6306	Probability-theoretic approach to analysis problems (in Kazakh)	3	5	5	LO-3, LO-4
PD EC	NBVPM-PhEA 6307	Nonlocal boundary value problems of mathematical physics equations and their applications (in Russian)	4	5	5	LO-3, LO-4, LO-5, LO-7
PD	RP	Research Practice	3,4	19	19	LO-3, LO-4, LO - 5, LO-6, LO-11
RWMSICMT		Research work of a master's student, including the completion of a master's thesis	4	3	3	LO-4, LO-5, LO -6, LO-8, LO-11, LO-12

7.2. Matrix of Learning Outcomes Alignment with Courses

№	Learning outcomes / Name of disciplines	LO 1	LO 2	LO 3	LO 4	LO 5	LO 6	LO 7	LO 8	LO 9	LO 10	LO 11	LO 12
1.	History and Philosophy of Science (in Kazakh)	+						+					+
2.	Foreign Language (professional) (in English)							+				+	+
3.	Higher School Pedagogy (in English)	+	+						+	+	+	+	
4.	Psychology of Management (in Russian)							+	+	+			+
5.	Organization and planning of scientific research (in English)		+				+	+				+	+
6.	Mathematical analysis on manifolds and stochastic analysis (in Kazakh)			+	+	+		+					
7.	General theory of systems of partial differential equations of the first order(in Russian)			+	+			+					+
8.	Partial differential equations of the first order and their applications (in Russian)			+	+			+					+

9.	Theory and methods of teaching mathematics in higher education (in Kazakh)							+	+	+	+		
10.	Differential equations, mathematical physics and numerical methods of their solution (in English)			+	+	+		+				+	
11.	Nonclassical equations of mathematical physics and their applications (in Kazakh)			+	+	+		+					
12.	Differential equations with impulse action (in English)			+	+	+						+	
13.	Additional chapters of probability theory (in English)			+	+			+				+	+
14.	Selected questions of mathematical statistics (in Kazakh)			+	+			+					+
15.	Theory of stochastic processes (in English)			+	+			+				+	+
16.	Elements of the mathematical theory of multi-frequency oscillations (in Kazakh)			+	+	+		+					
17.	Solutions of systems of differential equations of independent origin in the broad sense of the periodic table of variables (in Kazakh)			+	+	+		+					
18.	Almost periodic functions and their applications (in Kazakh)			+	+			+					+
19.	Study and plotting of some surfaces of negative curvature (in Kazakh)			+	+			+					+
20.	Numerical-analytical methods for studying solutions to boundary value problems (in Russian)			+	+	+							+
21.	Probability-theoretic approach to analysis problems (in Kazakh)			+	+								
22.	Nonlocal boundary value problems of mathematical physics equations and their applications (in Russian)			+	+	+		+					
23.	Pedagogical practice							+	+	+	+		
24.	Research Practice			+	+	+	+					+	
25.	Research work of a master's student, including the completion of a master's thesis				+	+	+		+			+	+
	Altogether	**2**	**2**	**17**	**18**	**10**	**3**	**19**	**5**	**4**	**3**	**9**	**13**

8. Summary table reflecting the volume of credits disbursed by modules of the educational program
Master's degree in scientific and pedagogical direction (2 years of study)

Course	Term	Number of modules to be mastered	Number of disciplines studied		Number of academic credits						Total Hours	ECTS	Quantity	
			UK	EC	Theoretical training	Pedagogical practice	Research Practice	Research work	Final attestation	Altogether			Exams	report
1	1	3	6	1	25	0	0	5	0	30	900	30	7	1
	2	3	1	3	19	0	0	11	0	30	900	30	4	1
2	3	3	1	1	10	5	10	5	0	30	900	30	2	3
	4	2	-	2	10	-	9	3	8	30	900	30	2	2
Total:		**6**	**8**	**7**	**64**	**5**	**19**	**24**	**8**	**120**	**3600**	**120**	**15**	**7**

9. Resource support for master's programs in the field of training 7M05401 – Mathematics

Resource support is formed on the basis of the requirements for the conditions for the implementation of educational programs of the master's degree in the field of training 7M05401 – Mathematics and includes:

-Staffing;

- educational, methodological and information support;

- material and technical support.

Staffing

The implementation of the master's degree program should be provided by scientific and pedagogical personnel who, as a rule, have a basic education corresponding to the profile of the discipline taught, and are systematically engaged in scientific and (or) scientific and methodological activities.

The graduating department is the Department of Mathematics. The staff of the department is staffed in accordance with the legislation of the Republic of Kazakhstan and the Rules for competitive filling of positions of scientific and pedagogical staff of higher educational institutions.

The total number of full-time teachers at the Department of Mathematics is 32 teachers, including 2 doctors of science, 13 candidates of science, 5 doctors of PhD and 10 masters. The share of full-time teachers in their total number, including in the cycles of basic and major disciplines of the state compulsory standard of education, is 80%, the share of teachers with academic degrees and titles in the number of full-time teachers is 62.5%.

Educational, methodological and information support

Educational, methodological and information support of the educational program 7M05401 – Mathematics includes: standard and working curriculum of the discipline, UMKD, syllabus, control and measuring materials, active handouts, didactic materials for all academic disciplines of the curriculum, regulatory documents regulating the types of educational activities.

Each master's student has access to the Internet, including the electronic library of the university, the AF RSTL, KazNEB, Web of Knowledge (Thomson Reuters) and Web of Science, Scopus, Springer and the resources of the scientific library of the university. The library fund is equipped with printed and electronic publications, educational and scientific literature in all disciplines of the specialty. In addition, undergraduates have access to the fund of the RSTL AF under a contract, including access to the dissertation fund of the RSL.

Logistics

In the implementation of OP 7M05401 – Mathematics, the material and technical base is used to ensure the conduct of all types of classes provided for by the working curriculum and corresponding to the current sanitary and fire safety rules and standards.

The material and technical base is provided by the presence of an educational building (at 263 Br. Zhubanovykh Street) with flow classrooms, equipped classrooms and laboratories, computer classes for conducting classes on the EP "7M05401 - Mathematics".

For the implementation of EP 7M05401 – Mathematics, the Faculty of Physics and Mathematics has the necessary classroom fund, methodological and specialized classrooms (scientific and innovative classroom named after Daulet Umbetzhanov, multilingual training room, theory and methodology of teaching mathematics room, "Algebra" room, "Geometry" room)), computer classes and special laboratories ("Laboratory of Analytics of Streaming Data and Machine Learning", "Computer Modeling and Numerical Methods", "Computer Graphics", etc.). In the specialized classrooms "Geometry", "Algebra" there are interactive panels DIGITOUCH BB-86 - these are interactive devices that combine a touch LCD screen as a multimedia player and a surface for writing with chalk or a marker, which are designed to organize the process of innovative learning, briefings or other tasks that require additional explanations and examples in the course of presenting the material.

10. Characteristics of the environment of the K. Zhubanov ARU that ensure the development of general cultural and socio-personal competencies of graduates

The university has all the necessary conditions and opportunities to ensure the formation and development of general cultural and socio-personal competencies of graduates.

An integral part of the educational process is educational work, the purpose of which is the formation of a professional, harmoniously developed and morally stable personality. Particular attention in educational work is focused on the education of patriotism, citizenship, a sense of responsibility, decency, honesty, loyalty to professional duty, law-abiding, respectful attitude to each other and others.

Educational work is carried out in the following areas:

1. education of civil and spiritual and moral culture;
2. education of aesthetic culture;
3. education of physical culture and the formation of a healthy lifestyle;
4. education of environmental culture;
5. labor education.

As the basic regulatory framework for organizing the educational and upbringing process at the university, the "Concept of Educational Work" has been developed, along with a number of internal university regulations, such as the Regulation "On Student Self-Government", the Regulation "On the Organization of Educational Work at K. Zhubanov ARU", the Regulation "On the Council for the Prevention of Offenses", the Regulation "On the School of Legal Knowledge", the Regulation "On the Sports Club", the Regulation "On the Debate Club", and others.

To organize educational work at the university, the department for educational work and youth policy was created, which includes the department for work with students and youth organizations, the department for social and cultural work. In addition, the university has a student parliament, a student dormitory council, a sports club, a Council for the prevention of offenses, etc.

For the organization of cultural work and the formation of a healthy lifestyle, the university has a sufficient material and technical base:

- Palace of Youth;
- Palace of Students;
- Two sports complexes;
- Sports facility;
- 3 separate gyms;
- Stadium with a running track and a grass football field;
- Tennis court;
- Shooting range;

Student multidisciplinary clinic.

For the harmonious development of the personality, contributing to the strengthening of moral, civic, patriotic and general cultural competencies of undergraduates, the Debate Clubs "Ritor", "Zaman Bizdiki", the school of legal knowledge, the student theater "Zhubanov Zhastary", the Club of Young Poets "Tarazy", "English-club", "Education club", "Universial programmer-club", KVN club, charity club "Umiten uzilmesin", volunteer club "Zhubanov zhyluy", "ARSU STAR" and "Big Fam" dance clubs, "Mansap" School of Public Service, sports sections, etc.

Educational work is carried out in a complex of information and propaganda, individual psychological, legal, socio-economic, moral and ethical, cultural, sports and other events.

AGREED:

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