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APPROVED
Acting Rector
K.Zhubanov Aktobe regional university
_____ R.A.Beknazarov
«___» _____ 2021 г.

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MODULAR EDUCATIONAL PROGRAM

Code and name of the field of education: 6B01 Pedagogical Sciences
Code and the name of the training direction: 6B015 Training of teachers in natural science subjects
Code and name of the EP: 6B01501 – Mathematics

The level of education: bachelor degree
Awarded degree: Bachelor of Education in the educational program "6B01501 - Mathematics"
Total number of credits: 240 academic credits / 240 ECTS

Year of admission: 2021 y.

Compiled by:

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MISSION: The formation of a qualified specialist and a "perfect person" imbuedwith national values

VISION: Multidisciplinary classical university, providing the western region of Kazakhstan with qualified specialists and became the core of applied science

VALUES:
1. Academic success
2. Integrity
3. Openness and cooperation
4. Highest quality education
5. Social activity and civic initiative
6. Leadership and creativity
7. Respect and attention to people

The unity of science and innovation

3. Model of a university graduate

✓ Possess thorough knowledge and understanding of the studied area

✓ Ready for professional self-realization in the modern world

✓ Enterprising, able to make decisions and create new opportunities

✓ Adaptive to global challenges

✓ A person with high intelligence

✓ Possess a global citizenship

4. Passport of the educational program:

Scope of application	Scope of application of EP 6B01501-- Mathematics: educational institutions (schools, lyceums, gymnasiums, educational institutions of technical and vocational education); research organizations in the field of mathematics, pedagogy, psychology and teaching methods; management organizations (education departments, public authorities with relevant profile, organizations, institutions and enterprises, related to the use of methods of physical and mathematical research)
Code and name of the educational program	6B01501-- Mathematics
Regulatory and legal support	1. **Law of the Republic of Kazakhstan of June 27, 2007 №319-III «About education»** (with amendments); 2. **Guidelines for using the European Credit Transfer and Accumulation System (ECTS) 2015;** 3. **Professional standards** (approved: by order of Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" No.288 of December 22, 2016; by order of Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" No.133 of June 8, 2017; by order of Deputy Chairperson of the Board of the Atameken National Chamber of Entrepreneurs of the Republic of Kazakhstan. No.266 of December 27, 2019) 4. **Rules for organizing the educational process on credit technology of education** (Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 12, 2018 No.563) On amendments to the order of the Minister of Education and Science of the Republic of Kazakhstan dated April 20, 2011 No. 152; 5. **State compulsory standard of higher education** (Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No. 604) (new edition by order No.182 of 05.05.2020.); 6. **National qualifications framework (**Approved by No. 13 No. 20-5/I-141 of the Republican Trilateral Commission on Social Partnership and Regulation of Social and Labor Relations of March 16, 2016;) 7. **Industry-specific qualifications frameworks** in various fields of activity which developed in accordance with Article 117 of the Labor Code of the Republic of Kazakhstan (with amendments of 01.01.2019.); 8. **Classifier of areas of personal training 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); 9. **«Rules for organizing dual education»** (Order of the Minister of Education and Science of the Republic of Kazakhstan dated January 21, 2016 No **50** *(with amendments of 11.09.2018);* 10. **Standard rules for the activities of educational organizations implementing educational programs of higher and (or) postgraduate education** Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 30, 2018 No. 595 (new edition by order No. 207 of 18.05.2020.);

	11. **Typical Academic curriculum of a cycle of general education 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); 12. **Coding system for academic disciplines of higher and postgraduate education. SES of the Republic of Kazakhstan 5.05.001-2005;** 13. **Regulation on the organization and conduct of professional practice and defining organizations as bases of practices (Minutes No. 13 of 12.08.2020;)** 14. **Regulations on current monitoring of progress and intermediate attestation (examination session) of students. (Minutes No. 13 of 12.08.2020;)** 15. **Regulations on the final certification of students. (Minutes No. 13 of 12.08.2020;)** 16. **Regulations on the construction of a modular educational program (Minutes No. 13 of 12.08.2020;)** 17. **Regulation on the introduction of multilingual education (Minutes No. 13 of 12.08.2020;)**
Map of the training profile within the framework of the educational program	
EP Goal	The purpose of the educational program 6B01501 - Mathematics is to train highly qualified specialists in the fields of mathematics and methodology of teaching mathematics, formation of a competent specialist, a teacher of a new formation, able to creatively and professionally solve at the modern scientific and practical level socially significant tasks in the pedagogical field of activity.
Qualification characteristics of the graduate	
Awarded degree:	Bachelor of Education in the educational program "6B01501 - Mathematics"
List of specialist positions	- teacher of mathematics in secondary schools - teacher of mathematics in secondary vocational schools. - research teacher
Field of professional activity	- educational organizations, including those with multilingual education: schools, lyceums, gymnasiums and colleges; - educational institutions of technical and vocational education. - organizations, institutions and services of the industrial and non-industrial sphere of various organizational and legal forms, specializing in the field of mathematics.
Functions and types of educational activities	Functions of educational activities - development of a mathematical model of processes and phenomena in the field of natural sciences, engineering; - creation of software systems; - training in the educational system; -research works in areas related to the use of mathematics and physics. Types of educational activities

	- educational; - research; - socio-pedagogical; - organizational and educational; - cultural and educational.
Dual training	According to this educational program, dual training is expected in 3 disciplines.

5. EXPECTED LEARNING OUTCOMES FOR EP

1. To know the features of mathematics as a science and as a subject, the goals and objectives of teaching mathematics at different levels of the educational system.
2. To understand the technology of designing the process of teaching mathematics, the value of innovative technologies in teaching mathematics.
3. To be able to apply the obtained theoretical knowledge in the process of learning mathematics, for the logical-didactic mathematical content of the main components and lines of the course of mathematics.
4. To be able to correctly use the language of the subject area, to carry out the correct formulation of the problems of teaching mathematics.
5. To possess the skills of teaching methods of mathematical disciplines, as well as to have a high level of language culture in professional activities.
6. To be able to formulate arguments and solve professional and applied problems in the process of teaching mathematical, natural and methodological disciplines.
7. To be able to develop educational and methodological and control-measuring materials on mathematical and methodological disciplines, to test and implement them in the educational process.
8. To apply fundamental pedagogical knowledge and skills within the framework of the content the updated education system, taking into account the various possibilities of students and aimed at successful socialization and integration into modern society and master the basic concepts of educational management and apply the basic provisions of academic integrity.
9. To use various types of information and communication technologies in personal activities, such as Internet resources, cloud and mobile services for search, storage, processing, protection and dissemination of information.
10. To be fluent in the basic methods and techniques of various types of verbal and written communication within the competence of a specialist in the field of mathematics, who knows the state and foreign languages in order to respond adequately in a dynamically developing multilingual and multicultural world.

6. Academic calendar for 2021-2025 (education period: 4 years)

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	1	2	3	4	5
1								M1							M2	S	S	S	V	V								M1							M2	S	S	EP	S/T	S/T	S/T	S/T	S/

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1	2
2								M1							M2	S	S	S	V	V								M1							M2	S	S	PP	PP	PP / S/T	S/T	S/T

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	1
3								M1							M2	S	S	S	V	V								M1							M2	S	S	PP	PP	PP / S/T	PP / S/T	PP / S/T

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
4								M1							M2	S	S	S	V	V	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	DP	DP	DP	DP	DP	V	SE	SE	DD	DD	DD	DD

Symbols:

M - midterm control	SE - state examination	EP - Educational practice
S - examination session	DD – defend diploma thesis	V - vacation
S/T – summer term	DP - pre-diploma practice	**Total weeks:** theoretical training in the term -15 weeks
		theoretical trimester training - 10 weeks,
Holidays: August 30 - Constitution Day	PP - production practice	quarterly - 8 weeks (4-course)
Holidays: December 16 – Kazakhstan Independence Day	March 21, 22, 23 – Nauryz	**Total weeks:** examination session - 2-3 weeks
Holidays: December 1 – Day of the First President of the Republic of Kazakhstan	May 1 – Unity Day	**Total weeks:** winter holidays - 1-2 weeks
Holidays: January 7 – Orthodox Christmas Day	May 9 – Victory Day	**Total weeks:** summer holidays - 2-7 weeks
Holidays: 8 марта – International Women's Day	July 6 – Day of the Capital	**Total weeks:** summer term - 6 weeks

7.

		Name of discipline	Te	Ac	Cr	Fo	C	Students' working time budget, hour	Distribution by courses and terms

Cycle / component	Code of the discipline		Sem.			Control	TOTAL	Number of classroom hours	Lectures	laboratory lessons	Practical lessons	SIWT	SIW	1-term	2-term	3-term	4-term	5-term	6-term	7-term	8-term
1. Language module, 20 academic credits																					
GED OC	FL 1101	Foreign language	1,2	10	10	exam	300	90			90	50	160	5	5						
GED OC	K(R)L 1102	Kazakh (Russian) language	1,2	10	10	exam	300	90			90	50	160	5	5						
2. Module - General education, 28 academic credits																					
GED OC	MHK 1103	The modern history of Kazakhstan	1	5	5	SE	150	45	30		15	25	80	5							
GED OC	Phil 1104	Philosophy	1	5	5	exam	150	45	30		15	25	80	5							
GED OC	MSPK 1105	The module of the social and political knowledges	1,2	8	8	exam	240	80	40		40	40	120	4	4						
GED OC	ICT 1106	Information and communication technologies	2	5	5	exam	150	45	15	15	15	25	80		5						
BD UC	UR 1201	Ұлттық руханият	2	5	5	exam	150	45	30		15	25	80		5						
3. Professional module, 16 academic credits																					
BD UC	EM 1202	Elementary Mathematics	1	6	6	exam	180	60			60	30	90	6							
BD		Educational practice	2	1	1	report	30								1						
BD		Language practice	2	1	1	report	30								1						
GED OC	PhE 1(2)107	Physical education	1-4	8	8	DC	240				240			2	2	2	2				
4.1. Module - Algebra and language training, 17 academic credits																					
BD UC	BA 2203	Bases of Algebra	3	5	5	exam	150	45	15		30	25	80			5					
BD UC	FL (B1) 2204	Foreign language (B1)	3	3	3	exam	90	30			30	15	45			3					
BD UC	FL (B2) 2205	Foreign language (B2)	4	3	3	exam	90	30			30	15	45				3				
BD EC	PSPA 2206	Practicum on solving problems of algebra	4	6	6	exam	180	60			60	30	90				6				
4.2. Module-Bases of Mathematics and language training, 17 academic credits																					
BD UC	BA 2203	Bases of Algebra	3	5	5	exam	150	45	15		30	25	80			5					
BD UC	FL (B1) 2204	Foreign language (B1)	3	3	3	exam	90	30			30	15	45			3					
BD UC	FL (B2) 2205	Foreign language (B2)	4	3	3	exam	90	30			30	15	45				3				
BD EC	EG 2206	Elementary geometry	4	6	6	exam	180	60			60	30	90				6				

— **5.1. Module-Fundamental disciplines, 25 academic credits**																		
GED EC	DTE 2108	Digital technology in education	3	5	5	exam	150	45	30		15	25	80		5			
BD EC	AG 2207	Analytic geometry	3	5	5	exam	150	45	15		30	25	80		5			
BD EC	MAFOV 2208	Mathematical analysis: functions of one variable	3	5	5	exam	150	45	15		30	25	80		5			
BD EC	MAFSV 2209	Mathematical analysis: functions of several variables	4	5	5	exam	150	45	15		30	25	80			5		
BD EC	NThSOP 2210	Number theory for solving Olympiad problems	4	5	5	exam	150	45	15		30	25	80			5		
5.2. Module - Selected chapters of mathematics and academic honesty, 25 academic credits																		
GED EC	AH 2108	Academic honesty	3	5	5	exam	150	45	30		15	25	80		5			
BD EC	BG 2207	Bases of Geometry	3	5	5	exam	150	45	15		30	25	80		5			
BD EC	DICFOV 2208	Differential and integral calculus: functions of one variable	3	5	5	exam	150	45	15		30	25	80		5			
BD EC	DICFSV 2209	Differential and integral calculus: functions of several variables	4	5	5	exam	150	45	15		30	25	80			5		
BD EC	ANTh 2210	Algebra and Number Theory	4	5	5	exam	150	45	15		30	25	80			5		
6.1. Pedagogical education, 14 academic credits																		
BD EC	Ped 2211	Pedagogics	3	5	5	exam	150	45	30		15	25	80		5			
BD UC	MTM 2212	Methodology of Teaching Mathematics	4	6	6	exam	180	60	30		30	30	90			6		
BD		Pedagogical practice	4	2	2	report	60									2		
BD		Language practice	4	1	1	report	30									1		
6.2. Module-Bases of the profession, 14 academic credits																		
BD EC	PedS 2211	Pedagogical Skills	3	5	5	exam	150	45	30		15	25	80		5			
BD UC	MTM 2212	Methodology of Teaching Mathematics	4	6	6	exam	180	60	30		30	30	90			6		
BD		Pedagogical practice	4	2	2	report	60									2		
BD		Language practice	4	1	1	report	30									1		
7.1 Module -Educational and research, 18 academic credits																		
PD UC	AW 3301	Academic writing	5	4	4	exam	120	40	20		20	20	60				4	
BD EC	SOPM 3213	The solution of Olympiad problems on mathematics	6	5	5	exam	150	45	15		30	25	80					5
PD UC	RME 3302	Robotics and mechatronics in education	6	4	4	exam	120	40	20		20	20	60					4
PD		Pedagogical practice	6	4	4	report	120											4
BD		Language practice	6	1	1	report	30											1
7.2. Module-New technologies in education, 18 academic credits																		
PD UC	AW 3301	Academic writing	5	4	4	exam	120	40	20		20	20	60				4	

BD EC	SMPPE 3213	Solving math problems in a programming environment	6	5	5	exam		150	45	15		30	25	80		5		
PD UC	RME 3302	Robotics and mechatronics in education	6	4	4	exam		120	40	20		20	20	60		4		
PD		Pedagogical practice	6	4	4	report		120								4		
BD		Language practice	6	1	1	report		30								1		
8.1. Module-Applied, 28 academic credits																		
BD EC	DE 3214	Differential Equations	5	6	6	exam		180	60	30		30	30	90	6			
PD EC	MSPP 3303	The methodology of solving planimetric problems	5	5	5	exam		150	45	15		30	25	80	5			
BD EC	ThPMS 3215	Theory of Probability and Mathematical Statistics	6	5	5	exam		150	45	15		30	25	80		5		
BD EC	Phys 3216	Physics	6	4	4	exam		120	40	20	5	15	20	60		4		
PD EC	MSSP 3304	The methodology of solving stereometric problems	6	4	4	exam		120	40	20		20	20	60		4		
PD EC	CIThA 3305	Classical inequalities and their applications	6	4	4	exam		120	40	20		20	20	60		4		
8.2. Module-Natural and mathematical, 28 academic credits																		
BD EC	ODE 3214	Ordinary Differential Equations	5	6	6	exam		180	60	30		30	30	90	6			
PD EC	MCPS 3303	The method of coordinates in the plane and in space	5	5	5	exam		150	45	15		30	25	80	5			
BD EC	ThPRP 3215	Theory of Probability and random processes	6	5	5	exam		150	45	15		30	25	80		5		
BD EC	GCPh 3216	General course of physics	6	4	4	exam		120	40	20	5	15	20	60		4		
PD EC	FA 3304	Functional analysis	6	4	4	exam		120	40	20		20	20	60		4		
PD EC	AChMA 3305	Additional chapters of mathematical analysis	6	4	4	exam		120	40	20		20	20	60		4		
9. Module-Modern education, 14 academic credits																		
BD UC	FL (C1) 3217	Foreign language (C1)	5	4	4	exam		120	40			40	20	60	4			
PD UC	IE 3306	Inclusive education	5	5	5	exam		150	45	15		30	25	80	5			
BD UC	CAT 3218	Criteria Assessment Technologies	5	5	5	exam		150	45	15		30	25	80	5			
10. Module - Professional and methodological, 31 academic credits																		
PD UC	DMML 4307	Discrete Mathematics and Mathematical Logic	7	5	5	exam		150	45	15		30	25	80			5	
PD UC	MTSThP 4308	Methodology of teaching statistics and theory of Probability	7	5	5	exam		150	45	15		30	25	80			5	
BD		Pedagogical practice	7	6	6	report		180									6	
BD		Pedagogical practice	8	10	10	report		300										10
BD		Pre-diploma practice	8	4	4	report		120										4

Type	Code	Name	Sem	Cr	Cr	Exam	Total														
BD		Language practice	8	1	1	report	30														1
11.1. Module-Modern technologies, 8 academic credits																					
PD UC	ITDRTM 4309	IT and digital resources in teaching mathematics	7	5	5	exam	150	45	30		15	25	80							5	
BD EC	PTIESATGMATGRE 4219	Preparation technologies for international exams SAT, GMAT and GRE	7	3	3	exam	90	30	15		15	15	45							3	
11.2. Module-Innovative technologies, 8 academic credits																					
PD UC	ITDRTM 4309	IT and digital resources in teaching mathematics	7	5	5	exam	150	45	30		15	25	80							5	
BD EC	ME 4219	Management in Education	7	3	3	exam	90	30	15		15	15	45							3	
12.1. Module-Geometry of curves and surfaces, training in a small school, 10 academic credits																					
PD EC	OTMSS 4310	Organization of teaching mathematics in a small school	7	4	4	exam	120	40	20		20	20	60							4	
PD EC	ThCS 4311	Theory of curves and surfaces	7	5	5	exam	150	45	15		30	25	80							5	
12.2. Module-Advanced mathematics, 10 academic credits																					
PD EC	REW 4310	Rows and endless works	7	4	4	exam	120	40	20		20	20	60							4	
PD EC	NM 4311	Numerical methods	7	5	5	exam	150	45	15		30	25	80							5	
BD		Final attectation	8	12	12		360														12
TOTAL	on a cycle GED OC			51	51		1530	395	115	15	505	215	680	26	21	2	2	0	0	0	0
TOTAL	on a cycle GED EC			5	5		150	45	30	0	15	25	80	0	0	5	0	0	0	0	0
TOTAL	**on a cycle GED**			**56**	**56**		**1680**	**440**	**145**	**15**	**520**	**240**	**760**	**26**	**21**	**7**	**2**	**0**	**0**	**0**	**0**
TOTAL	on a cycle BD UC			37	37		1110	355	90	0	265	185	570	6	5	8	9	9	0	0	0
TOTAL	on a cycle BD			21	21		630	0	0	0	0	0	0	0	2	0	3	0	1	0	15
TOTAL	on a cycle BD EC			54	54		1620	505	185	5	315	270	845	0	0	15	16	6	14	3	0
TOTAL	**on a cycle BD**			**112**	**112**		**3360**	**860**	**275**	**5**	**580**	**455**	**1415**	**6**	**7**	**23**	**28**	**15**	**15**	**3**	**15**
TOTAL	on a cycle PD UC			28	28		840	260	115	0	145	140	440	0	0	0	0	9	4	15	0
TOTAL	on a cycle PD			10	10		300	0	0	0	0	0	0	0	0	0	0	0	4	6	0
TOTAL	on a cycle PD EC			22	22		660	210	90	0	120	110	340	0	0	0	0	5	8	9	0
TOTAL	**on a cycle PD**			**60**	**60**		**1800**	**470**	**205**	**0**	**265**	**250**	**780**	**0**	**0**	**0**	**0**	**14**	**16**	**30**	**0**
		TOTAL NUMBER OF CREDITS:		**240**	**240**		**7200**	**1770**	**625**	**20**	**1365**	**945**	**2955**	**32**	**28**	**30**	**30**	**29**	**31**	**33**	**27**

8. Map of the educational program – 6B01501-Mathematics

Cycle / component	Code of the discipline	Name of discipline	Term	Academic credits	Credit of ECTS	Learning Results
1	2	3	4	5	6	8
1. Language module, 20 academic credits						
GED OC	FL 1101	Foreign language	1,2	10	10	LR-10
GED OC	K(R)L 1102	Kazakh (Russian) language	1,2	10	10	LR -10
2. Module - General education, 28 academic credit						
GED OC	MHK 1103	The modern history of Kazakhstan	1	5	5	LR -8
GED OC	Phil 1104	Philosophy	1	5	5	LR -8
GED OC	MSPK 1105	The module of the social and political knowledges	1,2	8	8	LR -8
GED OC	ICT 1106	Information and communication technologies	2	5	5	LR -9
BD UC	UR 1201	Ұлттық руханият	2	5	5	LR -8
3. Professional module, 16 academic credits						
BD UC	EM 1202	Elementary Mathematics	1	6	6	LR -3, LR -6
BD		Educational practice	2	1	1	LR -3, LR -9
BD		Language practice	2	1	1	LR -5, LR -10
GED OC	PhE 1(2)107	Physical education	1-4	8	8	LR -8
4.1. Module - Algebra and language training, 17 academic credits						
BD UC	BA 2203	Bases of Algebra	3	5	5	LR -1, LR -3, LR -6
BD UC	FL (B1, B2) 2204	Foreign language (B1,B2)	3,4	6	6	LR -5, LR -10
BD EC	PSPA 2205	Practicum on solving problems of algebra	4	6	6	LR -1, LR -6, LR -10
4.2. Module-Bases of Mathematics and language training, 17 academic credits						
BD UC	BA 2203	Bases of Algebra	3	5	5	LR -1, LR -3, LR -6
BD UC	FL (B1, B2) 2204	Foreign language (B1,B2)	3,4	6	6	LR -4, LR -10
BD EC	EG 2205	Elementary geometry	4	6	6	LR -1, LR -6, LR -10
5.1. Module-Fundamental disciplines, 25 academic credits						
GED EC	DTE 2108	Digital technology in education	3	5	5	LR -5, LR -7, LR -9
BD EC	AG 2206	Analytic geometry	3	5	5	LR -1, LR -3, LR -6

BD EC	MA 2207	Mathematical Analysis	3,4	10	10	LR -1, LR -3. LR -6
BD EC	NThSOP 2208	Number theory for solving Olympiad problems	4	5	5	LR -5, LR -6, LR -7, LR -10
5.2. Module - Selected chapters of mathematics and academic honesty, 25 academic credits						
GED EC	AH 2108	Academic honesty	3	5	5	LR -8
BD EC	BG 2206	Bases of Geometry	3	5	5	LR -1, LR -6, LR -9
BD EC	DIC 2207	Differential and Integral Calculus	3,4	10	10	LR -1, LR -3, LR -6
BD EC	ANTh 2208	Algebra and Number Theory	4	5	5	LR -1, LR -3, LR -6
6.1. Pedagogical education, 14 academic credits						
BD EC	Ped 2209	Pedagogics	3	5	5	LR -2, LR -8
BD UC	MTM 2210	Methodology of Teaching Mathematics	4	6	6	LR -2, LR -3, LR -5, LR -8
BD		Pedagogical practice	4	2	2	LR -2, LR -3, LR -8
BD		Language practice	4	1	1	LR -5, LR -10
6.2. Module-Bases of the profession, 14 academic credits						
BD EC	PedS 2209	Pedagogical Skills	3	5	5	LR -2, LR -8
BD UC	MTM 2210	Methodology of Teaching Mathematics	4	6	6	LR -2, LR -3, LR -5, LR -8
BD		Pedagogical practice	4	2	2	LR -2, LR -3, LR -8
BD		Language practice	4	1	1	LR -5, LR -10
7.1 Module -Educational and research, 18 academic credits						
PD UC	AW 3301	Academic writing	5	4	4	LR -7
BD EC	SOPM 3211	The solution of Olympiad problems on mathematics	6	5	5	LR -5, LR -6, LR -7, LR -10
PD UC	RME 3302	Robotics and mechatronics in education	6	4	4	LR -1, LR -7, LR -9
PD		Pedagogical practice	6	4	4	LR -2, LR -3, LR -8
BD		Language practice	6	1	1	LR -5, LR -10
7.2. Module-New technologies in education, 18 academic credits						
PD UC	AW 3301	Academic writing	5	4	4	LR -7
BD EC	SMPPE 3211	Solving math problems in a programming environment	6	5	5	LR -1, LR -6, LR -9
PD UC	RME 3302	Robotics and mechatronics in education	6	4	4	LR -1, LR -7, LR -9
PD		Pedagogical practice	6	4	4	LR -2, LR -3, LR -8
BD		Language practice	6	1	1	LR -5, LR -10
8.1. Module-Applied, 28 academic credits						
BD EC	DE 3212	Differential Equations	5	6	6	LR -1, LR -6, LR -10
PD EC	MSPP 3303	The methodology of solving planimetric problems	5	5	5	LR -3, LR -5, LR -10
BD EC	ThPMS 3213	Theory of Probability and Mathematical Statistics	6	5	5	LR -1, LR -3, LR -6
BD EC	Phys 3214	Physics	6	4	4	LR -4, LR -6
PD EC	MSSP 3304	The methodology of solving stereometric problems	6	4	4	LR -3, LR -6, LR -7

PD EC	CIThA 3305	Classical inequalities and their applications	6	4	4	LR -5, LR -6, LR -7, LR -10
8.2. Module-Natural and mathematical, 28 academic credits						
BD EC	ODE 3212	Ordinary Differential Equations	5	6	6	LR -1, LR -6, LR -10
PD EC	MCPS 3303	The method of coordinates in the plane and in space	5	5	5	LR -3, LR -5, LR -10
BD EC	ThPRP 3213	Theory of Probability and random processes	6	5	5	LR -1, LR -3, LR -6, LR -7
BD EC	GCPh 3214	General course of physics	6	4	4	LR -4, LR -6
PD EC	FA 3304	Functional analysis	6	4	4	LR -3, LR -6, LR -7
PD EC	AChMA 3305	Additional chapters of mathematical analysis	6	4	4	LR -1, LR -4, LR -6, LR -7
9. Module-Modern education, 14 academic credits						
BD UC	FL (C1) 3215	Foreign language (C1)	5	4	4	LR -5, LR -10
PD UC	IE 3306	Inclusive education	5	5	5	LR -2, LR -8
BD UC	CAT 3216	Criteria Assessment Technologies	5	5	5	LR -2, LR -8
10. Module - Professional and methodological, 31 academic credits						
PD UC	DMML 4307	Discrete Mathematics and Mathematical Logic	7	5	5	LR -1, LR -6, LR -7
PD UC	MTSThP 4308	Methodology of teaching statistics and theory of Probability	7	5	5	LR -3, LR -4, LR -5
BD		Pedagogical practice	7	6	6	LR -2, LR -3, LR -8
BD		Pedagogical practice	8	10	10	LR -2, LR -3, LR -8
BD		Pre-diploma practice	8	4	4	LR -1, LR -3, LR -6, LR -7
BD		Language practice	8	1	1	LR -5, LR -10
11.1. Module-Modern technologies, 8 academic credits						
PD UC	ITDRTM 4309	IT and digital resources in teaching mathematics	7	5	5	LR -2, LR -8, LR -9
BD EC	PTIESATGMATGRRE 4217	Preparation technologies for international exams SAT, GMAT and GRE	7	3	3	LR -2, LR -5, LR -10
11.2. Module-Innovative technologies, 8 academic credits						
PD UC	ITDRTM 4309	IT and digital resources in teaching mathematics	7	5	5	LR -2, LR -8, LR -9
BD EC	ME 4217	Management in Education	7	3	3	LR -2, LR -8
12.1. Module-Geometry of curves and surfaces, training in a small school, 10 academic credits						
PD EC	OTMSS 4310	Organization of teaching mathematics in a small school	7	4	4	LR -3, LR -4, LR -5, LR -8
PD EC	ThCS 4311	Theory of curves and surfaces	7	5	5	LR -1, LR -3, LR -6, LR -7
12.2. Module-Advanced mathematics, 10 academic credits						
PD EC	REW 4310	Rows and endless works	7	4	4	LR-1, LR-3, LR-5, LR-7, LR-10
PD EC	NM 4311	Numerical methods	7	5	5	LR -1, LR -4, LR -6, LR -7

8.2 Matrix of the ratio of discipline and learning outcomes - 6B01501 - Mathematics

№	Name of discipline	LR 1	LR 2	LR 3	LR 4	LR 5	LR 6	LR 7	LR 8	LR 9	LR 10
1.	Foreign language										+
2.	Kazakh (Russian) language										+
3.	The modern history of Kazakhstan								+		
4.	Philosophy								+		
5.	The module of the social and political knowledges								+		
6.	Information and communication technologies									+	
7.	Ұлттық руханият								+		
8.	Elementary Mathematics			+			+				
9.	Educational practice			+						+	
10.	Language practice					+					+
11.	Physical education								+		
12.	Bases of Algebra	+		+			+				
13.	Foreign language (B1, B2)					+					+
14.	Practicum on solving problems of algebra	+					+				+
15.	Elementary geometry	+					+				+
16.	Digital technology in education					+		+		+	
17.	Analytic geometry	+		+			+				
18.	Mathematical Analysis	+		+			+				
19.	Number theory for solving Olympiad problems					+	+	+			+
20.	Academic honesty	+		+			+				
21.	Bases of Geometry	+					+			+	
22.	Differential and Integral Calculus	+		+			+				
23.	Algebra and Number Theory	+		+			+				
24.	Pedagogics		+						+		
25.	Methodology of Teaching Mathematics		+	+		+			+		
26.	Pedagogical practice		+	+					+		
27.	Pedagogical Skills		+						+		
28.	Academic writing							+			
29.	The solution of Olympiad problems on mathematics					+	+	+			+
30.	Robotics and mechatronics in education	+						+		+	

No.	Discipline										
31.	Solving math problems in a programming environment	+					+			+	
32.	Differential Equations	+					+				+
33.	The methodology of solving planimetric problems			+		+					+
34.	Theory of Probability and Mathematical Statistics	+		+			+				
35.	Physics				+		+				
36.	The methodology of solving stereometric problems			+			+	+			
37.	Classical inequalities and their applications					+	+	+			+
38.	Ordinary Differential Equations	+					+				+
39.	The method of coordinates in the plane and in space			+		+					+
40.	Theory of Probability and random processes	+		+			+	+			
41.	General course of physics				+		+				
42.	Functional analysis			+			+	+			
43.	Additional chapters of mathematical analysis	+				+	+	+			
44.	Foreign language (C1)					+					+
45.	Inclusive education		+						+		
46.	Criteria Assessment Technologies		+						+		
47.	Discrete Mathematics and Mathematical Logic	+					+	+			
48.	Methodology of teaching statistics and theory of Probability			+	+	+					
49.	Pre-diploma practice	+		+			+	+			
50.	IT and digital resources in teaching mathematics		+						+	+	
51.	Preparation technologies for international exams SAT, GMAT and GRE		+			+					+
52.	Management in Education		+						+		
53.	Organization of teaching mathematics in a small school			+	+	+			+		
54.	Theory of curves and surfaces	+		+			+	+			
55.	Rows and endless works	+		+		+		+			+
56.	Numerical methods	+			+		+	+			
	Total	**21**	**9**	**21**	**6**	**16**	**27**	**15**	**16**	**9**	**16**

9. Summary table reflecting the volume of disbursed credits in the context of modules of the educational program (full-time education, training period 4 years)

Course	Term	Number of modules mastered	Number of studied disciplines OC	EC/UC	Number of academic credits Theoretical training	Educational practice	Pedagogical practice	Internship (Language practice)	Pre-diploma practice	Physical education	Final attestation	Number of academic hours	Number of academic credits	Number of exams	Number of differential credits / reports
1	1	3	5	1	28					2		900	30	6	1
	2	3	2	3	24	2	2			2		900	30	5	3
2	3	3	-	7	28		2					900	30	7	1
	4	3	-	6	30							900	30	6	-
3	5	5	-	7	33							990	33	7	-
	6	1	-	-			10		5		12	810	27	-	2
4	1	3	5	1	28					2		900	30	6	1
	2	3	2	3	24	2	2			2		900	30	5	3
Всего:		**11**	**7**	**24**	**143**	**2**	**14**		**5**	**4**	**12**	**5400**	**180**	**31**	**7**

10. RESOURCE SUPPORT OF EP

The resource support formed based on the requirements for the conditions for the implementation of bachelor's degree programs in the field of training 6B01501-Mathematics:
- staffing;
- educational, methodological and informational support;
- material and technical support.

Staffing

The implementation of the main educational program of the bachelor's degree in the direction of training 6B01501-Mathematics is provided by scientific and pedagogical personnel corresponding to the profile of the taught discipline, and systematically engaged in scientific and methodological activities.

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

The total number of full-time teachers at the Department of Mathematics is 24 teachers, including 2 doctors of sciences, 12 candidates of sciences and 8 masters. The share of full-time teachers from their total number, including the cycles of basic and profile disciplines of the state mandatory standard of education is 88%, the share of teachers with academic degrees and titles from the number of full-time teachers is 58 %.

Educational, methodological and informational support

Educational, methodological and informational support includes typical and working curriculum of the discipline, Educational and methodological complex of disciplines, syllabus, control and measuring materials, active handouts, didactic materials, regulatory documents, regulating types of educational activities.

The educational program for EP 6B01501-Mathematics provided with educational and methodological documentation and materials for all academic disciplines of the curriculum, including typical and working curriculum of the discipline, Educational and methodological complex of disciplines, syllabus, control and measuring materials, active handouts, didactic materials etc.

Each student has access to the Internet, including the university's electronic library, Aktobe branch "Republican Scientific and Technical Library", Kazakhstan National Electronic Library, Web of Knowledge (Thomson Reuters) and Web of Science, Scopus, Springer and 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, students have contractual access to the AB RLST fund, including access to the RSL dissertation fund. Educational, methodological and informational support of the educational process meets the requirements of higher education.

Material and technical support

When implementing EP 6B01501-Mathematics, the material and technical base is used, providing all types of classes, which provided by the working curriculum and in accordance with the current sanitary and fire safety rules and regulations.

For the implementation of EP 6B01501-Mathematics, the Faculty of Physics and Mathematics has the necessary classroom fund, methodical and specialized classrooms («Classroom of Theory and Methods of Teaching Mathematics», «Nominal audience of Doctor of Physical and Mathematical Sciences, Professor Umbetzhanov D.U.», «Multilingual classroom»), computer classes and special laboratories («Streaming data analytics and machine learning», «Computer system architecture and personal computer modernization», «Information systems and database management systems», «Computer modeling and numerical methods», «Software development tools», «System Programming», «Algorithmization and programming technologies», «Computer graphics», «Mechanics and molecular physics», «Electricity and magnetism», «Atomic physics»).

These classrooms meet the sanitary and hygienic standards required for classrooms of higher educational institutions of the Republic of Kazakhstan. The existing classroom fund of the EP fully meets the need for educational facilities for students of 1-4 courses.

11. ENVIRONMENTAL CHARACTERISTICS OF K. ZHUBANOV AKTOBE REGIONAL UNIVERSITY, PROVIDING THE DEVELOPMENT OF GENERAL CULTURAL AND SOCIO-PERSONAL COMPETENCES OF TEACHERS

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 issues of academic discipline, culture of behavior, appearance of students, fostering patriotism, citizenship, sense of responsibility, decency, honesty, loyalty to professional duty, obedience to the law, respectful attitude towards each other and others. Educational work is carried out in the following areas:
- education of civil and spiritual and moral culture;
- education of aesthetic culture;
- education of physical education and the formation of a healthy lifestyle;
- education of ecological culture;
- labor education.

As a basic normative document of the organization of the educational process at the university, the Concept of educational work and intra-university regulatory documents have been developed, such as, the Regulation «On Self-government», Regulations «On the organization of educational work in the K. Zhubanov ARU», Regulation «On the Council for the Prevention of Offenses», Regulation «On the Council of Curators», Regulation «On curatorial work», Regulation «On the School of Legal Knowledge», Regulation «On the sports club», Regulation «On the Debate Club», etc.

A department for educational work and youth policy has been created in order to organize educational work at the university, which includes a department for work with students and youth organizations and the department for social and cultural work, in addition, the university has a student administration, student council dormitory, Headquarters of student labor detachments, Council of Curators, sport Club, The Council for the Prevention of Offenses, etc.

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

- Youth palace;
- Students' Palace;
- Two sports complexes;
- Sports facility;
- 3 separate gyms;
- Stadium with a running track and a football field with a grass surface;
- Tennis court;
- Shooting range;
- Student multidisciplinary clinic.

For the harmonious development of the personality, contributing to the strengthening of the moral, civil, patriotic and general cultural competencies of students and undergraduates, K. Zhubanov ARU operates: the Debate Clubs «Rhetor», «Zaman Bizdiki», School of legal knowledge, student theater "Zhubanov zhastary", Club of young poets «Tarazy», «English-club», «Educationclub», «Universialprogrammer-club», KVN club, student legal clinic «Femida», charitable club «Umitin uzilmesin», volunteer club «Zhubanov zhyluy», dance clubs «ARSU STAR» and «Big Fam», School of Public Service «Mansap», sports sections, etc.

AGREED

Head of the KSU «Secondary school-gymnasium №21
with teaching in three languages» Aktobe   M. K.Toyshymanova

Head of the KSU «Aktobe Regional Specialized
Physics and Mathematics Boarding School» Aktobe   K. E. Tleumagambetova

Head of the KSU «Aktobe Lyceum Bilim Innovation»   K. N. Kuralbayev

Head of the secondary school №35, Aktobe   B. D.Yerzhan

Head of the secondary school №3, Aktobe   Sh. K. Omirzakova

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Approved by the academic methodical council of the university Minutes № ____of «____» ____ 2021