ESTABLISHMENT OF EDUCATION «BELARUSIAN STATE PEDAGOGICAL UNIVERSITY NAMED AFTER MAXIM TANK»

APPROVED

Rector of the Belarusian State Pedagogical University
_________________ A.I. Zhuk
«___» ______________ 2018

Registration No. ____

Curriculum

Specialty 1-02 05 01 Mathematics and informatics
Form of education: full-time

Qualification of a specialist teacher

Training term: 4 years

I. Educational process schedule / II. Consolidated time budget (in weeks)

courses	September 1–7	September 8–14	September 15–21	September 22–28	29.09–05.10	October 6–12	October 13–19	October 20–26	27.10–02.11	November 3–9	November 10–16	November 17–23	November 24–30	December 1–7	December 8–14	December 15–21	December 22–28	29.12–04.01	January 5–11	January 12–18	January 19–25	26.01–01.02	February 2–8	February 9–15	February 16–22	23.02–01.03	March 2–8	March 9–15	March 16–22	March 23–29	30.03–05.04	April 6–12	April 13–19	April 20–26	27.04–03.05	May 4–10	May 11–17	May 18–24	May 25–31	June 1–7	June 8–14	June 15–21	June 22–28	29.06–05.07	July 6–12	July 13–19	July 20–26	27.07–02.08	August 3–9	August 10–16	August 17–23	August 24–31	theoretical training	examination session	practices	internship	Graduation project	Final examination	vacations	Total
I																			:	:	:	=	=																		:	:	:	=	=	=	=	=	=	=	=	=	35	6					11	52
II																			:	:	:	=	=																		:	:	:	=	=	=	=	=	=	=	=	=	35	6					11	52
III			X	X	X	X	X	X	X										:	:	:	=	=																		:	:	:	X	X	X	=	=	=	=	=	=	28	6		10			8	52
IV																:	:	=	=	X	X	X	X	X	X	X	X	X												:	:	//	//										26	4		9		2	2	43
																																																					124	22		19		2	32	199

Notations: ☐ — theoretical training; O — study practice; / — graduation project; = — vacations; : — examination session; X — internship; // — final examination

III. Plan of study process

№ п/п	Title of the series of courses, the integrated module, the academic discipline, and the course work	Exams	Tests	Number of academic hours: Total	Class hours	Of them: Lectures	Laboratory classes	Practical lessons	Seminars	year, 1 semester, 18 weeks: Total hours	Class hours	Credits	2 semester, 17 weeks: Total hours	Class hours	Credits	II year, 3 semester, 18 weeks: Total hours	Class hours	Credits	4 semester, 17 weeks: Total hours	Class hours	Credits	III year, 5 semester, 11 weeks: Total hours	Class hours	Credits	6 semester, 17 weeks: Total hours	Class hours	Credits	IV year, 7 semester, 15 weeks: Total hours	Class hours	Credits	8 semester, 11 weeks: Total hours	Class hours	Credits	Total credit units
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**
1.	The series of socio-humanitarian disciplines			**538**	**238**	**124**			**114**																									
	State component			**456**	**170**	**90**			**80**																									
1.1	Integrated module “History”	1		100	34	18			16	100	34	3																						**3**
1.2	Philosophy	3		112	42	22			20							112	42	3																**3**
1.3	Integrated module “Economics”	5		144	60	34			26													144	60	4										**4**
1.4	Integrated module “Politology”	2		100	34	16			18				100	34	3																			**3**
	Component of higher education institution			**82**	**68**	**34**			**34**																			**82**	**68**	**3**				**3**
	Law in IT sphere/ Intellectual Property and Information Protection		7	82	68	34			34																			82	68	3				3
2.	**The series of general scientific and general professional disciplines**			**1928**	**974**	**386**	**134**	**270**	**184**																									
	State component			**1282**	**620**	**208**	**58**	**206**	**148**																									
2.1	Pedagogy	3,5	4	412	182	86	10		86							158	68	4	130	68	4	124	46	3										**11**
2.2	Psychology	4	2,3	260	128	60	6		62				72	44	2	72	42	2	116	42	3													**7**
2.3	Information technology in education		6	136	68	18	42	8																	136	68	5							**5**
2.4	Foreign language 5	2	1	300	140			140		132	72	5	168	68	6																			**11**
2.5	Safety of human vital activity		1	116	68	36		32		116	68	3																						**3**
2.6	Belarusian language (professional)		2	58	34	8		26					58	34	2																			**2**
	Component of higher education institution			**646**	**354**	**178**	**76**	**64**	**36**	**58**	**34**	**2**													**110**	**66**	**4**	**200**	**110**	**6**	**278**	**144**	**8,5**	**20,5**
	Introduction to the pedagogical profession		1	58	34	20		14		58	34	2																						**2**
	Team building		6,7	164	84	48			36																110	66	4	54	18	2				**6**
	Age-specific physiology and school hygiene		8	58	34	20		14																							58	34	2	**2**
	Distance learning technologies		8	108	66	22	44																								108	66	4	**4**
	Physics	8	7	200	102	50	32	20																				88	58	2	112	44	2,5	**4,5**
	Astronomy		7	58	34	18		16																				58	34	2				**2**

							1 semester			2 semester			3 semester			4 semester			5 semester			6 semester			7 semester			8 semester			
Number of hours of training sessions	**7814**	**3766**	**1654**	**538**	**1276**	**298**	**1094**	**540**	**34**	**1048**	**504**	**32,5**	**1110**	**536**	**30**	**1092**	**520**	**30**	**732**	**316**	**18**	**1098**	**536**	**31**	**924**	**468**	**26,5**	**716**	**346**	**21**	**223**
Number of hours of training sessions per week							**30**			**29,6**			**29,8**			**30,6**			**28,7**			**31,5**			**31,2**			**31,4**			
Number of coursework	**2**																					1			1						
Number of exams	**32**						3			4			5			5			5			4			3			3			
Number of tests	**37**						6			5			4			4			1			5			7			5			

IV. Optional disciplines

Title of discipline	Semester	Hours
Fundamentals of Information Technology	1	34
Fundamentals of Intellectual Property Management	5	34

V. Study practices

Название практики	Semester	Weeks	Credits

VI. Practical training

Название практики	Semester	Weeks	Credits
Pedagogical practice	5	7	10,5
Pedagogical practice in educational and health educational institutions	6	3	4,5
Undergraduate practice	8	9	13,5

VII. Graduation project

Semester	Weeks	Credits

VIII. Final examination

	Credits
1. State examination in the specialty 2. State Exam on the Theory and Practice of Education and Upbringing	3

№ п/п	Title of the series, the integrated module, the academic discipline, and the course work	Exams	Tests	Number of academic hours						Distribution by courses and semesters																							Total credits
				Total	Class hours	Of them				I year						II year						III year						IV year						
										1 semester, 18 weeks			2 semester, 17 weeks			3 semester, 18 weeks			4 semester, 17 weeks			5 semester, 11 weeks			6 semester, 17 weeks			7 semester, 15 weeks			8 semester, 11 weeks			
						Lectures	Laboratory classes	Practical lessons	Seminars	Total hours	Class hours	Credits	Total hours	Class hours	Credits	Total hours	Class hours	Credits	Total hours	Class hours	Credits	Total hours	Class hours	Credits	Total hours	Class hours	Credits	Total hours	Class hours	Credits	Total hours	Class hours	Credits	
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
3.	**Series of specialdisciplines**			**5348**	**2554**	**1144**	**404**	**1006**																									
	State component			**3794**	**1732**	**804**	**296**	**632**																									
3.1	Mathematical logic and discrete mathematics		2	64	42	22		20					64	42	2																	**2**
3.2	Analytical geometry and plane transformations	1, 2, 3		478	214	106		108		158	72	4	162	70	5	158	72	4															**13**
3.3	Methods of figures images and fundamentals of geometry	4		158	70	34		36											158	70	4												**4**
3.4	Algebra	3, 4, 6	5	538	258	128		130								164	74	5	140	68	4	82	48	2	152	68	4							**15**
3.5	Number theory	7		164	66	32		34																				164	66	4,5				**4,5**
3.6	Mathematical analysis	1, 2, 3, 4		656	296	148		148		168	76	5	168	76	5	160	72	4	160	72	4													**18**
3.7	Differential equations	6		148	70	34		36																	148	70	4							**4**
3.8	Methods of teaching mathematics	5, 6, 7	3,4	586	264	130	14	120								118	66	3	108	56	3	124	50	3	124	50	3	112	42	3				**15**
3.9	Programming technologies and algorithms	4	2, 3	318	150	58	92						130	68	3,5	76	42	2	112	40	3													**8,5**
3.10	Computer graphics and multimedia[6]		1	164	74	26	48			164	74	6																					**6**
3.11	Information systems and networks[7]	7	6	238	128	36	92																		108	68	3	130	60	3				**6**
3.12	Methods of teaching informatics	5	4	202	100	50	50												76	46	2	126	54	3										**5**
3.13	Course work[2]			40																					40		1						**1**
3.14	Course work[3]			40																								40		1				**1**
	Component of higher education institution			**1554**	**822**	**340**	**108**	**374**		**198**	**110**	**6**	**126**	**68**	**4**	**92**	**58**	**3**	**92**	**58**	**3**	**132**	**58**	**3**	**280**	**146**	**7**	**196**	**122**	**6**	**438**	**202**	**12,5**	**44,5**
	Introduction to mathematics		1	100	58	28		30		100	58	3																					**2,5**
	Differential geometry	6		116	50	24		26																	116	50	3							**3**
	Function theory	8		112	42	26		16																							112	42	3	**3**
	Elementary mathematics and practical work on solving problems	5	2-4, 6	524	286	96		190					126	68	4	92	58	3	92	58	3	132	58	3	82	44	2							**15**
	Computer networks		8	82	42	18	24																								82	42	3	**3**
	Workshop on solving problems in informatics		7	64	42	14	28																					64	42	2				**2**
	Integrated course of school mathematics		1	98	52	26		26		98	52	3																					**3**
	Workshop on methods of teaching mathematics		7	58	32			32																				58	32	2				**2**
	Computational methods and computer modeling		7	74	48	24	24																					74	48	2				**2**
	Theory of probabilities and mathematical statistics	8		112	48	20	10	18																							112	48	2,5	**2,5**
	Disciplines for student choice[4]																																	
	Entertaining and Olympiad mathematical problems / Functional analysis / Solving complex and Olympiad problems in programming		6	82	52	28		24																	82	52	2							**2**
	Modern approaches to teaching students in mathematics / Formation of students' research skills in solving problems with parameters		8	50	26	14		12																							50	26	1	**1**
	Management of IT projects / Technologies of network pedagogical interaction		8	82	44	22	22																								82	44	3	**3**
4.	Additional types of training			82	40	24	16									82	40	3																**3**
	Psychology of information perception		3	82	40	24	16									82	40	3																**3**
	Physical Culture		/1-6	/392	/392			/392		/72	/72		/68	/68		/72	/72		/68	/68		/44	/44		/68	/68								

Study plan is developed on the basis of the standard curriculum on a specialty 1-02 05 01 Mathematics and informatics. Registration No A 02-01-001/тип.

Continuation of the curriculum on specialty 1-02 05 01 Mathematics and Informatics

Notes:

[1] Students who have shown the ability to research work are allowed to carry out and defend the thesis work instead of the state examination in the specialty.

2 In 6 semester one course work is conducted on the student's choice in the following subjects: analytical geometry and plane transformations, methods of figures images and fundamentals of geometry, algebra, mathematical analysis, differential equations, computer graphics and multimedia, programming technologies and algorithms.

[3] In 7th semester one course work on the student's choice is carried out in the following subjects: pedagogy, psychology, methods of teaching mathematics, methods of teaching computer science.

[4] The list of disciplines on the student's choice is approved by the Council of the Belarusian State Pedagogical University.

[5] As a supplement and change to the curriculum for the academic discipline "Foreign Language", the section "Professional English" is included.

[6] As a supplement and change to the curriculum for the academic discipline "Computer Graphics and Multimedia," the section "Technologies for creating and processing multimedia" is included.

[7] As a supplement and change to the curriculum for the academic discipline "Information Systems and Networks" a section "Web Technologies" is included.

Vice Rector for Academic Affairs, BSPU
_____ V.V. Shlykov
«___» _____ 2018

APPROVED
Head of the educational-methodical department
_____ V.A. Zaitsev
«___» _____ 2018

Vice Rector for Academic Affairs, BSPU
_____ V.M. Zelenkevich
«___» _____ 2018

Dean, Physics and Mathematics Faculty
_____ S.I. Vasilets
«___» _____ 2018

Head, Informatics and Methods of Teaching Informatics Department
_____ S.V. Vabishchevich
«___» _____ 2018

Recommended for approval by the Scientific and Methodological Council of the Belarusian State Pedagogical University
Protocol No от

Эксперт-нормоконтролер
методист УМУ
_____ S.A. Starodub
«___» _____ 2018