

Master's Educational Program "Mathematics"
CURRICULUM

№	Components	Course Code	Prerequisite Code	Number of Credits	Number of Hours	Contact hours	Including							Credit distribution within semesters			
							Lecture	Group Work / Practical	Laboratorial	Internship	Midterm Exam	Final Exam	Independent Work	I semester	II semester	III semester	IV semester
Major Compulsory Courses				80	2000	303	176	94	0	0	11	22	1697	30	20	0	30
1	General Algebra	M1140902001	No	5	125	30	18	9			1	2	95	5			
2	Geometry and Topology	M1140902002	M1140902001	5	125	30	17	10			1	2	95	5			
3	Homological Algebra	M1140902003	No	5	125	30	17	10			1	2	95		5		
4	Affine Geometry and Linear Algebra	M1140902004	No	5	125	30	17	10			1	2	95	5			
5	Mathematical Analysis of Multiple Variables	M1140902005	No	5	125	30	18	9			1	2	95	5			
6	Differential Geometry and Topology	M1140902006	No	5	125	30	17	10			1	2	95		5		
7	Selected Issues of Mathematical Logic	M1140902007	No	5	125	30	18	9			1	2	95	5			
8	Probability Theory and Its Applications	M1140902008	No	5	125	30	18	9			1	2	95		5		
9	Complex Analysis	M1140902009	No	5	125	30	18	9			1	2	95		5		
10	History of Mathematics	M1140902010	No	5	125	30	18	9			1	2	95	5			
11	Master's Thesis	M114090235		30	750	3					1	2	747				30
Elective Modules				20	500	120	68	40	0	0	4	8	380	0	5	15	0

Module “Geometry-Topology”				20	500	120	68	40	0	0	4	8	380	0	5	15	0
1	Homotopy Theory	M1140902007	M1140902002 M1140902001	5	125	30	17	10			1	2	95		5		
2	Retract Theory	M1140902008	M1140902002	5	125	30	17	10			1	2	95			5	
3	Shape Theory	M1140902009	M1140902002	5	125	30	17	10			1	2	95			5	
4	Homology Theory	M1140902010	M1140902001, M1140902002	5	125	30	17	10			1	2	95			5	
Mathematical Logic, Algebra and Number Theory				20	500	120	72	36	0	0	4	8	380	0	5	15	0
1	Semi Group Theory I	M1140902015	M1140902001	5	125	30	18	9			1	2	95		5		
2	Semi Group Theory II	M1140902016	M1140902015	5	125	30	18	9			1	2	95			5	
3	Lattice Theory	M1140902017	M1140902001	5	125	30	18	9			1	2	95			5	
4	Group Theory	M1140902018	M1140902001	5	125	30	18	9			1	2	95			5	
Mathematical Analysis and Probability Theory				20	500	120	73	35	0	0	4	8	380	0	5	15	0
1	Size Theory	M1140902019	No	5	125	30	18	9			1	2	95		5		
2	Random Process Theory	M1140902020	M1140902008	5	125	30	18	9			1	2	95			5	
3	mathematical Statistics	M1140902021	No	5	125	30	19	8			1	2	95			5	
4	Function Classes of General Finite Variations and Their Application in Fourier Analysis	M1140902022	No	5	125	30	18	9			1	2	95			5	
Major elective courses or university elective courses				20	500	135	0	0	0	0	3	6	365	0	5	15	0
1	Discipline 1			5	125	45					1	2	80		5		
2	Discipline 2			5	125	45					1	2	80			5	
3	Discipline 3			10	250	45					1	2	205			10	
Total				120	3000	558	244	134	0	0	18	36	2442	30	30	30	30

Major Elective Courses				
	Component	Course Code	Prerequisite Code	ECTS
1	Categories and Functors	M1140902023	M1140902010	5
2	Strong Shapes and Homologies	M1140902024	M1140902001	5
3	Equal Shape Theory	M1140902025	M1140902001; M1140902008	5
4	Continuous Groups	M1140902026	M1140902001; M1140902002	5
5	Set Theory	M1140902027	No	5
6	Banach Spaces Differential Calculus	M1140902028	No	5
7	Fourier Series	M1140902029	No	5
8	Abstract Harmony Analysis	M1140902030	No	5
9	Graphs and Algorithms	M1140902031	No	5
10	Image Compression	M1140903016	No	5
11	Modeling and Simulations 1 (MathCad)	M1140903017	No	5
12	Modeling and Simulations 2 (MathCad)	M1140903018	No	5
13	Computer Algorithms and Computing Program Packages (Mathematics)	M1140903019	No	5

University Elective Courses				
	Component	Course Code	Prerequisite Code	ECTS
1	Russian B.2.1	M1140102076	No	5
2	Russian B.2.2	M1140102077	M1140102076	5
3	Russian B.2	M1140102078	No	10
4	German B.2.1	M1140102070	No	5
5	German B.2.2	M1140102071	M1140102070	5
6	German B.2	M1140102072	No	10
7	French B.2.1	M1140102073	No	5
8	French B.2.2	M1140102074	M1140102073	5
9	French B.2	M1140102075	No	10
10	English B.2.1	M1140102067	No	5
11	English B.2.2	M1140102068	M1140102067	5
12	English B.2	M1140102069	No	10