

COURSE STRUCTURE

2025-10603 Mathematics (EN) Bachelor

1						2					
No	Course code	Title	Th	Pr	Ects	No	Course code	Title	Th	Pr	Ects
1	MTH 103	Analytical geometry	2	2+0	5	1	AZD 140	Official and Academic Communication in the Azerbaijani language	0	2+0	4
2	MTH 115	Mathematical analysis (Theory of single variable functions)	2	2+0	7	2	MTH 102	Mathematical analysis (integrals)	2	4+0	7
3	XXX XXX	[NAE] Foreign language I	0	6+0	5	3	MTH 116	Algebra and number theory (Higher algebra)	2	2+0	7
4	XXX XXX	[NAE] Foreign language II	0	6+0	5	4	XXX XXX	[NAE] Foreign language III	0	6+0	5
5	XXX XXX	[AE] Area elective course I #1	2	2+0	8	5	XXX XXX	[NAE] Non area elective course I #2	2	0+0	3
						6	XXX XXX	[AE] Area elective course III #3	0	2+0	4
Subtotal: 30						Subtotal: 30					

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№	Course code	Title	Th	Pr	Ects
1	PHYS 203	Physics	2	2+0	6
2	MTH 217	Algebra and number theory (Linear algebra)	3	2+0	7
3	MTH 201	Mathematical analysis (Theory of multivariable functions)	2	4+0	7
4	XXX XXX	[AE] Area elective course IV	3	2+0	7
5	XXX XXX	[NAE] Non area elective course II	2	0+0	3

Subtotal: 30

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№	Course code	Title	Th	Pr	Ects
1	TRX 111	History of Azerbaijan	2	2+0	5
2	MTH 301	Differential geometry and topology	2	2+0	5
3	MTH 202	Mathematical Analysis (Multiple Integrals)	2	2+0	5
4	MTH 204	Differential Equations	2	2+0	8
5	MTH 302	Discrete mathematics	2	2+0	4
6	XXX XXX	[AE] Area elective course VI	2	0+0	3

Subtotal: 30

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№	Course code	Title	Th	Pr	Ects
1	IT 393	Programming	2	4+0	8
2	MTH 306	Calculus of variations and optimization	2	2+0	4
3	MTH 303	Mathematical equations in physics	2	2+0	6
4	XXX XXX	[AE] Area elective course VII	2	2+0	7
5	XXX XXX	[AE] Area elective course VIII	2	2+0	5

Subtotal: 30

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№	Course code	Title	Th	Pr	Ects
1	MM 120	Civil Defence	3	0+0	3
2	MTH 304	Theory of functions and functional analysis (Theory of functions)	2	2+0	5
3	ME 370	Theoretical mechanics	2	2+0	4
4	MTH 206	Theory of complex variable functions	2	2+0	6
5	XXX XXX	[AE] Area elective course X	2	2+0	6
6	XXX XXX	[AE] Area elective course IX	2	2+0	6

Subtotal: 30

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№	Course code	Title	Th	Pr	Ects
1	MTH 403	Probability theory and mathematical statistics	2	2+0	4
2	MTH 401	Theory of functions and functional analysis (Functional analysis)	2	2+0	5
3	MTH 405	Numerical Methods	2	2+0	7
4	XXX XXX	[AE] Area elective course XII	2	2+0	7
5	XXX XXX	[AE] Area elective course XI	2	2+0	7

Subtotal: 30

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№	Course code	Title	Th	Pr	Ects
1	MTH 490	Internship	0	0+0	21
2	MTH 498	Graduation Work	0	0+0	9

Subtotal: 30

Total ECTS credits: **240**

AE - Area Elective Courses

№	Course code	Title	Th	Pr	Ects
1	MTH 117	Fundamentals of mathematics	2	2+0	8
2	MTH 119	Set theory	2	2+0	8
3	MTH 107	Number Theory	0	2+0	5
4	MTH 108	Problem Solving Strategies	0	2+0	4
5	MTH 110	Set theory	0	2+0	4
6	MTH 208	Additional Chapters for Mathematical analysis	2	0+0	3
7	MTH 305	Simplex method	2	2+0	6

8	MTH 307	High order necessary conditions in optimal control theory	2	2+0	6	
9	MTH 309	Integral equations	2	2+0	5	
10	MTH 311	Application of numerical methods to solving some model problems	2	2+0	5	
11	MTH 308	Spectral analysis of operators	2	2+0	7	
12	MTH 310	Multi-dimensional analysis	2	2+0	7	
13	MTH 415	Applications of Mathematics in Mechanics	2	2+0	7	
14	MTH 312	Asymptotic analysis	2	2+0	6	
15	MTH 314	Structural properties of singular integral operators	2	2+0	6	
16	MTH 409	Approximate calculation methods of integral equations	2	2+0	7	
17	MTH 417	Applications of variational methods in mechanics	0	2+0	4	
18	MTH 215	MATLAB software package	3	2+0	7	
19	MTH 213	Numerical and functional sequences	3	2+0	7	
20	MTH 112	Lebesgue integral	0	2+0	4	
21	MTH 114	Non Euclidean geometry	0	2+0	4	
22	MTH 316	Additional chapters of mathematical physics	2	2+0	6	
23	MTH 109	Elementary Mathematics	0	2+0	5	
24	MTH 207	Meromorphic functions	0	2+0	3	
25	MTH 209	Trigonometric series	2	0+0	2	
26	MTH 211	Mathematical modeling of the dynamics of social processes	2	0+0	2	
27	MTH 407	Research methods	2	2+0	7	
28	MTH 413	Optimal control in mathematical physics problems	2	2+0	7	
29	MTH 111	History of mathematics	0	2+0	5	
30	MTH 105	Fundamentals of mathematics	0	2+0	5	
31	MTH 210	Additional chapters of algebra	2	0+0	3	
32	MTH 411	Numerical methods	2	2+0	5	

NAE - Non-Area Elective Courses

No	Course code	Title	Th	Pr	Ects	
1	ENG 025	English for business and academic communication-2 (listening comprehension)	0	6+0	5	
2	ENG 040	English for business and academic communication-3 (for academic purposes)	0	6+0	5	

