

CURRICULUM STRUCTURE

The mathematics curriculum has a total 196 credits, consisting of 111 credits for compulsory courses and 85 credits for elective courses. In order to graduate and obtain a bachelor's degree in the Mathematics Study Programme, students must complete a minimum 144 credits and other requirements related to the Grade Point Average (GPA). The mathematics curriculum structure can be seen in Table 4.

Table 1 Curriculum Structure of Mathematics Study Programme

No.	Courses		Workload (credits/ECTS)		
	Code	Name	Course	Practice	Total
Semester 1					
Compulsory					
1	AGI101	Islam Religion	2		2
	AGK101	Catholic Religion			
	AGP101	Protestant Religion			
	AGB101	Buddha Religion			
	AGH101	Hindu Religion			
2	NOP103	Pancasila	2		2
3	NOP104	Civics	2		2
4	BAI101	Indonesian Language	2		2
5	SIP107	Data and Libraries	2		2
6	BID101	Basic Biology	2		2
7	KIM105	Basic Chemistry	2		2
8	MAA101	Calculus	3		3
9		Fundamentals of	2		2
	MAL101	Mathematic I			
Sub-Total Semester 1					19
Semester 2:					
Compulsory					
10	PHP103	Logic and Critical Thinking	2		2
11	MNM107	Introduction to Scientific Collaboration	2		2
12	MNM106	Communication and Self Development	2		2
13	MAL203	Fundamentals of Mathematic II	2		2
14	MAA105	Advanced Calculus	4		4
15	MAL201	Elementary Linear Algebra	3		3
16	FID113	Basic Physics	2		2
17	BAE213	English	2		2
Sub-Total Semester 2					19
Elective					0-4
18	MAT103	Business Mathematics	2		2
19	MAA108	Number Theory	2		2
20	MAA109	Introduction to Geometry	2		2
Semester 3					
Compulsory					
21	MAT101	Algorithm and	3		3

No.	Courses		Workload (credits/ECTS)		
	Code	Name	Course	Practice	Total
		Programming			
22	MAT102	Algorithm and Programming (Practical)		1	1
23	MAS102	Statistics I	2		2
24	MAT203	Linear Programming	3		3
25	MAL204	Discrete Mathematics	3		3
26	MAT210	Ordinary Differential Equation	3		3
27	MAA201	Analytical Geometry	3		3
28	MAA104	Calculus (Practical)		1	1
Sub-Total Semester 3					19
Elective					0-4
29	MAT202	Insurance	2		2
30	MAL202	Matrix Algebra	2		2
31	MAL206	Fuzzy Logic	2		2
32	MNO301	Organization Management	2		2
Semester 4					
Compulsory					
33	MAS201	Statistics II	2		2
34	MAS115	Statistic (Practical)		1	1
35	MAL302	Linear Algebra	3		3
36	MAA203	Multivariable Calculus	4		4
37	MAT201	Numerical Method	3		3
38	MAT212	Operations Research	2		2
39	MAT213	Operations Research (Practical)		1	1
40	MAT211	Partial Differential Equation	2		2
Sub-Total Semester 4					18
Elective					0-6
41	MAT204	Population Dynamic	3		3
42	MAT205	Data Structure and Algorithm	3		3
43	MAT211	Numerical Differential Equation	2		2
44	MAT206	Data Base	2		2
45	MAL205	Discrete Geometrics	2		2
46	MAT215	Integer Linear Programming	3		3
Semester 5					
Compulsory					
47	MAL301	Abstract Algebra	3		3
48	MAT208	Simulation	3		3
49	MAL307	Algebra (Practical)		1	1
50	MAA310	Real Analysis I	2		2
51	MAS316	Mathematical Statistics	4		4
52	MAA307	Introduction to Complex Variable	2		2
53	MAT304	Mathematical Modelling I	2		2
Sub-Total Semester 5					17

No.	Courses		Workload (credits/ECTS)		
	Code	Name	Course	Practice	Total
Elective					0-7
54	MAT301	Artificial Intelligence	3		3
55	MAT305	Boundary Value Problem	2		2
56	MAA204	Differential Geometrics	3		3
57	MAL310	Graph Theory	3		3
58	BAE213	Advanced English	2		2
59	MAL309	Coding Theory	2		2
60	MAT309	Advanced Operations Research	3		3
Semester 6					
Compulsory					
61	KLT301	Field Study*	2		2
62	MAT402	Mathematical Modelling II	2		2
63	PNT497	Research Methodology	2		2
64	KNT401	Community Study*	3		3
65	MAA302	Real Analysis II	2		2
Sub-Total Semester 6					11
Elective					7-13
66	MAL305	Cryptography	2		2
67	MAL308	Linear Control Theory	3		3
68	MAT308	Optimization	3		3
69	MAT310	Data Mining	3		3
70	MAT311	Fractional Modelling	3		3
71	AGI401	Advanced Islam Religion	2		2
	AGK401	Advanced Catholic Religion			
	AGP401	Advanced Protestant Religion			
	AGB401	Advanced Buddha Religion			
	AGH401	Advanced Hindu Religion			
72	MAA308	Complex Variable	2		2
Semester 7					
Compulsory					
73	PNT498	Final Project Proposal*	2		2
Sub-Total Semester 7					2
Elective					2-20
74	KST410	Special Topics in Algebra	2		2
75	KST403	Special Topics in Analysis	2		2
76	KST411	Special Topics in System Modelling	2		2
77	KST412	Special Topics in Operations Research and Computation	2		2
78	MAT403	Discrete Control Theory	2		2
79	MNW201	Entrepreneurship	2		2
80	MAT404	Data Security System	2		2
81	MAT404	Artificial Neural Network	3		3
82	MAA306	Metric Space Theory	3		3

No.	Courses		Workload (credits/ECTS)		
	Code	Name	Course	Practice	Total
Semester 8:					
Compulsory					
83	PNT499	Final Project*	6		6
Sub-Total Semester 8					6
Total credit of the study programme			191	5	196

Note: * open semester

STRUKTUR KURIKULUM

NO	Mata Kuliah		Kategori	Beban Studi pada Kegiatan (SKS)			
	Kode	Nama		Unsur	Kuliah	Tutorial	Praktikum
1	2	3	4	5	6	7	8
Semester 1							
Wajib							
1	AGI101	Agama Islam	MKPK	2			2
	AGK101	Agama Katolik	MKPK	2			2
	AGP101	Agama Protestan	MKPK	2			2
	AGB101	Agama Budha	MKPK	2			2
	AGH101	Agama Hindu	MKPK	2			2
2	NOP103	Pancasila	MKPK	2			2
3	NOP104	Kewarganegaraan	MKPK	2			2
4	BAI101	Bahasa Indonesia	MKPK	2			2
5	SIP107	Data dan Pustaka	MKLR	2			2
6	BID101	Biologi Dasar	MKRI	2			2
7	KIM105	Kimia Dasar	MKRI	2			2
8	MAA101	Kalkulus	MKPS	3			3
9	MAL101	Dasar Dasar Matematika I	MKPS	2			2
Jumlah beban Studi Pada Semester 1							19
Semester 2:							
Wajib							
10	PHP103	Logika dan Pemikiran Kritis	MKPK	2			2
11	MNM107	Pengantar Kolaborasi Keilmuan	MKPK	2			2
12	MNM106	Komunikasi dan Pengembangan Diri	MKPK	2			2
13	MAL203	Dasar Dasar Matematika II	MKPS	2			2
14	MAA105	Kalkulus Lanjut	MKPS	4			4
15	MAL201	Aljabar Linier Elementer	MKPS	3			3
16	FID113	Fisika Dasar	MKRI	2			2
17	BAE213	Bahasa Inggris	MKLR	2			2
Pilihan (6 sks)							
18	MAT103	Matematika Bisnis	MKPS	2			2
19	MAA108	Teori Bilangan	MKPS	2			2
20	MAA109	Pengantar Geometri	MKPS	2			2
Jumlah beban Studi Pada Semester 2							25
Semester 3:							
Wajib							
21	MAT101	Algoritma dan Pemrograman	MKPS	3			3
22	MAT102	Algoritma dan Pemrograman (Praktikum)	MKPS			1	1
23	MAS102	Statistika I	MKPS	2			2
24	MAT203	Program Linier	MKPS	3			3
25	MAL204	Matematika Diskrit	MKPS	3			3
26	MAT210	Persamaan Diferensial Biasa	MKPS	3			3
27	MAA201	Geometri Analitik	MKPS	3			3
28	MAA104	Kalkulus (Praktikum)	MKPS			1	1

Pilihan (8 sks)								
29	MAT202	Asuransi	MKPS	2				2
30	MAL202	Aljabar Matriks	MKPS	2				2
31	MAL206	Logika Fuzzy	MKPS	2				2
32	MNO301	Manajemen Organisasi	MKPK	2				2
Jumlah beban Studi Pada Semester 3								27
Semester 4								
Wajib								
33	MAS201	Statistika II	MKPS	2				2
34	MAS115	Statistika (Praktikum)	MKPS				1	1
35	MAL302	Aljabar Linier	MKPS	3				3
36	MAA203	Kalkulus Peubah Banyak	MKPS	4				4
37	MAT201	Metode Numerik	MKPS	3				3
38	MAT212	Riset Operasi	MKPS	2				2
39	MAT213	Riset Operasi (Praktikum)	MKPS				1	1
40	MAT211	Persamaan Diferensial Parsial	MKPS	2				2
Pilihan (15 sks)								
41	MAT204	Dinamika Populasi	MKPS	3				3
42	MAT205	Struktur Data dan Algoritma	MKPS	3				3
43	MAT211	Persamaan Diferensial Numerik	MKPS	2				2
44	MAT206	Basis Data	MKPS	2				2
45	MAL205	Geometri Diskrit	MKPS	2				2
46	MAT215	Program Linier Integer	MKPS	3				3
Jumlah beban Studi Pada Semester 4								33
Semester 5								
Wajib								
47	MAL301	Struktur Aljabar	MKPS	3				3
48	MAT208	Simulasi	MKPS	3				3
49	MAL307	Aljabar (Praktikum)	MKPS				1	1
50	MAA310	Analisis Real I	MKPS	2				2
51	MAS316	Statistika Matematika	MKPS	4				4
52	MAA307	Pengantar Peubah Kompleks	MKPS	2				2
53	MAT304	Pemodelan Matematika I	MKPS	2				2
Pilihan (18 sks)								
54	MAT301	Kecerdasan Buatan	MKPS	3				3
55	MAT305	Masalah Syarat Batas	MKPS	2				2
56	MAA204	Geometri Diferensial	MKPS	3				3
57	MAL310	Teori Graf	MKPS	3				3

58	BAE213	Bahasa Inggris Lanjut	MKLR	2			2
59	MAL309	Teori Koding	MKPS	2			2
60	MAT309	Riset Operasi Lanjut	MKPS	3			3
Jumlah beban Studi Pada Semester 5							35
Semester 6:							
Wajib							
61	KLT301	Praktek Kerja Lapangan*	MKPS	2			2
62	MAT402	Pemodelan Matematika II	MKPS	2			2
63	PNT497	Metodologi Penelitian	MKPS	2			2
64	KNT401	KKN-BBM*	MKPK	3			3
65	MAA302	Analisis Real II	MKPS	2			2
Pilihan (18 sks)							
66	MAL305	Kriptografi	MKPS	2			2
67	MAL308	Teori Kontrol Linier	MKPS	3			3
68	MAT308	Optimasi	MKPS	3			3
69	MAT310	Data Mining	MKPS	3			3
70	MAT311	Pemodelan Fraksional	MKPS	3			3
71	AGI401	Agama Islam Lanjut	MKPK	2			2
	AGK401	Agama Katolik Lanjut	MKPK	2			2
	AGP401	Agama Protestan Lanjut	MKPK	2			2
	AGB401	Agama Budha Lanjut	MKPK	2			2
	AGH401	Agama Hindu Lanjut	MKPK	2			2
72	MAA308	Peubah Kompleks	MKPS	2			2
Jumlah beban Studi Pada Semester 6							29
Semester 7:							
Wajib							
73	PNT498	Proposal Skripsi *	MKPS	2			2
Pilihan (20 sks)							
74	KST403	Kapita Selekt Analisis	MKPS	2			2
75	KST410	Kapita Selekt Aljabar	MKPS	2			2
76	KST411	Kapita Selekt Pemodelan Sistem	MKPS	2			2
77	KST412	Kapita Selekt Riset Operasi dan Komputasi	MKPS	2			2
78	MAT403	Teori Kontrol Diskrit	MKPS	2			2
79	MNW201	Kewirausahaan	MKPK	2			2
80	MAL311	Aplikasi Kriptografi	MKPS	2			2
81	MAT404	Jaringan Syaraf Tiruan	MKPS	3			3
82	MAA306	Teori Ruang Metrik	MKPS	3			3
Jumlah beban Studi Pada Semester 7							22
Semester 8:							
Wajib							
83	PNT499	Skripsi*	MKPS	6			6
Jumlah beban Studi Pada Semester 8							6
Jumlah Beban Studi Prodi							196

Catatan

MKPK : Mata Kuliah Penguatan Karakter

MKPS : Mata Kuliah Bidang Program Studi

MKRI : Mata Kuliah Lintas Bidang dalam 1 (satu) Rumpun Ilmu

MKLR : Mata Kuliah Lintas Bidang Lintas Rumpun Ilmu

- Open semester