

**STRUKTUR KURIKULUM /
*CURRICULUM STRUCTURE***

**Bachelor Sains Matematik
dengan Kepujian /
*Bachelor of Science in
Mathematics with Honours***

STRUKTUR KURIKULUM/ CURRICULUM STRUCTURE

Nama Program	:	Bachelor Sains Matematik dengan Kepujian / <i>Bachelor of Science in Mathematics with Honours</i>
Jumlah Kredit Bergraduat	:	126 Jam Kredit / <i>Credit Hours</i>
Tempoh Pengajian	:	8 Semester / <i>Semesters</i> (4 Tahun / <i>Years</i>)

1. Kursus Universiti / *University Courses (25 Kredit / Credits)*

KOD KURSUS/ COURSE CODE	NAMA KURSUS/ COURSE NAME	Kr	K	A/T	PRASYARAT/ PREREQUISITE
BBI2423	<i>Academic Interaction and Presentation</i>	3	2	1	CEL2102
BBI2424	<i>Academic Writing</i>	3	2	1	BBI2423
FCE3204	Kemahiran Berfikir/ <i>Thinking Skills</i>	2	2	0	Tiada/ None
KOM3403	Pengucapan Awam/ <i>Public Oratation</i>	3	3	0	Tiada/ None
MGM3180	Asas Keusahawanan/ <i>Basic Entrepreneurship</i>	3	2	1	Tiada/ None
PRT2008	Pertanian dan Manusia/ <i>Agriculture and Man</i>	2	2	0	Tiada/ None
SKP2101	Kenegaraan Malaysia/ <i>Malaysian Nationhood</i>	3	3	0	Tiada/ None
SKP2203	Tamadun Islam dan Tamadun Asia/ <i>Islamic Civilization and Asian Civilization</i>	2	2	0	Tiada/ None
SKP2204	Hubungan Etnik/ <i>Ethnic Relations</i>	2	2	0	Tiada/ None
QKK2101	Bakti Siswa	1	0	1	Tiada/ None
QKXxxxx	Ko-kurikulum/ <i>Co-curriculum</i>	1	0	1	Tiada/ None

2. Kursus Teras / *Core Courses (69 Kredit/ Credits)*

KOD KURSUS/ COURSE CODE	NAMA KURSUS/ COURSE NAME	Kr	K	A/T/ T	PRASYARAT/ PREREQUISIT E
MTH3100	Kalkulus/ <i>Calculus</i>	3	3	0	Tiada/ None
MTH3101	Kalkulus Lanjutan/ <i>Advanced Calculus</i>	3	3	0	MTH3100
MTH3102	Persamaan Pembezaan/ <i>Differential Equations</i>	3	3	0	MTH3100 dan MTH3200
MTH3103	Analisis Vektor/ <i>Vector Analysis</i>	3	3	0	MTH3100
MTH3104	Kaedah Matematik/ <i>Mathematical Methods</i>	3	3	0	MTH3102 dan MTH3201
MTH3200	Aljabar/ <i>Algebra</i>	3	3	0	Tiada/ None
MTH3201	Aljabar Linear/ <i>Linear Algebra</i>	3	3	0	MTH3100 dan MTH3200
MTH3202	Pengenalan Kepada Aljabar Moden/ <i>Introduction to Modern Algebra</i>	3	3	0	MTH3201
MTH3301	Analisis Nyata/ <i>Real Analysis</i>	3	3	0	MTH3101
MTH3302	Analisis Kompleks/ <i>Complex Analysis</i>	3	3	0	MTH3101

MTH3401	Kebarangkalian dan Statistik I/ <i>Probability and Statistics I</i>	3	3	0	MTH3100
MTH3402	Kebarangkalian dan Statistik II/ <i>Probability and Statistics II</i>	3	3	0	MTH3401
MTH3406	Kawalan Kualiti Berstatistik/ <i>Statistical Quality Control</i>	3	3	0	MTH3402
MTH3500	Pengaturcaraan Komputer dalam Matematik/ <i>Computer Programming in Mathematics</i>	4	3	1	Tiada/ None
MTH3501	Analisis Berangka/ <i>Numerical Analysis</i>	3	3	0	MTH3500, MTH3102 dan MTH3201
MTH3602	Pengaturcaraan Bermatematik/ <i>Mathematical Programming</i>	3	3	0	MTH3102 dan MTH3201
MTH3701	Matematik Kewangan/ <i>Financial Mathematics</i>	3	3	0	MTH3100
MTH3901	Proses Penyelidikan dalam Matematik dan Statistik/ <i>Research Processes in Mathematics and Statistics</i>	3	1	2	MTH3500
MTH4903	Latihan Industri/ <i>Industrial Training</i>	8	0	8	MTH4959
MTH4959	Disertasi Bacelor/ <i>Bachelor Dissertation</i>	6	0	6	Tiada/ None

3. Kursus Elektif / *Elective Courses (32 Kredit / Credits)*

i. Kumpulan I / *Group I (12 Kredit / Credits)*

Pelajar perlu memilih 12 kredit MTHXXXX iaitu dua (2) kursus Elektif Matematik Tulen dan 2 kursus Elektif Matematik Gunaan seperti yang disenaraikan /
Students must choose 12 credits of two (2) MTHXXXX Pure Mathematics Elective courses and two (2) Applied Mathematics Elective courses as listed

Matematik Tulen/ <i>Pure Mathematics (6 Kredit/ Credits)</i>					
KOD KURSUS/ COURSE CODE	NAMA KURSUS/ COURSE NAME	Kr	K	A	PRASYARAT/ <i>PREREQUISITE</i>
MTH4102	Teori Persamaan Pembezaan Biasa/ <i>Theory of Ordinary Differential Equations</i>	3	3	0	MTH3102 dan MTH3301
MTH4105	Teori Persamaan Kamiran/ <i>Theory of Integral Equations</i>	3	3	0	MTH3102 dan MTH3301
MTH4106	Persamaan Pembezaan Separa/ <i>Partial Differential Equations</i>	3	3	0	MTH3104 dan MTH3301
MTH4201	Aljabar Niskala/ <i>Abstract Algebra</i>	3	3	0	MTH3202
MTH4202	Teori Nombor/ <i>Number Theory</i>	3	3	0	MTH3101 dan MTH3202
MTH4203	Teori Graf/ <i>Graph Theory</i>	3	3	0	MTH3202
MTH4204	Kombinatorik/ <i>Combinatorics</i>	3	3	0	MTH3202
MTH4205	Kriptografi Bermatematik/ <i>Mathematical Cryptography</i>	3	3	0	MTH3202

MTH4301	Topologi/ <i>Topology</i>	3	3	0	MTH3301
MTH4302	Analisis Fungsian/ <i>Functional Analysis</i>	3	3	0	MTH3201 dan MTH3301
MTH4502	Teori Penghampiran/ <i>Approximation Theory</i>	3	3	0	MTH3602
MTH4800	Sejarah Matematik/ <i>History of Mathematics</i>	3	3	0	MTH3101

Matematik Gunaan/ <i>Applied Mathematics</i> (6 Kredit/ Credits)					
KOD KURSUS/ COURSE CODE	NAMA KURSUS/ COURSE NAME	Kr	K	A/T	
MTH4501	Analisis Berangka Lanjutan/ <i>Advanced Numerical Analysis</i>	3	3	0	MTH3501
MTH4602	Kawalan Optimum/ <i>Optimal Control</i>	3	3	0	MTH3104
MTH4603	Penyelidikan Operasi/ <i>Operations Research</i>	3	3	0	MTH3602
MTH4604	Teknik Pengoptimuman/ <i>Optimization Techniques</i>	3	3	0	MTH3401, MTH3201
MTH4605	Teori Kawalan/ <i>Control Theory</i>	3	3	0	MTH3104 dan MTH3301
MTH4606	Tajuk Khas dalam Matematik Gunaan/ <i>Special Topics in Applied Mathematics</i>	3	3	0	MTH3104

ii. **Kumpulan II / *Group II* (12 / 13 / 14 / 15 Kredit / Credits)**

Sains Komputer dan Teknologi Maklumat/ <i>Computer Science and Information Technology</i> (14/15 Kredit/ Credits)					
KOD KURSUS/ COURSE CODE	NAMA KURSUS/ COURSE NAME	Kr	K	A/T	PRASYARAT/ PREREQUISITE
SSK3100	Pengaturcaraan Komputer 1/ <i>Computer Programming I</i>	4	3	1	Tiada/ None
SSK3101	Pengaturcaraan Komputer II/ <i>Computer Programming II</i>	4	3	1	SSK3100*
dan mana-mana dua (2) kursus berikut/ <i>and any two (2) of the following courses</i>					
SSK3117	Struktur Data dan Algoritma/ <i>Data Structures and Algorithms</i>	3	3	0	SSK3101*
SSK3207	Organisasi Komputer dan Bahasa Himpunan/ <i>Computer Organization and Assembly Language</i>	3	3	0	SSK3100*
SSK3408	Pembangunan Aplikasi Pangkalan Data/ <i>Database Application Development</i>	4	3	1	SSK3101*
SIM3001	Pengenalan kepada Kejuruteraan Perisian/ <i>Introduction to Software Engineering</i>	3	3	0	SSK3101*

SKR3200	Komunikasi dan Rangkaian Komputer/ <i>Computer Network and Communication</i>	3	3	0	SSK3207*
atau Ekonomi/ or Economic (12 Kredit/ Credits)					
ECN3100	Prinsip Ekonomi/ <i>Principles of Economics</i>	3	3	0	Tiada/ None
ECN3101	Mikroekonomi/ <i>Microeconomics</i>	3	3	0	ECN3100*
ECN3102	Makroekonomi/ <i>Macroeconomics</i>	3	3	0	ECN3100*
ECN3161 atau	Ekonomi Malaysia/ <i>Malaysian Economics</i>	3	3	0	Tiada/ None
ECN4181	Ekonomi Antarabangsa/ <i>International Economics</i>	3	3	0	Tiada/ None
atau Perakaunan/ or Accounting (14 Kredit/ Credits)					
ACT2112	Perakaunan Pengenalan/ <i>Introductory Accounting</i>	4	3	1	Tiada/ None
ACT2131	Perakaunan Kos dan Pengurusan/ <i>Cost and Management Accounting</i>	3	3	0	ACT2112*
ACT3120	Perakaunan Kewangan/ <i>Financial Accounting</i>	4	3	1	ACT2112*
ACT3211	Pengurusan Kewangan/ <i>Financial Management</i>	3	3	0	ACT2112* atau ACT2113*
atau Pengurusan Perniagaan/ or Business Management (13 Kredit/ Credits)					
ACT2112	Perakaunan Pengenalan/ <i>Introductory Accounting</i>	4	3	1	Tiada/ None
ACT2131	Perakaunan Kos dan Pengurusan/ <i>Cost and Management Accounting</i>	3	3	0	ACT2112
MGM3101	Prinsip Pengurusan/ <i>Principles of Management</i>	3	3	0	Tiada/ None
MGM3211	Prinsip Pemasaran/ <i>Principles of Marketing</i>	3	3	0	MGM2111/MGM3101
atau Statistik/ or Statistics (12 Kredit/ Credits)					
MTH3403	Rekabentuk Ujikaji/ <i>Experimental Design</i>	3	3	0	MTH3401
MTH3405	Penggunaan Pakej Statistik terpilih/ <i>Application of Selected Statistical Package</i>	3	2	1	MTH3402
MTH3409	Statistik Berkomputasi/ <i>Computational Statistics</i>	3	2	1	MTH3405
MTH4401 atau	Teknik Pensampelan/ <i>Sampling Techniques</i>	3	3	0	MTH3403
MTH4407	Kaedah Interaktif Berkomputasi dalam Analisis Data/ <i>Interactive Computational Methods In Data Analysis</i>	3	3	0	MTH3405

atau Fizik/ or Physics (14 Kredit/ Credits)					
PHY3103	Fizik I/ <i>Physics I</i>	4	3	1	Tiada/ None
PHY3104	Fizik II/ <i>Physics II</i>	4	3	1	Tiada/ None
PHY3105	Fizik Moden/ <i>Modern Physics</i>	3	3	0	PHY3103 dan PHY3104
PHY3201 atau	Fizik Keadaan Pepejal/ <i>Solid State Physics</i>	3	3	0	PHY3103 dan PHY3104
PHY3401	Keelektromagnetan/ <i>Electromagnetism</i>	3	3	0	PHY3103 dan PHY3104
atau Kimia/ or Chemistry (14 Kredit/ Credits)					
CHM3010	Kimia Fizik dan Tak Organik/ <i>Physical and Inorganic Chemistry</i>	4	3	1	Tiada/ None
CHM3201	Kimia Organik I/ <i>Organic Chemistry I</i>	4	3	1	Tiada/ None
CHM3401	Kimia Analisis/ <i>Analytical Chemistry</i>	3	2	1	CHM3100 atau CHM3010
CHM4001	Kimia Perindustrian/ <i>Industrial Chemistry</i>	3	3	0	CHM3201

iii. **Kumpulan III / Group III (3 Kredit / Credits)**

Elektif Bahasa/ <i>Language Elective (3 Kredit/ Credits)</i>					
KOD KURSUS/ COURSE CODE	NAMA KURSUS/ COURSE NAME	Kr	K	A	PRASYARAT/ PREREQUISITE
	Bahasa Global/ <i>Global Language</i>	3			Tiada/ None

iv. **Kumpulan IV / Group VI (3 / 4 / 5 Kredit / Credits)**

KOD KURSUS/ COURSE CODE	NAMA KURSUS/ COURSE NAME	Kr	K	A	PRASYARAT/ PREREQUISITE
	Elektif 1/ <i>Elective 1</i>	3			Tiada/ None
	Elektif 2/ <i>Elective 2</i>	3			Tiada/ None

Nota / Notes :

Kr = Jam Kredit / Credit Hour, K = Kuliah / Lecture, A = Amali / Laboratory, T = Tutorial

*tertakluk kepada perubahan semakan kurikulum Fakulti yang menawarkan kursus tersebut

Nota Penting / Notes :

1. Pelajar perlu melengkapkan pakej keperluan Bahasa Inggeris seperti jadual di bawah.
Butiran lanjut mengenai CEL dan LAX sila rujuk di muka surat belakang buku panduan ini.
Students need to complete the english package as the table below : For more details on CEL and LAX please refer to the back / last page of this book.

MUET Band	Graduation Requirements for 4-year programmes
1 & 2	3 BBI + 3 CEL + 24 LAX points
3 & 4	2 BBI + 2 CEL + 24 LAX points
5 & 6	2 BBI + 1 CEL + 24 LAX points atau 1 BBI + 1 CEL + 24 LAX points (jika mengambil bahasa global)