BACHELOR OF SCIENCE IN MATHEMATICS ACADEMIC SESSION 2021/2022 (134 CREDITS)			
1. UNIVERSITY COURSES (12 CREDITS)			
COURSE CODE	**COURSE NAME**	**PRE-REQUISITE**	**CREDITS**
GLT^{xxxx}	English Courses (subject to MUET bands)	-	4
GKA/GKI/GKK/ GKP/GKS/GKU	Co-curriculum	-	2
GIG1012 / GLT1017	Philosophy and Current Issues / Basic Malay Language (only for international students)	-	2
GIG1013	Appreciation of Ethics and Civilisations	-	2
GIG1003	Basic Entrepreneurship Culture	-	2
2. CORE COURSES (79 CREDITS)			
COURSE CODE	**COURSE NAME**	**PRE-REQUISITE**	**CREDITS**
LEVEL 1 (30 Credits)			
SIX1015	Science, Technology and Society	-	2
SIX1016	Statistics	-	3
SIM1001	Basic Mathematics	-	4
SIM1002	Calculus I	-	4
SIM1003	Calculus II	SIM1002	4
SIM1004	Fundamentals of Computing	-	3
SIM1005	Fundamentals of Spreadsheets	-	2
SIM1006	Ordinary Differential Equations	SIM1002	4
SIT1001	Probability and Statistics I	SIM1002	4
LEVEL 2 (41 Credits)			
SIM2001	Advanced Calculus	SIM1003	4
SIM2002	Linear Algebra	SIM1001	4
SIM2007	Appreciation of Mathematics	SIM1003	2
SIM2010	Numerical Computation	SIM1003	4
SIM2011	Structured Programming	SIM1002	4
SIM2012	Basic Operations Research	SIM1001	4
SIM2013	Introduction to Combinatorics	SIM1001	3
SIM2014	Algebra I	SIM1001	3
SIM2015	Introduction to Analysis	SIM1003	3
SIM2016	Complex Variables	SIM1003	3
SIM2018	Partial Differential Equations	SIM1006	4
SIT2007	Foundations of Data Science	SIT1001	3
LEVEL 3 (8 Credits)			
SIM3020	Industrial Training	SIM2007	8
3. ELECTIVE COURSES (43 CREDITS)			
(I) STUDENT HOLISTIC EMPOWERMENT (8 CREDITS) ‡ **ONE COMPULSORY** course is taken from each cluster.			
CLUSTER			**CREDITS**
CLUSTER 1	Thinking Matters: Mind and Intellect		2
CLUSTER 2	Emotional, Physical and Spiritual Intelligence: Heart, Body and Soul		2
CLUSTER 3	Technology/Artificial Intelligence and Data Analytics: I-techie		2
CLUSTER 4	Global Issues and Community Sustainability: Making the World a Better Place		2
(II) PROGRAM ELECTIVE COURSES (at least 35 CREDITS)			
MATHEMATICAL SCIENCE			
COURSE CODE	**COURSE NAME**	**PRE-REQUISITE**	**CREDITS**
SIM2017	Geometry	SIM1001	3
SIM2019	Systems of Ordinary Differential Equations	SIM1006	4
SIM2021	Optimization Techniques	SIM2001	4
SIM3001	Graph Theory	SIM2013	4
SIM3002	Combinatorial Mathematics	SIM2013	4
SIM3003	Number Theory	SIM2002	4
SIM3004	Advanced Linear Algebra	SIM2002	4
SIM3005	Matrix Theory	SIM2002	4
SIM3006	Algebra II	SIM2014	4
SIM3007	Ring Theory	SIM2014	4
SIM3008	Group Theory	SIM2014	4
SIM3009	Differential Geometry	SIM2001	4
SIM3010	Topology	SIM2001	4

SIM3011	Complex Analysis	SIM2016	4
SIM3012	Real Analysis	SIM2015	4
SIM3021	Mathematical Science Project	SIM2011	4
SIM3022	Cryptography	SIT1001 and SIM2011	4
SIQ1001	Introduction to Accounting	-	3
SIQ2001	Microeconomics	-	3
SIQ2002	Macroeconomics	-	3
SIQ2003	Financial Mathematics and Derivatives	SIM1002	4
SIT2001	Probability and Statistics II	SIT1001	4
APPLIED MATHEMATICS			
COURSE CODE	**COURSE NAME**	**PRE-REQUISITE**	**CREDITS**
SIM2019	Systems of Ordinary Differential Equations	SIM1006	4
SIM2020	Management Mathematics	SIM1002	4
SIM2021	Optimization Techniques	SIM2001	4
SIM3021	Mathematical Science Project	SIM2011	4
SIM3022	Cryptography	SIT1001 and SIM2011	4
SIM3023	Numerical Methods and Analysis	SIM2010	4
SIM3024	Computational Geometry	SIM2011	4
SIM3025	Scientific Computing	SIM2011	4
SIM3026	Production and Inventory Control	SIM2012 and SIM2020	4
SIM3027	Mathematical Programming	SIM2012	4
SIM3028	Industrial Operations Research	SIM2012	4
SIM3029	Computational Fluid Dynamics	SIM2018	4
SIM3030	Dynamical Systems Theory	SIM2019	3
SIQ2001	Microeconomics	-	3
SIQ2002	Macroeconomics	-	3
SIT2001	Probability and Statistics II	SIT1001	4
SIT2010	Stochastic Processes	SIT2001	3
SIT3005	Times Series and Forecasting Methods	SIT2001	4

Students who wish to take SIM3020 are advised to have passed at least 90 credits of the listed courses in the program.

PROGRAM GOAL

To produce graduates with a sound knowledge of mathematics, capable of analysing and solving problems and thinking critically, able to adapt to diverse environments and contribute significantly in various professions.

PROGRAM EDUCATIONAL OBJECTIVES

1. Graduates are able to work in professions related to mathematical sciences or related fields.
2. Graduates are able to practice continuous learning in their careers.
3. Graduates are able to communicate and leverage learned concepts/methods effectively and ethically.

PROGRAM LEARNING OUTCOMES

At the end of the program, graduates with Bachelor of Science in Mathematics are able to:

1. Explain the principles and concepts of mathematics.
2. Demonstrate the ability to apply mathematical knowledge critically and analytically in related field.
3. Apply the principles of mathematics in solving mathematical and real-world problems.
4. Communicate mathematical concepts effectively, accurately and coherently in written and oral forms.
5. Use suitable information, graphical and computational strategies in solving mathematical problems.
6. Work independently and demonstrate leadership quality and sense of responsibility in achieving goals and outcomes.
7. Engage in lifelong learning to advance knowledge and applications of mathematics.
8. Act professionally and ethically to solve practical problems in mathematical professions.