BACHELOR OF SCIENCE IN APPLIED MATHEMATICS SESSION 2020/2021 (128 CREDITS)			
1. UNIVERSITY COURSES (20 CREDITS)			
COURSE CODE	**COURSE NAME**	**PRE-REQUISITE**	**CREDITS**
GLT^{xxxx}	Communication in English	-	6
GKN/GKR/GKV^{xxxx}	Co-curriculum	-	2
GIG1012 / GLT1017	Philosophy and Current Issues / Basic Malay Language (only for international students)	-	2
GIG1013 / GIG1006	Appreciation of Ethics and Civilisations / Introduction to Malaysia (only for international students)	-	2
GIG1003	Basic Entrepreneurship Culture	-	2
GIG1004	Information Literacy	-	2
GIG1005	Social Engagement	-	2
GIA – GIX^{xxxx}	External Faculty Elective Course	-	2
2. CORE COURSES (73 CREDITS)			
(I) FACULTY CORE COURSES (8 CREDITS) [TF]			
COURSE CODE	**COURSE NAME**	**PRE-REQUISITE**	**CREDITS**
SIX1001	Introduction to Science and Technology Studies	-	3
SIX1002	Ethics and Safety	-	2
SIX1004	Statistics	-	3
(II) PROGRAM CORE COURSES (65 CREDITS) [TP]			
COURSE CODE	**COURSE NAME**	**PRE-REQUISITE**	**CREDITS**
LEVEL 1 (24 Credits)			
SIM1001	Basic Mathematics	-	4
SIM1002	Calculus I	-	4
SIM1003	Calculus II	SIM1002	4
SIN1001	Introduction to Computing	-	2
SIN1002	Introduction to Worksheets	-	2
SIN1003	Mathematical Methods I	SIM1002	4
SIT1001	Probability and Statistics I	SIM1002	4
LEVEL 2 (36 Credits)			
SIM2001	Advanced Calculus	SIM1003	4
SIM2002	Linear Algebra	SIM1001	4
SIN2001	Mathematical Methods II	SIN1003	4
SIN2002	Structured Programming	SIM1002	4
SIN2003	Basic Operational Research	SIM1001 and SIN1002	4
SIN2004	Partial Differential Equations	SIN1003	4
SIN2005	System of Ordinary Differential Equations	SIN1003	4
SIN2006	Vector Analysis	SIM1003	4
SIT2001	Probability and Statistics II	SIT1001	4
LEVEL 3 (5 Credits)			
SIN3014	Industrial Training	SIM2002	5
3. ELECTIVE COURSES (35 CREDITS)			
(I) PROGRAM ELECTIVE COURSES (at least 28 CREDITS) [EP]			
COURSE CODE	**COURSE NAME**	**PRE-REQUISITE**	**CREDITS**
SIN2007	Management Mathematic	SIM1002	4
SIN2008	Optimization Technique	SIM2001	4
SIN2009	Computer Graphics	SIN1001 and SIN2002	4
SIN3001	Introduction to Quantum Mechanics with Computers	SIN2002	4
SIN3002	Cryptography	SIN2002 and SIT1001	4
SIN3003	Computational Fluid Dynamics	SIN2004	4
SIN3004	Analysis of Mathematical Models	SIN2005	4
SIN3005	Numerical Methods and Analysis	SIN2001	4
SIN3006	Production and Inventory Control	SIN2003 or SIN2007	4
SIN3007	Heuristic Methods	SIN2002	4
SIN3008	Mathematical Programming	SIN2003	4
SIN3009	Industrial Operational Research	SIN2003	4
SIN3010	Computational Geometry	SIN2002	4

SIN3011	Scientific Computing	SIN2002	4
SIN3012	Mechanics	SIN2006	4
SIN3013	Fourier and Wavelets Analysis	SIN1001 and SIM2002	4
SIN3015	Mathematical Science Project	SIM2002	4

(II) FACULTY ELECTIVE COURSES (7 CREDITS) [EF]

* Courses Offered by Other Institute/Department within the Faculty of Science
* Refer to the Faculty Elective Courses lists other than from the Institute of Mathematical Sciences but within the Faculty of Science

Institute/Department	Course Code	Course Title	Credits
Institute of Biological Sciences	SIX1006	Malaysian Flora	3
	SIX1007	Malaysian Fauna	3
	SIX1008	Bio Computing	2
Department of Chemistry	SIX1009	Basic Chemistry	2
Department of Geology	SIX1010	Earth's Ecosystem	2
Department of Physics	SIX1011	Contemporary Physics	2
Department of Science and Technology Studies	SIX1012	Logical Thinking in Science	3

The exact number of elective courses offered in each year may differ. Core courses in Bachelor of Science in Mathematics or Bachelor of Science in Statistics may also be taken as elective courses of department for this program. Only SIQ2003 in Bachelor of Actuarial Science may be taken as an elective course of department for this program. Please refer to the respective programs.

Attention:

1. Students who wish to specialize in Bachelor of Science in Applied Mathematics must take at least 20 credits from courses with codes SIN3***/SIM3***/SIT3*** (except SIN3014) of which at least 12 credits must be from SIN3***.
2. Students who wish to take SIN3014 or SIN3015 must pass at least 80 credits of the listed mathematics courses.