Four-Year Study Plan of Applied Mathematics Programme (2020 cohort)

Rev 20230911

Course Code	Course Title	Year One Sem 1	Year One Sem 2	Year One Summer/Winter	Year Two Sem 1	Year Two Sem 2	Year Three Sem 1	Year Three Sem 2	Year Four Sem 1	Year Four Sem 2
I. Major Required Courses (48 Units)										
MATH1053	Linear Algebra I	3								
MATH1073	Calculus I	3								
MATH1063	Linear Algebra II		3							
MATH1083	Calculus II		3							
COMP1013	Structured Programming				3					
MATH2043	Ordinary Differential Equations				3					
STAT2023	Advanced Probability				3					
COMP2003	Data Structures and Algorithms					3				
MATH3033	Partial Differential Equations					3				
MATH3053	Numerical Methods I						3			
MATH3063	Multivariate Calculus						3			
MATH4103	Mathematical Modelling						3			
MATH3043	Real Analysis (for MATH Students)							3		
MATH4093	Complex Analysis							3		
MATH4113	Selected Topics in Applied Analysis								3	
MATH4123	Final Year Project I (MATH)								3	
II. Major Elective Courses (12 Units)										
ME01 ME02 ME03 ME04							3	6		3[⑤]
III. General Education Core Courses (32 Units)										
CHI1053	University Chinese (Morality and Foundations of Law)	3								
CHI1063	Chinese Culture and Modern China					3				
CHI1073	Contemporary Chinese Society and Thoughts (Theories)		3							
CHI1083	Contemporary Chinese Society and Thoughts (Social Practice)		0							
CHI1093	Contemporary World and China[②]					0				
GCLA1903	English I	3								
GCLA1913	English II		3							
GCLA1923	English III				3					
GCLA1933	English IV					3				
GCIT1XX3	Information Management Technology[①]	3								
GCNU1XX3	Numeracy[①]		3							
GCPE1XX3	Physical Education[①]	1	1							
GCVM1013	Applied Ethics in Science and Technology						3			
IV. General Education Distribution Courses (12 Units)										
GDBM1XX3	Foundation Course in Business and Management[①]		3							
GDHS1XX3	Foundation Course in Humanities and Social Sciences[①]					3				
GDFL1XX3	Foundation Course in Foreign Language[①]	3								
GDHC1XX3	Foundation Course in World History and Civilisation[①]				3					
V. Whole Person Education Experiential Learning Modules (4 Units)										
WPEX Module I	WPEX1003 Experiential Development	1								
WPEX Module II	WPEX1013 Emotional Intelligence		1							
WPEX Module III	WPEX2003 Sports Culture[①], or WPEX2013 Experiential Arts[①]				1					
WPEX Module IV	WPEX2023 Voluntary Service[①], or WPEX2033 Environmental Awareness[①]				1					
VI. Free Elective Courses (24 Units)										
FE01 FE02 FE03 FE04 FE05 FE06 FE07 FE08				3[③]	3	3	3	3	9[④]	
Total Units: 132		**20**	**20**	**3**	**19**	**19**	**18**	**15**	**15**	**3**

① This denotes a course category in which a list of courses may be developed for students' selection. Students are expected to refer to the Online Course Selection System for courses available under each category.

② This course will take the form of lecture series. Students are required to attend and submit notes for at least 10 lectures within their first two years of study.

③ CHI1103 Introduction to Modern Social Theories will be offered under this category.

④ Students should take one FE(ENG) course under this category.

⑤ Students who continue with the final year project in the second semester of Year 4 should register MATH4163 Final Year Project II (MAHT) as a major elective during the Online Course Selection (or Course Add/Drop) period.

ME Course List of AM (2020 cohort)

Course Code	Course Title	Units
COMP3013	Database Management Systems	3
DS4023	Machine Learning	3
FINM3013	Introduction to Financial Derivatives	3
FINM3113	Financial Engineering Workshop	3
FINM3123	Introduction to Econometrics	3
FINM3133	Time Series for Finance and Macroeconomics	3
FINM3143	Financial Mathematics	3
MATH2033	Mathematical Statistics	3
MATH3003	Stochastic Processes and Applications	3
MATH3013	Discrete Mathematics	3
MATH3073	Multivariate Analysis (for MATH Students)	3
MATH3083	Markov Chain and Queuing Theory	3
MATH3093	Supply Chain Modelling	3
MATH3103	Advanced Linear Algebra	3
MATH3113	Vector Calculus	3
MATH3123	Numerical Linear Algebra	3
MATH3133	Modelling and Simulation	3
MATH3143	Differential Geometry	3
MATH4003	Graph Theory	3
MATH4133	Numerical Methods II	3
MATH4143	Functional Analysis	3
MATH4153	Numerical Methods for Differential Equations	3
MATH4163	Final Year Project II (MATH) #	3
OR3013	Linear Programming and Integer Programming	3
OR3023	Simulation	3
OR3033	Optimization Theory and Techniques	3
OR4043	Dynamic Programming and Stochastic Programming	3
PHYS2003	Principles of Physics	3
OR4053	Interior Point Methods for Convex Optimization	3
STAT4073	Data Mining	3

Students who continue with the final year project in the second semester of Year 4 should, with the approval of the Programme, register MATH4163 Final Year Project II (MATH) as a major elective in that semester.