

## Four-Year Study Plan of Applied Mathematics Programme (2021 cohort)

Rev 20230516

Rev 2023/05/16

Course Code	Course Title	Year One				Year Two		Year Three		Year Four	
		Sem 1	Winter	Sem 2	Summer	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
I. Major Required Courses (51 Units)											
MATH1053	Linear Algebra I	3									
MATH1073	Calculus I	3									
COMP1023	Foundations of C Programming			3							
MATH1063	Linear Algebra II			3							
MATH1083	Calculus II			3							
COMP2003	Data Structures and Algorithms					3					
MATH2043	Ordinary Differential Equations					3					
MATH2053	Mathematical Analysis					3					
MATH2063	Probability and Statistics					3					
MATH4083	Numerical Analysis						3				
MATH4093	Complex Analysis						3				
OR4023	Optimization						3				
MATH4103	Mathematical Modelling							3			
STAT3083	Applied Statistics							3			
MATH3033	Partial Differential Equations								3		
MATH3163	Real Analysis								3		
MATH4123	Final Year Project I (MATH)									3 <sup>③</sup>	
II. Major Elective Courses (15 Units)											
ME01 ME02 ME03 ME04 ME05								6	3	3	3
III. University Core Courses (36 Units)											
UCLC1003	University Chinese	3									
UCLC1013	English for Academic Purposes I	3									
UCLC1023	English for Academic Purposes II			3							
UCLC1033	English for Academic Purposes III						3				
CHII103	Introduction to Modern Social Theories		3								
CHII203	Morality and Foundations of Law					3					
CHII063	Chinese Culture and Modern China						3				
CHII073	Contemporary Chinese Society and Thoughts (Theories)			3							
CHII183	Contemporary Chinese Society and Thoughts (Social Practice)				2						
CHII193	Contemporary World and China <sup>①</sup>						2				
MT1003	Military Training		2								
WPEX1013	Emotional Intelligence			1							
WPEX2013	Experiential Arts <sup>②</sup>						1				
WPEX2023/ WPEX2033	Voluntary Service <sup>②</sup> , or Environmental Awareness <sup>②</sup>					1					
UCLH1XX3	Healthy Lifestyle <sup>②</sup>	1		1			1				
IV. General Education Courses (18 Units)											
Level 1	History and Civilization <sup>②</sup>					3					
Foundational Courses	Quantitative Reasoning <sup>②</sup>	3									
	Values and the Meaning of Life <sup>②</sup>			3							
Level 2 Interdisciplinary Thematic Courses	Culture, Creativity and Innovation <sup>②</sup> , or Science, Technology and Society <sup>②</sup> , or Sustainable Communities <sup>②</sup>							3	3		
Level 3 GE Capstone Courses	Service-Learning Course <sup>②</sup> , or Service Leadership Education Course <sup>②</sup> , or Experiential Learning Course <sup>②</sup> , or Interdisciplinary Independent Study <sup>②</sup>										3
V. Free Elective Courses (27 Units)											
FE01 FE02 FE03 FE04 FE05 FE06 FE07 FE08 FE09		3					3	6	6	9	
Total Units: 147		19	5	20	2	19	22	21	18	15	6

<sup>①</sup> This 2-unit course requires student to attend at least 10 lectures within his/her first two years of study.

<sup>②</sup> 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.

<sup>③</sup> Students who continue with the final year project in the second semester of Year 4 should register MATH4163 Final Year Project II (MATH) as a major elective during the Online Course Selection (or Course Add/Drop) period.

**ME Course List of AM (2021 cohort)**

Rev 20240116

Course Code	Course Title	Units
BIOL2003	General Biology	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
MATH3013	Discrete Mathematics	3
MATH3143	Differential Geometry	3
MATH3173	Applied Stochastic Process	3
MATH4003	Graph Theory	3
MATH4033	Computational Finance	3
MATH4113	Selected Topics in Applied Analysis	3
MATH4143	Functional Analysis	3
MATH4153	Numerical Methods for Differential Equations	3
MATH4163	Final Year Project II (MATH) <sup>#</sup>	3
OR3013	Linear Programming and Integer Programming	3
OR3023	Simulation	3
PHYS2003	Principles of Physics	3
STAT4013	Multivariate Analysis	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.