Four-Year Study Plan of Data Science Programme (2022 cohort)

Rev 20231106

Course Code	Course Title	Year One		Year Two		Year Three		Year Four	
		Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
I. Major Required Courses (54 Units)									
COMP1023	Foundations of C Programming	3							
MATH1003	Linear Algebra	3							
MATH1123	Calculus for Science and Engineering	3							
COMP2013	Object-Oriented Programming		3						
DS1023	Advanced Mathematics for Data Science		3						
MATH2003	Discrete Structures		3						
COMP2003	Data Structures and Algorithms			3					
DS2043	Data Processing Workshop I			3					
STAT2003	Advanced Statistics			3					
COMP3013	Database Management Systems				3				
DS3043	Data Processing Workshop II				3				
STAT2013	Regression Analysis				3				
COMP3023	Design and Analysis of Algorithms					3			
OR4023	Optimization					3			
STAT4073	Data Mining					3			
DS4023	Machine Learning						3		
COMP4163	Neural Networks and Deep Learning							3	
DS4004	Final Year Project I (DS)							3	
II. Major Elective Courses (15 Units)									
ME01 ME02 ME03 ME04 ME05						3	6	3	3③
III. University Core Courses (37 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				
CHI1103	Introduction to Modern Social Theories					3			
CHI1203	Morality and Foundations of Law			3					
CHI1063	Chinese Culture and Modern China				3				
CHI1073	Contemporary Chinese Society and Thought I		3						
CHI1253	Contemporary Chinese Society and Thought II		3						
CHI1193	Contemporary World and China①				2				
MT1003	Military Training	2							
WPEX1013	Emotional Intelligence		1						
WPEX2013	Experiential Arts②				1				
WPEX2023/ WPEX2033	Voluntary Service②, or Environmental Awareness②			1					
UCHL1XX3	Healthy Lifestyle②	1	1		1				
IV. General Education Courses (18 Units)									
Level 1 Foundational Courses	History and Civilization②			3					
	Quantitative Reasoning②	3							
	Values and the Meaning of Life④		3						
Level 2 Interdisciplinary Thematic Courses	Culture, Creativity and Innovation②, or Science, Technology and Society②, or Sustainable Communities②				3⑤	3⑤			
Level 3 GE Capstone Courses	Service-Learning Course②, or Service Leadership Education Course②, or Experiential Learning Course②, or Interdisciplinary Independent Study②						3		
V. Free Elective Courses (24 Units)									
FE01 FE02 FE03 FE04 FE05 FE06 FE07 FE08				3		3	6	6	6
Total Units: 148		**21**	**23**	**19**	**22**	**21**	**18**	**15**	**9**

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

② 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.

③ Students who continue with the final year project in the second semester of Year 4 should register DS4005 Final Year Project II (DS) as a major elective during the Online Course Selection (or Course Add/Drop) period.

④ Students are required to take GFVM1033 Ethics in An Era of Artificial Intelligence and Robotics or GFVM1043 Ethics in Daily Life and Life Sciences under this category.

⑤ Students are not allowed to take GTSC2093 IT for Success in Everyday Life and Work under this category.

ME Course List of DS (2022 cohort)

Rev 20250512

Course Code	Course Title	Units
AI3133	Natural Language Processing	3
COMP1003	Computer Organisation	3
COMP3003	Data Communications and Networking	3
COMP3033	Operating Systems	3
COMP3063	Software Engineering	3
COMP3073	Introduction to Robotics	3
COMP3083	Numerical Computation	3
COMP3103	Design Patterns	3
COMP3123	Software Testing	3
COMP3163	Mobile Application Development	3
COMP3173	Compiler Construction	3
COMP3183	Financial Computing	3
COMP4003	Theory of Computation	3
COMP4023	Computer and Network Security	3
COMP4033	Computer Graphics	3
COMP4053	Database System Implementation	3
COMP4063	Digital Media Computing	3
COMP4073	Distributed Computing Systems	3
COMP4093	Internet and the World Wide Web	3
COMP4113	Computer Vision and Pattern Recognition	3
COMP4123	Information Retrieval and Search Engine	3
COMP4143	Introduction to Web Intelligence	3
COMP4153	Quantum Finance and Intelligent Financial Trading Systems	3
COMP4173	Digital Image Processing	3
COMP4223	Deep Learning for Computer Vision	3
COMP4263	3D Computer Vision	3
DS2033	Linux System Management and Programming	3
DS3023	Digital Logic Design	3
DS3033	Technical Communication	3
DS3053	Requirements Engineering for Data Science Projects	3
DS3063	Computational Statistics and Programming	3
DS4005	Final Year Project II (DS)*	3
DS4033	Text Mining and Analytics	3
DS4053	Introduction to Bioinformatics	3
DS4063	Social Computing	3
DS4073	Introduction to Data Visualisation	3
DS4083	Big Data Analytics	3
DS4093	Introduction to Recommender System	3
MATH1163	Advanced Calculus	3
STAT3003	Survey Sampling	3
STAT3033	Bayesian Statistics	3
STAT3073	Statistical Computing	3
STAT4003	Experimental Design	3
STAT4013	Multivariate Analysis	3
STAT4043	Categorical Data Analysis	3
STAT4063	Time Series Analysis	3

* Students who continue with the final year project in the second semester of Year 4 should register DS4005 Final Year Project II (DS) as a major elective during the Online Course Selection (or Course Add/Drop) period.