

Four-Year Study Plan of Data Science Programme (2021 cohort)

Rev 20230222

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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 (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	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 ^①						2				
MT1003	Military Training		2								
WPEX1013	Emotional Intelligence			1							
WPEX2013	Experiential Arts ^②						1				
WPEX2023/ WPEX2033	Voluntary Service ^② , or Environmental Awareness ^②					1					
UCLH1XX3	Healthy Lifestyle ^②	1		1			1				
IV. General Education Courses (18 Units)											
Level 1 Foundational Courses	History and Civilization ^②					3					
	Quantitative Reasoning ^②	3									
	Values and the Meaning of Life ^②			3							
Level 2 Interdisciplinary Thematic Courses	Culture, Creativity and Innovation ^② , or Science, Technology and Society ^② , or Sustainable Communities ^②						3	3			
Level 3 GE Capstone Courses	Service-Learning Course ^② , or Service Leadership Education Course ^② , or Experiential Learning Course ^② , or Interdisciplinary Independent Study ^②								3		
V. Free Elective Courses (24 Units)											
FE01 FE02 FE03 FE04 FE05 FE06 FE07 FE08						3		6	6	6	3
Total Units: 147		19	5	20	2	19	22	21	18	15	6

^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.

ME Course List of DS (2021 cohort)
Rev 2024/202

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
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.