

Four-Year Study Plan of Artificial Intelligence Programme (2025 cohort)

Rev 20250422

Course Code	Course Title	Year One			Year Two			Year Three		Year Four	
		Sem 1	Winter	Sem 2	Sem 1	Sem 2	Summer	Sem 1	Sem 2	Sem 1	Sem 2
I. Major Required Courses (54 Units)											
AI1003	Python Programming	3									
MATH1003	Linear Algebra	3									
MATH1123	Calculus for Science and Engineering	3									
AI1013	Object-Oriented Programming			3							
AI1023	Database Management Systems			3							
AI2033	Probability and Statistics			3							
AI2003	Data Structures and Algorithm Analysis				3						
AI2013	Introduction to Artificial Intelligence				3						
AI2023	Artificial Intelligence Workshop				3						
MATH2003	Discrete Structures				3						
AI3013	Machine Learning					3					
AI3023	Machine Learning Workshop					3					
COMP3023	Design and Analysis of Algorithms					3					
AI3003	Neural Networks and Deep Learning							3			
AI3163	Computer Architecture and Operating Systems							3			
AI3043	Bayesian Networks								3		
AI4003	Optimization for Machine Learning								3		
AI4004	Final Year Project I (AI) ^③									3	
II. Major Elective Courses (21 Units)											
ME01 ME02 ME03 ME04 ME05 ME06 ME07								6	6	6	3
III. University Core Courses (37 Units)											
UCLC1003	University Chinese			3							
UCLC1013	English for Academic Purposes I	3									
UCLC1023	English for Academic Purposes II			3							
UCAI1003	Introduction to AI Literacy	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 Thought I							3			
CHII253	Contemporary Chinese Society and Thought II						3				
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						
UCHL1XX3	Healthy Lifestyle ^②	1		1		1					
IV. General Education Courses (18 Units)											
Level 1	History and Civilization ^②				3						
Foundational Courses	Quantitative Reasoning ^②	3									
	Values and the Meaning of Life ^②			3							
Level 2	Culture, Creativity and Innovation ^② , or Science, Technology and Society ^{②⑥} , or Sustainable Communities ^②					3		3			
Level 3	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 (18 Units)											
FE01 FE02 FE03 FE04 FE05 FE06								3	6	6	3
Total Units: 148		19	2	23	19	20	2	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 If students select a specific concentration, they must complete the final year's project for the specific concentration, i.e., students from AI in Business and Finance Concentration are required to complete a project using AI to solve a problem in Business and Finance, students from AI in Multimedia Concentration are required to complete a project using AI to solve a problem in Multimedia.

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.

Four-Year Study Plan of Math plus Artificial Intelligence Programme (2025 cohort)

Rev 20260304

Course Code	Course Title	Year One			Year Two			Year Three		Year Four	
		Sem 1	Winter	Sem 2	Sem 1	Sem 2	Summer	Sem 1	Sem 2	Sem 1	Sem 2
I. Major Required Courses (54 Units)											
AI1003	Python Programming	3									
MATH1053 ^{Ⓞ*}	Linear Algebra I	3									
MATH1073 ^{Ⓞ*}	Calculus I	3									
AI1013	Object-Oriented Programming			3							
AI1023	Database Management Systems			3							
AI2003	Data Structures and Algorithm Analysis				3						
AI2013	Introduction to Artificial Intelligence				3						
AI2023	Artificial Intelligence Workshop				3						
MATH2003	Discrete Structures				3						
STAT2063 ^{Ⓞ*}	Probability Theory				3						
AI3013	Machine Learning					3					
AI3023	Machine Learning Workshop					3					
COMP3023	Design and Analysis of Algorithms					3					
AI3003	Neural Networks and Deep Learning							3			
AI3163	Computer Architecture and Operating Systems							3			
AI3043	Bayesian Networks								3		
AI4003	Optimization for Machine Learning								3		
AI4004 ^{Ⓞ*}	Final Year Project I (AI)									3	
II. Major Elective Courses (21 Units)											
ME01 ME02 ME03 ME04 ME05 ME06 ME07				6 ^{Ⓞ*}				6		6	3 ^{Ⓞ*}
III. University Core Courses (37 Units)											
UCLC1003	University Chinese			3							
UCLC1013	English for Academic Purposes I	3									
UCLC1023	English for Academic Purposes II			3							
UCAI1003	Introduction to AI Literacy	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 Thought I							3			
CHII253	Contemporary Chinese Society and Thought II						3				
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						
UCHL1XX3	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 ^{ⓄⓄ} , or Sustainable Communities [Ⓞ]						3		3		
Level 3 GE Capstone Courses	Service-Learning Course [Ⓞ] , or Service Leadership Education Course [Ⓞ] , or Experiential Learning Course [Ⓞ] , or Interdisciplinary Independent Study [Ⓞ]										3
V. Free Elective Courses (18 Units)											
FE01 FE02 FE03 FE04 FE05 FE06		3 ^{Ⓞ*}						3	6	6	
Total Units: 148		19	2	23	22	20	2	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 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.

④ Students are not allowed to take GTSC2093 IT for Success in Everyday Life and Work under this category.

* Common Core Course (Required) - CCR

⑤ Students are required to take MATH1053 Linear Algebra I under MR.

⑥ Students are required to take MATH1073 Calculus I under MR.

⑦ Students are required to take STAT2063 Probability Theory under MR.

⑧ Students are required to take AI4004 Final Year Project I (AI) under MR.

⑨ Students are required to take MATH1063 Linear Algebra II and MATH1083 Calculus II under ME.

⑩ Students are required to take AI4005 Final Year Project II (AI) under ME.

⑪ Students are required to take COMP1023 Foundations of C Programming under FE.

Common Core Course (Elective) - CCE:

The CCE courses listed below are strongly recommended for students of the Math plus Artificial Intelligence Programme.

AI3133	Natural Language Processing	ME
MATH2043	Ordinary Differential Equations	FE
MATH3033	Partial Differential Equations	FE
STAT3033	Bayesian Statistics	FE
STAT4073	Data Mining	FE

ME Course List of AI (2025 cohort)

Rev 20260304

Code	Course Title	Units
AI2053	Introduction to Cognitive Science	3
AI2063	Game Theory	3
AI3033	Introduction to Robotics	3
AI3053	Intelligent Agent Technology	3
AI3063	Neuroscience in Artificial Intelligence	3
AI3073	Introduction to Bioinformatics	3
AI3093	Decision Theory	3
AI3103	Regression Analysis	3
AI3113	Speech Processing and Recognition	3
AI3123	Digital Image Processing	3
AI3133	Natural Language Processing	3
AI3143	Computer Vision	3
AI3153	Human-Computer Interaction	3
AI4005*	Final Year Project II (AI)	3
AI4013	Knowledge Graph Engineering	3
AI4023	Deep Reinforcement Learning	3
AI4033	Large-Scale Distributed Multi-Agent Systems	3
AI4053	Fintech	3
AI4063	Pattern Recognition	3
AI4083	Multimedia Mining and Analytics	3
AI4093	Design and Implementation of Intelligent Vision System	3
COMP3263	Intelligent Internet of Things	3
COMP3273	5G Networks and Mobile Computing	3
COMP4003	Theory of Computation	3
COMP4043	Data Mining and Knowledge Discovery	3
COMP4153	Quantum Finance and Intelligent Financial Trading Systems	3
COMP4243	Mathematical and Computing Methods	3
COMP4253	AI-Generated Content	3
DS4073	Introduction to Data Visualisation	3
DS4083	Big Data Analytics	3
DS4093	Introduction to Recommender System	3
MATH1153#	Applied Linear Algebra and Linear Dynamics	3
MATH1163#	Advanced Calculus	3
MATH3153	Advanced Probability	3
PHYS2003	Principles of Physics	3
STAT4013	Multivariate Analysis	3

* Except for the Math Plus Artificial Intelligence Programme, students who continue with the final year project in the second semester of Year 4 should register AI4005 Final Year Project II (AI) as a major elective during the Online Course Selection (or Course Add/Drop) period.