

CURRICULUM FOR BACHELOR OF SCIENCE (MATHEMATICAL SCIENCES)
WITH SECOND MAJOR IN DATA ANALYTICS
CN YANG SCHOLARS PROGRAMME
(FIRST YEAR ADMISSION)
AY2026 Intake Onwards

SUMMARY OF ACADEMIC UNIT REQUIREMENT								
Year of Study	Core	CNYS- Core	MPE	CC	Professional Series	Care, Serve & Learn	BDE	Total AU
1	13 [3]	27 [4]	0	3	0	0	0	43[7]
2	12 [4]	6	0	7	3	3	13	44 [4]
3	0	0	19	0	1	0	13	33
4	12	0	0	0	10	0	0	22
Total	37 [7]	33 [4]	19	10	14	3	26	142 [11]

[] AU of courses that could be used to fulfil Core requirement and second major requirement concurrently

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
CY1001	The Systems Architecture of Life	CNYS-Core	3	
CY1101	Molecule	CNYS-Core	4	
CY1308	Physics	CNYS-Core	3	
CY1601	Mathematics I	CNYS-Core	4	
MH1300	Foundations of Mathematics	C	4	
PS0001	Introduction to Computational Thinking	C	3	
			21	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
CY1007	Climate Change	CNYS-Core	3	
CY1500	Introduction to Research	CNYS-Core	2	
CY1602^	Mathematics II	CNYS-Core	4	
MH1301	Discrete Mathematics	C	3	
MH1403^	Algorithms and Computing	C	3	PS0001
NH0007	Critical Perspectives on Technology and Society	CC	3	
			18	

YEAR 1 SPECIAL TERM				
Course Code	Course Title	Type	AU	Remarks
CY2003	Research Attachment 3 (Making and Tinkering)	CNYS-Core	4	
	Overseas Learning Trip			
			4	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
CY0001	Language & Logic	CNYS-Core	3	
PS5915	Undergraduate Research	BDE	IP	Course will be registered in Semester 2. Grades will be recorded at the end of Semester 2
MH2500^	Probability	C	4	CY1601
MH3100	Real Analysis I	C	4	CY1601
SC2207	Introduction to Database	BDE	3	MH1403
CC0006	Sustainability: Society, Economy & Environment	CC	3	
NH0001	Tech-For-Good Service Learning	CSL	3	
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2	
			22	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
CY0002	Ethics	CNYS-Core	3	
PS5915	Undergraduate Research	BDE	4	2-semester long, course registered only in Sem 2
MH3110	Ordinary Differential Equations	C	4	CY1602
XXXXXX	DA Elective 1	BDE	3	
XXXXXX	DA Elective 2	BDE	3	
PS0002	Introduction to Data Science and Artificial Intelligence	PS	3	

CC0015	Health & Wellbeing	CC	2	
			22	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
XXXXXX	School Major PE	MPE	4	
XXXXXX	School Major PE	MPE	4	
XXXXXX	School Major PE	MPE	4	
SC4020	Data Analytics & Mining	BDE	3	MH1403
SC4024	Data Visualization	BDE	3	PS0001 + MH2500
MLXXXX	Professional Preparation	PS	1	
			19	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
XXXXXX	School Major PE	MPE	3	
XXXXXX	School Major PE	MPE	4	
XXXXXX	DA Elective 3	BDE	3	
XXXXXX	DA Elective 4	BDE	4	
			14	

YEAR 3 SPECIAL SEMESTER & YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
MH4111	Overseas Final Year Project	C	12	
			12	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
MH4912	Professional Internship	PS	10	
			10	
Total AUs required for Graduation:			142	

^ These courses are double-counted towards both MATH as well as the Second Major in Data Analytics.

The total AU for the Second Major must be at least 21, excluding double-counted courses (MH2500, CY1602, MH1403)

Double Counted Compulsory Courses for Second Major in Data Analytics					
Course Type	Course Code	Course Title	AU	Offering Sem	Pre-req
Core	MH2500	Probability	4	1	CY1601
Core	CY1602	Mathematics II	4	2	CY1601
Core	MH1403	Algorithms and Computing	3	2	PS0001

Recommended Compulsory Courses for Second Major in Data Analytics					
Course Type	Course Code	Course Title	AU	Offering Sem	Pre-req
BDE	SC2207	Introduction to Database	3	1,2	MH1403
BDE	SC4020	Data Analytics and Mining	3	1	MH1403
BDE	SC4024	Data Visualization	3	1	PS0001 & MH2500

[Students can choose to read other courses from the list available on SPMS website.](#)

Second Major Electives

[Choose at least 4 courses from the list. At least 6 AU must be chosen from non MH-coded courses.](#)