CURRICULUM FOR BACHELOR OF ENGINEERING (INFORMATION ENGINEERING & MEDIA)
WITH CN YANG SCHOLARS PROGRAMME
SECOND MAJOR IN DATA ANALYTICS (IEDA)
(FIRST YEAR ADMISSION)
AY2025 Intake Onwards

	SUMMARY OF ACADEMIC UNIT REQUIREMENT							
	Major Requirements			Interdisciplinary Collaborative Core				
Year of Study	School Core	CNYSP-Core	MPE	CC	Professional Series (PS)	Care, Serve, Learn	BDE	Total AU
1	14 [3]	23	0	2	3	0	0	42 [3]
2	14 [9]	10	0	8	0	3	0	35 [9]
3	24	0	6	0	6	0	12	48
4	8	0	12	0	0	0	6	26
Total	60 [12]	33	18	10	9	3	18	151 [12]

[ ] 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	Pre-Requisite/Remarks
CY1001	Cell	CNY-Core	3	CNYSP Courses
CY1101	Molecule	CNY-Core	4	
CY1308	Physics	CNY-Core	3	
CY1500	Introduction to Research	CNY-Core	2	
CY1601	Mathematics I	CNY-Core	4	
EG1001	Engineers in Society	C	2	
IE1005^	From Computational Thinking to Programming	C	3	
			21	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1007	Climate Change	CNY-Core	3	CNYSP Course
IE2104	Digital Electronics	C	3	
IM1002	Analog Electronics	C	3	
IM1003	Object-Oriented Programming	C	3	
CC0015	Health & Wellbeing	CC	2	
IE0005	Introduction to Data Science and Artificial Intelligence	PS	3	IE1005
			17	

YEAR 1 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY2003	Research Attachment 3	CNY-Core	4	CNYSP Course
	Overseas Learning Trip			
			4	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYSP Course
DA1000	Thinking and Communicating Visually I	C	3	
IE2106^	Engineering Mathematics I	C	3	CY1602
CC0006	Sustainability: Society, Economy & Environment	CC	3	
ML0004	Career Design & Workplace Readiness in the V.U.C.A. World	CC	2	
	Tech-For-Good (T4G)	CSL	3	Replaces Care, Serve, Learn
			17	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0002	Ethics	CNY-Core	3	CNYSP Course
CY2001	Research Attachment 1	CNY-Core	4	CNYSP Course 2-semester long, course registered only in Sem 2 (similar to URECA)
IE2107^	Engineering Mathematics II	C	3	CY1602
IE2108^	Data Structure and Algorithm in Python	C	3	
IM2073	Introduction to Design & Project	C	2	
SP0061	Science & Technology for Humanity	CC	3	
			18	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
DA2002	Thinking and Communicating Visually II	C	3	DA1000
IE2110	Signals and Systems	C	3	CY1601+CY1602
IE3017	Computer Communications	C	3	IE2106
IE4758	Information Security	C	3	
	Profession Preparation	PS	1	
IE4483	Artificial Intelligence & Data Mining	BDE	3	IE2107 & IE0005
SC4024	Data Visualization	BDE	3	IE1005 & IE2106/IE4491
	Data Analytics Core	BDE	3	Knowledge Area 5
			22	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
DA3000	Thinking and Communicating Visually III	C	3	DA1000
IE3012	Communication Principles	C	3	
IE4001	Software Engineering	C	3	
IM3180	Design & Innovation Project	C	3	IM2073^
	Third-Year Technical Elective	MPE	3	
	Final Year Major Prescribed Elective 1	MPE	3	
	Data Analytics Elective 1	BDE	3	
			21	

YEAR 3 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
IM3910	Professional Attachment	PS	5	
			5	

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
IM4081	CNYSP Overseas Final Year Project	C	8	CNYSP Course
			8	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
	Final Year Major Prescribed Elective 2	MPE	3	
	Final Year Major Prescribed Elective 3	MPE	3	
	Final Year Major Prescribed Elective 4	MPE	3	
	Final Year Major Prescribed Elective 5	MPE	3	
	Data Analytics Elective 2	BDE	3	
	Data Analytics Elective 3	BDE	3	
			18	

	Total AU for Graduation:	151	

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

Compulsory Courses for Second Major in Data Analytics					
Course Type	Course Code	Course Title	AU	Offering Sem	Pre-req/Remarks
Core	IE2106	Engineering Mathematics I	3	1	CY1602
Core	IE2107	Engineering Mathematics II	3	2	CY1602
Core	IE1005	From Computational Thinking to Programming	3	1	-
Core	IE2108	Data Structures & Algorithms	3	1	-
BDE	BC2402	Designing & Developing Databases	4	1	Suggested for Knowledge Area 5
BDE	IE4483	Artificial Intelligence & Data Mining	3	1	EE2107 & IE0005
BDE	SC4024	Data Visualization	3	1	IE1005 & IE2106/IE4491

Suggested Electives for Second Major in Data Analytics
https://www.ntu.edu.sg/engineering/admissions/ug/allprogrammes/highlights/da