

CURRICULUM FOR BACHELOR OF ENGINEERING (INFORMATION ENGINEERING & MEDIA)
WITH CN YANG SCHOLARS PROGRAMME
SECOND MAJOR IN DATA ANALYTICS (IEDA)
(FIRST YEAR ADMISSION)
AY2026 Intake Onwards

SUMMARY OF ACADEMIC UNIT REQUIREMENT								
Year of Study	Major Requirements			Interdisciplinary Collaborative Core			BDE	Total AU
	School Core	CNYS-Core	MPE	CC	Professional Series (PS)	Care, Serve, Learn		
1	14	23	0	5	0	0	0	42
2	17 [12]	6	0	5	3	3	4	38 [12]
3	24	0	6	0	6	0	12	48
4	8	0	12	0	0	0	6	26
Total	63 [12]	29	18	10	9	3	22	154 [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	The Systems Architecture of Life	CNY-Core	3	CNYS- Courses
CY1101	Molecule	CNY-Core	4	
CY1308	Physics	CNY-Core	3	
CY1601	Mathematics I	CNY-Core	4	
IE2104*	Digital Electronics	C	3	
NH0007	Critical Perspectives on Technology and Society	CC	3	
			20	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1007	Climate Change	CNY-Core	3	CNYS- Course
CY1500	Introduction to Research	CNY-Core	2	
EG1001	Engineers in Society	C	2	
IM1002	Analog Electronics	C	3	
IM1003	Object-Oriented Programming	C	3	
IM1010	Digital Media Production and Strategies	C	3	
CC0015	Health & Wellbeing	CC	2	
			18	

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

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0001	Language & Logic	CNY-Core	3	CNYS- Course
IE5915	Undergraduate Research	BDE	IP	Course will be registered in Semester 2. Grades will be recorded at the end of Semester 2
DA1000	Thinking and Communicating Visually I	C	3	
IE1005^	From Computational Thinking to Programming	C	3	
IE2106^	Engineering Mathematics I	C	3	CY1602
CC0006	Sustainability: Society, Economy & Environment	CC	3	
ML0004	Career Design & Workplace Readiness in a Dynamic World	CC	2	
NH0001	Tech-For-Good Service Learning	CSL	3	Replaces Care, Serve, Learn
			20	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0002	Ethics	CNY-Core	3	CNYS- Course
IE5915	Undergraduate Research	BDE	4	2-semester long, course registered only in Sem 2
IE2107^	Engineering Mathematics II	C	3	CY1602
IE2108^	Data Structures and Algorithms in Python	C	3	
IM2073	Introduction to Design & Project	C	2	

IE0005	Introduction to Data Science and Artificial Intelligence	PS	3	IE1005
			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	
MLXXXX	Profession Preparation Course	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:			154	

^ 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	2	-
BDE	BC2402	Designing & Developing Databases	4	1	Suggested for Knowledge Area 5
BDE	IE4483	Artificial Intelligence & Data Mining	3	1	IE2107 & IE0005
BDE	SC4024	Data Visualization	3	1	IE1005 & IE2106/IE4491

*These courses have laboratory codes, ExxxxL. Students must register for the mandatory codes during the registration period.