

**CURRICULUM FOR BACHELOR OF ENGINEERING (ELECTRICAL & ELECTRONIC)
WITH CN YANG SCHOLARS PROGRAMME
SECOND MAJOR IN DATA ANALYTICS (EEDA)
(FIRST YEAR ADMISSION)
AY2025 Intake Onwards**

SUMMARY OF ACADEMIC UNIT REQUIREMENT								
Year of Study	Major Requirements			Interdisciplinary Collaborative Core			BDE	Total AU
	School Core	CNYSP-Core	MPE	CC	Professional Series (PS)	Care, Serve, Learn		
1	9 [3]	23	0	2	3	0	0	37 [3]
2	18 [6]	6	0	8	0	3	7	42 [6]
3	14 [3]	0	9	0	6	0	12	41 [3]
4	8	0	12	0	0	0	3	23
Total	49 [12]	29	21	10	9	3	22	143 [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		
IE1005^	From Computational Thinking to Programming	C	3		
			19		

YEAR 1 SEMESTER 2					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
CY1007	Climate Change	CNY-Core	3	CNYSP Course	
EE1071	EEE Laboratory 1	C	1		
EG1001	Engineers in Society	C	2		
IE2104	Digital Electronics	C	3		
CC0015	Health & Wellbeing	CC	2		
IE0005	Introduction to Data Science and Artificial Intelligence	PS	3	IE1005	
			14		

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	
EE5915	Undergraduate Research	BDE	IP	Course will be registered in Semester 2. Grades will be recorded at the end of Semester 2	
EE2101	Circuit Analysis	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		
	Data Analytics Core	BDE	3	Knowledge Area 5	
			20		

YEAR 2 SEMESTER 2					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
CY0002	Ethics	CNY-Core	3	CNYSP Course	
EE5915	Undergraduate Research	BDE	4	2-semester long, course registered only in Sem 2	
EE2005	Electrical Devices & Machines	C	3	EE2101	
EE2102	Analog Electronics	C	3	EE2101	
IE2107^	Engineering Mathematics II	C	3		
IE2110	Signals and Systems	C	3	CY1601/CY1602	
SP0061	Science & Technology for Humanity	CC	3		
			22		

YEAR 3 SEMESTER 1					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
EE2073	Intro to EEE Design & Project	C	2		
EE2103	Semiconductor Fundamentals	C	3		
IE2108^	Data Structures & Algorithms in Python	C	3		
	Third-Year Technical Elective 1	MPE	3		
	Profession Preparation	PS	1		
IE4483	Artificial Intelligence & Data Mining	BDE	3	EE2107 & IE0005	
SC4024	Data Visualization	BDE	3	IE1005 & IE2106/IE4491	
			18		

YEAR 3 SEMESTER 2					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
EE3101	Engineering Electromagnetics	C	3	IE2107 (co-req)	
EE3180	Design & Innovation Project	C	3		
	Third-Year Technical Elective 2	MPE	3		
	Final Year Technical Elective 1	MPE	3		
	Data Analytics Elective 1	BDE	3		
	Data Analytics Elective 2	BDE	3		
			18		

YEAR 3 SPECIAL SEMESTER					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
EE3910	Professional Attachment	PS	5	Y3 standing, completed ≥4 semesters of study	
			5		

YEAR 4 SEMESTER 1					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
EE4081	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 Design Elective 1	MPE	3		
	Final Year Technical Elective 2	MPE	3		
	Final Year Design/Technical Elective 2/3	MPE	3		
	Final Year Design/Technical Elective 3/4	MPE	3		
	Date Analytics Elective 3	BDE	3		
			15		
Total AU for Graduation:				143	

[^] These courses are double-counted towards both EEE 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 course 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	