

**AY2023-24 CURRICULUM FOR BACHELOR OF ENGINEERING (ELECTRICAL & ELECTRONIC)
WITH CN YANG SCHOLARS PROGRAMME
SECOND MAJOR IN DATA ANALYTICS (EEDA)
(FIRST YEAR ADMISSION)**

Last Updated : 19-Apr-23

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	Core	CNYS- Core	MPE	CC	FC	BDE	Total AU
1	9	23	0	5	0	0	37
2	18	10	0	8	3	0	39
3	14	0	15	0	5	9	43
4	8	0	6	0	0	9	23
Total	49	33	21	13	8	18	142

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1001	Cell	CNY-Core	3	CNYS- 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	
CC0002	Navigating the Digital World	CC	2	
			20	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1007	Climate Change	CNY-Core	3	CNYS- Course
IE1005^	From Computational Thinking to Programming	C	3	
EE1071	EEE Laboratory 1	C	1	
IE2104	Digital Electronics	C	3	
CC0005	Healthy Living & Mental Wellbeing in an Aging Society	CC	3	
			13	

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
CY0002	Ethics	CNY-Core	3	CNYS- Course
EE0005	Introduction to Data Science and Artificial Intelligence	FC	3	EE1005
EE2101	Circuit Analysis	C	3	
IE2106	Engineering Mathematics I	C	3	CY1602
CC0006	Sustainability: Society, Economy & Environment	CC	3	
ML0004	Career and Entrepreneurial Development for the Future World	CC	2	
			17	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYS- Course
CY2001	Research Attachment 1	CNY-Core	4	CNYS- Course 2-semester long, course registered only in Sem 2 (similar to URECA)
EE2102	Analog Electronics	C	3	EE2101
EE2005	Electrical Devices & Machines	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
EE2103	Semiconductor Fundamentals	C	3	CY1307

IE2108^	Data Structures & Algorithms	C	3	
EE2073	Intro to EEE Design & Project	C	2	
EE4483	Artificial Intelligence & Data Mining	BDE	3	EE2107 & EE0005
IE4491^	Probability Theory & Applications	MPE	3	IE2110 Technical Elective 1
EE3XXX	Prescribed Elective 1	MPE	3	
SC4024	Data Visualization	BDE	3	EE1005 & IE2106/EE4491
			20	

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	
EE3XXX	Prescribed Elective 2	MPE	3	
EEXXX	Technical Elective 2	MPE	3	
EEXXX	Technical Elective 3	MPE	3	
MS4671	Introduction to Materials Simulation	BDE	3	EE1005 & EE0005
			18	

YEAR 3 SPECIAL SEMESTER

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
EE3276	Professional Attachment	FC	5	Y3 standing, completed ≥4 semesters of study
			5	

YEAR 4 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
EE4081	CNYSF Overseas Final Year Project	C	8	CNYSF Course
			8	

YEAR 4 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
EE4414	Machine Learning Design & Application	BDE	2	EE/IE4483
BC2402	Designing & Developing Databases	BDE	4	
EE4497	Pattern Recognition & Machine Learning	BDE	3	IE2106
EE4XXX	Design Elective 1	MPE	3	
EE4XXX	Design Elective 2	MPE	3	
			15	

Total AU for Graduation:

142

^ 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
MPE	EE4491	Probability Theory & Applications	3	1	IE2110/IM2004
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	-
BDE	EE4483	Artificial Intelligence & Data Mining	3	1	EE2107 & EE0005
BDE	SC4024	Data Visualization	3	1	EE1005 & IE2106/EE4491

Electives for Second Major in Data Analytics

Course Type	Course Code	Course Title	AU	Offering Sem	Pre-req
BDE	EE4414	Machine Learning Design & Application	2	2	EE/IM4483
BDE	EE4497	Pattern Recognition & Machine Learning	3	2	EE2006/IE2106
BDE	MS4671	Introduction to Materials Simulation	3	2	EE1005 & EE0005

List of Eligible Electives can be found at the following link: <https://www.ntu.edu.sg/engineering/admissions/ug/allprogrammes/highlights/da>