

**AY2024-25 CURRICULUM FOR BACHELOR OF ENGINEERING (ELECTRICAL & ELECTRONIC)  
WITH CN YANG SCHOLARS PROGRAMME  
SECOND MAJOR IN DATA ANALYTICS (EEDA)  
(FIRST YEAR ADMISSION)**

Last Updated : 3-May-24

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	Core	CNYS-P-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
<b>Total</b>	<b>49</b>	<b>33</b>	<b>21</b>	<b>13</b>	<b>8</b>	<b>18</b>	<b>142</b>

YEAR 1 SEMESTER 1					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
CY1001	Cell	CNY-Core	3	CNYS-P 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		
			<b>20</b>		

YEAR 1 SEMESTER 2					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
CY1007	Climate Change	CNY-Core	3	CNYS-P Course	
IE1005 <sup>A</sup>	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		
			<b>13</b>		

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

YEAR 2 SEMESTER 1					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
CY0002	Ethics	CNY-Core	3	CNYS-P Course	
IE0005	Introduction to Data Science and Artificial Intelligence	FC	3	IE1005	
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		
			<b>17</b>		

YEAR 2 SEMESTER 2					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYS-P Course	
CY2001	Research Attachment 1	CNY-Core	4	CNYS-P 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 <sup>A</sup>	Engineering Mathematics II	C	3		
IE2110	Signals and Systems	C	3	CY1601/CY1602	
SP0061	Science & Technology for Humanity	CC	3		
			<b>22</b>		

YEAR 3 SEMESTER 1					
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks	
EE2103	Semiconductor Fundamentals	C	3	CY1307	
IE2108 <sup>A</sup>	Data Structures & Algorithms in Python	C	3		
EE2073	Intro to EEE Design & Project	C	2		
EE4483	Artificial Intelligence & Data Mining	BDE	3	EE2107 & IE0005	
IE4491 <sup>A</sup>	Probability Theory & Applications	MPE	3	IE2110 Technical Elective 1	
EE3XXX	Prescribed Elective 1	MPE	3		
SC4024	Data Visualization	BDE	3	IE1005 & IE2106/IE4491	
			<b>20</b>		

IE4491 is not offered until further notice.

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		
EEXXXX	Technical Elective 2	MPE	3		
EEXXXX	Technical Elective 3	MPE	3		
MS4671	Introduction to Materials Simulation	BDE	3	IE1005 & IE0005	
			<b>18</b>		

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	CNYSO Overseas Final Year Project	C	8	CNYSO Course
			8	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
IE4424	Machine Learning Design & Application	BDE	2	IE4483
BC2402	Designing & Developing Databases	BDE	4	
IE4497	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	IE4491	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	IE4483	Artificial Intelligence & Data Mining	3	1	EE2107 & IE0005
BDE	SC4024	Data Visualization	3	1	IE1005 & IE2106/IE4491

Electives for Second Major in Data Analytics					
Course Type	Course Code	Course Title	AU	Offering Sem	Pre-req
BDE	IE4424	Machine Learning Design & Application	2	2	IE4483
BDE	IE4497	Pattern Recognition & Machine Learning	3	2	EE2006/IE2106
BDE	MS4671	Introduction to Materials Simulation	3	2	IE1005 & IE0005