

**AY2023-24 AND LATER COHORTS CURRICULUM FOR COMPUTER ENGINEERING
WITH CN YANG SCHOLARS PROGRAMME
SECOND MAJOR IN DATA ANALYTICS (CEDA)
(FIRST YEAR ADMISSION)**

Last Updated : 19-Apr-23

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	School Core	CNYS-SP-Core	MPE	CC	FC	BDE	Total AU
1	12	23	0	5	3	0	43
2	26	10	0	8	0	0	44
3	19	0	6	0	5	12	42
4	8	0	6	0	0	6	20
Total	65	33	12	13	8	18	149

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
CY1001	Cell	CNY-Core	3	CNYS-SP Courses
CY1101	Molecule	CNY-Core	4	
CY1308	Physics	CNY-Core	3	
CY1500	Introduction to Research	CNY-Core	2	
CY1601	Mathematics I	CNY-Core	4	
SC1003^	Introduction to Computational Thinking and Programming	C	3	Nil
CC0005	Healthy Living & Mental Wellbeing in an Aging Society	CC	3	Nil
			22	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
CY1007	Climate Change	CNY-Core	3	CNYS-SP Courses
SC1004^	Linear Algebra for Computing	C	3	MH1810, SC1003
SC1005	Digital Logic	C	3	Nil
SC1006	Computer Organisation & Architecture	C	3	SC1005 (co-req)
SC1015	Introduction to Data Science and Artificial Intelligence	FC	3	SC1003
CC0002	Navigating the Digital World	CC	2	Nil
			17	

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

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
CY0002	Ethics	CNY-Core	3	CNYS-SP Course
SC1007^	Data Structures and Algorithms	C	3	SC1003
SC2104	Sensors, Interfacing & Digital Control	C	3	SC1006
SC2107	Microprocessor System Design and Development	C	3	SC1006
MH1812	Discrete Mathematics	C	3	Nil
SP0061	Science & Technology for Humanity	CC	3	Only for Premier Scholars Programme Students
EG1001	Engineers in Society	C	2	Nil
			20	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYS-SP Course
CY2001	Research Attachment 1	CNY-Core	4	CNYS-SP Course 2-semester long, course registered only in Sem 2 (similar to URECA)
SC2000^	Probability and Statistics for Computing	C	3	MH1810
SC2001	Algorithm Design and Analysis	C	3	SC1007, MH1812
SC2002	Object Oriented Design & Programming	C	3	SC1003
SC2103	Digital System Design	C	3	SC1005
CC0006	Sustainability: Society, Economy & Environment	CC	3	Nil
ML0004	Career and Entrepreneurial Development for the Future World	CC	2	Nil
			24	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
SC2079	Multidisciplinary Design Project	C	4	Year 3 Standing

SC2207	Introduction to Database	BDE	3	SC2001
SC4020	Data Analytics and Mining	BDE	3	SC2001
SC4024	Data Visualization	BDE	3	SC1003, SC2000
SCXXXX	Major PE 1	MPE	3	
SCXXXX	Major PE 2	MPE	3	
			19	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
SC2005	Operating Systems	C	3	SC1006, SC1007
SC2006	Software Engineering	C	3	SC2002
SC2008	Computer Networks	C	3	CY1602, SC2000
SC3102	Signal, Systems and Transform	C	3	CY1602
SC3103	Embedded Programming	C	3	SC2107
XXXXXX	DA Elective 1	BDE	3	
			18	

YEAR 3 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-Requisite
SC3080	Professional Attachment	FC	5	Year 3 Standing
			5	

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
SC4211	CNYSO Overseas Final Year Project	C	8	CNYSO Course
			8	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
XXXXXX	DA Elective 2	BDE	3	
XXXXXX	DA Elective 3	BDE	3	
SCXXXX	Major PE 3	MPE	3	
SCXXXX	Major PE 4	MPE	3	
			12	

Total AU for Graduation: 149

^ These courses are double-counted towards both CE 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
Core	SC2000	Probability and Statistics for Computing	3	1	MH1810
Core	SC1004	Linear Algebra for Computing	3	2	MH1810, SC1003
Core	SC1003	Introduction to Computational Thinking & Programming	3	1	-
Core	SC1007	Data Structures and Algorithms	3	1, 2	SC1003
BDE	SC2207	Introduction to Database	3	1, 2	SC2001
BDE	SC4020	Data Analytics and Mining	3	1	SC2001
BDE	SC4024	Data Visualization	3	1	SC1003, SC2000

Suggested Electives for Second Major in Data Analytics					
Course Type	Course Code	Course Title	AU	Offering Sem	Pre-req
BDE	SC3020	Database System Principle	3	2	SC2107
BDE	SC4021	Information Retrieval	3	2	SC2001
BDE	SC4022	Network Science	3	2	SC2001

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