

**AY2024-25 AND LATER COHORTS CURRICULUM FOR COMPUTER ENGINEERING
WITH CN YANG SCHOLARS PROGRAMME
SECOND MAJOR IN DATA ANALYTICS (CEDA)
(FIRST YEAR ADMISSION)**

Last Updated : 16-Jul-24

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	School Core	CNYS-Core	MPE	CC	FC	BDE	Total AU
1	15	23	0	5	3	0	46
2	23	10	0	8	0	0	41
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-Core 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	FC	3		
CC0005	Healthy Living & Wellbeing	CC	3	Nil	
			22		

Change in course type from Core to FC

YEAR 1 SEMESTER 2					
Course Code	Course Title	Type	AU	Pre-Requisite	
CY1007	Climate Change	CNY-Core	3	CNYS-Core Courses	
SC1004^	Linear Algebra for Computing	C	4	MH1810, SC1003	
SC1005	Digital Logic	C	3	Nil	
SC1006	Computer Organisation & Architecture	C	3	SC1005 (co-req)	
SC1007^	Data Structures and Algorithms	C	3	SC1003	
SC1008	C and C++ Programming	C	3	SC1003	
CC0002	Navigating the Digital World	CC	2	Nil	
			21		

increase by 1AU

new course

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

YEAR 2 SEMESTER 1					
Course Code	Course Title	Type	AU	Pre-Requisite	
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYS-Core Course	
SC2000^	Probability and Statistics for Computing	C	3	MH1810	
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	
CY0002	Ethics	CNY-Core	3	CNYS-Core Course	
CY2001	Research Attachment 1	CNY-Core	4	CNYS-Core Course 2-semester long, course registered only in Sem 2 (similar to URECA)	
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	
			21		

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
SC3910	Professional Attachment	FC	5	Year 3 Standing
			5	

YEAR 4 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite
SC4211	CNYSF Overseas Final Year Project	C	8	CNYSF 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: 150

^ 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