B.Eng (Hons) in Chemical and Biomolecular Engineering CNYang Scholars Programme with 2nd Major in Digital Analytics

AY2024 - 2025 Intake onwards (CBDA CNYSP)

				Numb	er of Acad	demic Units (A	AU)	
		Majo	r Requir	ement	Interdi	isciplinary	Broadening	
Виодианана	Year of						and	
Programme	Study	School	CNYang	Major PE	Common	Foundational	Deepening	Total
		Core (C)	Core (C)	(MPE)	Core (CC)	Core (FC)	Electives	
		(0)	(0)		(00)	(10)	(BDE)	
Chemical &	1	16	23		5			44
Biomolecular	2	26	10		8			44
Engineering	3	25				5	3	33
(CNYang)	4	8		6		3	19	36
(Civrailg)	Total	75	33	6	13	8	22	157

Category			Total AU	
	Common Core (University-level)			
	CC0002 Navigating the Digital World	2		
	CC0005 Healthy Living & Wellbeing	3		
	CC0006 Sustainability: Society, Economy &		13	
Interdisciplinary Collaborative Core (ICC)	SP0061 Science & Technology for Humanit	•		
	ML0004 Career and Entrepreneurial Devel Future World	opment for the 2		
	Foundational Core (College-level)			
	CB0494 Introduction to Data Science and A	Artificial 3		
	CH3910 Professional Attachment	5	8	
	CBE Core			
	EG1001 Engineers In Society	2		
	CB1102 Engineering	1		
	CB1117 [^] Engineering Mathematics	4		
Major Requirement	CB1103 Organic Chemistry For Engineers	s 3		
	CB1131 Introduction to Biomolecular En	gineering 3		
	CH1104 Materials & Energy Balance	3	34	
	CH2010 [^] Engineering Statistics	3		
	CH2103 Fluid Systems	3		
	CH2107 [^] Introduction to Computational T	oduction to Computational Thinking 3		
	CH2108 Thermodynamics	3		
	CH2112 Chemical Reaction Engineering	3		
	Heat & Mass Transfer in Chemic	al and Biological		
	CH2114 Systems	3		

	CH2123	Chemical Thermodynamics	3	
	CH2151	-	3	
		'	<u> </u>	
		Chemical & Biomolecular Engineering Laboratory		
	CH2802	2B	2	
	CH3104	Biochemical Engineering	3	
	CH3109	Decision Tools for Business & Engineering	3	
		Process Control and Dynamics	3	
		•		
	CH3121	Chemical, Biological & Plant Safety	2	
	CH3140	Unit Operations B	3	
		Chemical & Biomolecular Engineering Laboratory		
	CH3802		3	
		CNYSP Overseas Final Year Project	8	
D. C		-		- .
Major	CH4801	Final Year Design Project	8	74
Requirement				
	CNYSP Co			
	CY0001	Writing Across the Disciplines	3	
	CY0002	Ethics	3	
	CY1001	Cell	3	
	CY1007		3	
	CY1101	Molecule	4	
	CY1308	Physics	3	
	CY1500	Introduction to Research	2	
	CY1601	Mathematics I	4	
	CY2001	Research Attachment 1	4	
	CY2003	Research Attachment 3	4	
	1			
	CRF Maio	or Prescribed Flectives (MPF)		6
	CBE Majo	or Prescribed Electives (MPE)		6
	CBE Majo	or Prescribed Electives (MPE)		6
				6
	Data Anal	ytics Compulsory Courses	NA	6
	Data Anal	lytics Compulsory Courses Algebra: CB1117 Engineering	NA	6
	Data Anal 1) Linear A 2) Compu	Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to	NA NA	6
	Data Anal 1) Linear A 2) Compu Computat	lytics Compulsory Courses Algebra: CB1117 Engineering		6
	Data Anal 1) Linear A 2) Compu Computat 3) Probab	Atics Compulsory Courses Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S	NA	6
	Data Anal 1) Linear A 2) Compu Computat 3) Probab 4) Algorith	lytics Compulsory Courses Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S hms: MH1403 Algorithms & Computing	NA NA 3	6
	Data Anal 1) Linear A 2) Computat 3) Probab 4) Algorith 5) Databa	Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S nms: MH1403 Algorithms & Computing se: EE4791 Database Systems (3AU)	NA NA	6
	Data Anal 1) Linear A 2) Compu Computat 3) Probab 4) Algorith 5) Databa 6) Data M	lytics Compulsory Courses Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S nms: MH1403 Algorithms & Computing se: EE4791 Database Systems (3AU) ining: EE4483 Artificial	NA NA 3	6
	Data Anal 1) Linear A 2) Computat 3) Probab 4) Algorith 5) Databa 6) Data M Intelligence	Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S nms: MH1403 Algorithms & Computing se: EE4791 Database Systems (3AU) ining: EE4483 Artificial ce & Data Mining	NA NA 3 3	6
2nd Maior in	Data Anal 1) Linear A 2) Computat 3) Probab 4) Algorith 5) Databa 6) Data M Intelligence 7) Data Vi	lytics Compulsory Courses Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S nms: MH1403 Algorithms & Computing se: EE4791 Database Systems (3AU) ining: EE4483 Artificial ce & Data Mining sualisation/Management: BC2406	NA NA 3 3	6
2nd Major in	Data Anal 1) Linear A 2) Computat 3) Probab 4) Algorith 5) Databa 6) Data M Intelligence 7) Data Vi	Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S nms: MH1403 Algorithms & Computing se: EE4791 Database Systems (3AU) ining: EE4483 Artificial ce & Data Mining	NA NA 3 3	
Data Analytics	Data Anal 1) Linear A 2) Computat 3) Probab 4) Algorith 5) Databa 6) Data M Intelligence 7) Data Vi	lytics Compulsory Courses Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S nms: MH1403 Algorithms & Computing se: EE4791 Database Systems (3AU) ining: EE4483 Artificial ce & Data Mining sualisation/Management: BC2406	NA NA 3 3	22
2nd Major in Data Analytics (BDEs)	Data Anal 1) Linear A 2) Computat 3) Probab 4) Algorith 5) Databa 6) Data M Intelligence 7) Data Vi Analytics I	lytics Compulsory Courses Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S nms: MH1403 Algorithms & Computing se: EE4791 Database Systems (3AU) ining: EE4483 Artificial ce & Data Mining sualisation/Management: BC2406	NA NA 3 3	
Data Analytics	Data Anal 1) Linear A 2) Computat 3) Probab 4) Algorith 5) Databa 6) Data M Intelligence 7) Data Vi Analytics I	Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S nms: MH1403 Algorithms & Computing se: EE4791 Database Systems (3AU) ining: EE4483 Artificial ce & Data Mining sualisation/Management: BC2406 I: Visual and Predictive Techniques	NA NA 3 3	
Data Analytics	Data Anal 1) Linear A 2) Comput Computat 3) Probab 4) Algorith 5) Databa 6) Data M Intelligence 7) Data Vi Analytics I	Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S mms: MH1403 Algorithms & Computing se: EE4791 Database Systems (3AU) ining: EE4483 Artificial ce & Data Mining sualisation/Management: BC2406 I: Visual and Predictive Techniques Numerical Method and Data Analytics	NA NA 3 3	
Data Analytics	Data Anal 1) Linear A 2) Computat 3) Probab 4) Algorith 5) Databa 6) Data M Intelligence 7) Data Vi Analytics I Electives CH4244 Choose fro	Algebra: CB1117 Engineering ting Skills: CH2107 Introduction to cional Thinking ility and Statistics: CH2010 Engineering S nms: MH1403 Algorithms & Computing se: EE4791 Database Systems (3AU) ining: EE4483 Artificial ce & Data Mining sualisation/Management: BC2406 I: Visual and Predictive Techniques	NA NA 3 3	

Total			157
	MA4829 Machine Intelligence (3AU) MA4830 Real Time Software for Mechatronics System (3AU) MA4832 Microprocessor System (3AU) MS4671 Introduction to Materials Simulation (3AU)	6	
	EE4497 Pattern Recognition & Machine Learning (3AU)		

[^]Counted towards 2nd Major in Data Analytics requirement (total 10AU)

	essional Attachment					
/ear 1 Se Course	emester 1	Type	AU	Year 1 Se Course	emester 2	Ту
B1102	Introduction to Chemical and Biomedical Engineering	С	1	CB1103	Organic Chemistry For Engineers	С
B1131	Introduction to Biomolecular Engineering	С	3	CB1117^	Engineering Mathematics	С
Y1001	Cell	С	3	CH1104	Materials & Energy Balance	С
Y1101	Molecule	С	4	EG1001	Engineers in Society	С
Y1308	Physics	С	3	CY1007	Climate Change	С
Y1500	Introduction to Research	С	2	CC0005	Healthy Living & Wellbeing	CC
Y1601	Mathematics 1	С	4			
C0002	Navigating the Digital World	CC	2	Voor 1 Si	pecial Term	
				CY2003	Research Attachment 3 (Making	
				C12003	and Tinkering)	
				_	Overseas Learning Trip	_
			22			
	emester 1	T			emester 2	T
ourse H2103	Fluid Systems	Type C	AU 3	Course CH2112	Chemical Reaction Engineering	Typ C
	Fluid Systems				Chemical Reaction Engineering Heat & Mass Transfer in Chemical	
H2107^	Introduction to Computational Thinking	С	3	CH2114	and Biological Systems	С
H2108	Thermodynamics	С	3	CH2123	Chemical Thermodynamics	С
H2010 [^]	*	C	3	CH2151	Unit Operations A	Č
Y0001	Writing Across The Disciplines	С	3	CH2802	Chemical & Biomolecular	С
	Sustainability: Society, Economy &				Engineering Laboratory 2B	
C0006	Environment	CC	3	CY0002	Ethics	С
L0004	Career and Entrepreneurial Development for the Future World	CC	2	CY2001	Research Attachment 1	С
				SP0061	Science & Technology for Humanity	CC
			20			
ear 3 Se course	emester 1	Type	AU	Year 3 Se Course	emester 2	Тур
H3104	Biochemical Engineering	Type C	3	CH4211	CNYSP Overseas Final Year	C
	Decision Tools for Business &	C	3	0114211	Project	C
H3109	Engineering	С	3			
H3111	Process Control and Dynamics	С	3	Year 3 S	pecial Term	
H3121	Chemical, Biological & Plant Safety	С	2	CH3910	Professional Attachment	FC
H3140	Unit Operations B	С	3			
H3802	Chemical & Biomolecular Engineering	С	3			
	Laboratory 5 DA Elective 1	BDE	3			
			20			
	emester 1			Year 4 Se	emester 2	
ear 4 Se		Туре	AU	Course		Тур
			4	CH4801	Final Year Design Project	С
ourse	Final Year Design Project	С		CB0494	Introduction to Data Science and Artificial Intelligence	FC
ourse	Final Year Design Project CBE PE1	C MPE	3	CD0494	· · · · · · · · · · · · · · · · · · ·	
ourse H4801	CBE PE1 Numerical Methods and Data	MPE	3	CD0494	CBE PE2	MPI
CH4801	CBE PE1 Numerical Methods and Data Analytics	MPE BDE	3			
CH4244 EE4483	CBE PE1 Numerical Methods and Data Analytics Artificial Intelligence & Data Mining Analytics I: Visual and Predictive	MPE BDE BDE	3	MH1403	Algorithms & Computing	MPE BDE BDE
CH4801	CBE PE1 Numerical Methods and Data Analytics Artificial Intelligence & Data Mining	MPE BDE	3		Algorithms & Computing Database Systems	BDE BDE
H4801 H4244 E4483	CBE PE1 Numerical Methods and Data Analytics Artificial Intelligence & Data Mining Analytics I: Visual and Predictive	MPE BDE BDE	3	MH1403	Algorithms & Computing	BDE
Ourse H4801 H4244 E4483	CBE PE1 Numerical Methods and Data Analytics Artificial Intelligence & Data Mining Analytics I: Visual and Predictive	MPE BDE BDE	3	MH1403	Algorithms & Computing Database Systems	BDI BDI

[^] These courses are double-counted towards both CBE as well as the Second Major in Data Analytics.