

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

AY2025 - 2026 Intake onwards (CBSN CNYSP)

Programme	Year of Study	Number of Academic Units (AU)							
		Major Requirement			Interdisciplinary Collaborative Core			Broadening and Deepening Electives (BDE)	Total
		School Core (C)	CNYang Core (C)	Major PE (MPE)	Common Core (CC)	Professional Series (PS)	Care, Serve, Learn (CSL)		
Chemical & Biomolecular Engineering (CNYang)	1	12 [2]	27 [3]		2			3	44
	2	26	10		8		3		47
	3	25				6		3	34
	4	8		6		3		19	36
	Total	71 [2]	37 [3]	6	10	9	3	25	161

Category		AU	Total AU
Interdisciplinary Collaborative Core (ICC)	Common Core (CC)		
	CC0006 Sustainability: Society, Economy & Environment	3	10
	CC0015 Health & Wellbeing	2	
	ML0004 Career Design & Workplace Readiness in the V.U.C.A World	2	
	SP0061 Science & Technology for Humanity	3	
	Professional Series (PS)		
	CB0494 Intelligence	3	9
	MLXXXX Professional Preparation	1	
	CH3910 Professional Attachment	5	
	Care, Service, Learn (CSL) Tech-For-Good (T4G)	3	3
Major Requirement	CBE Core		
	EG1001^ Engineers In Society	2	30
	Introduction to Chemical and Biomedical Engineering		
	CB1102 Engineering	1	
	CB1103 Organic Chemistry For Engineers	3	
	CB1131 Introduction to Biomolecular Engineering	3	
	CH1104 Materials & Energy Balance	3	
	CH2010 Engineering Statistics	3	
	CH2103 Fluid Systems	3	
	CH2107 Introduction to Computational Thinking	3	
	CH2108 Thermodynamics	3	
	CH2112 Chemical Reaction Engineering	3	
	Heat & Mass Transfer in Chemical and Biological Systems	3	

Major Requirement	CH2123 Chemical Thermodynamics	3	41
	CH2151 Unit Operations: Fluid-Solid Separation	3	
	Chemical & Biomolecular Engineering Laboratory		
	CH2802 2B	2	
	CH3104 Biochemical Engineering	3	
	CH3109 Decision Tools for Business & Engineering	3	
	CH3111 Process Control and Dynamics	3	
	CH3121 Chemical, Biological & Plant Safety	2	
	CH3140 Unit Operations: Fluid-Fluid Separation	3	
	CH3802 Chemical & Biomolecular Engineering Laboratory 5	3	
	CH4211 CNYSP Overseas Final Year Project	8	37
	CH4801 Final Year Design Project	8	
	CNYSP Core		
	CY0001 Writing Across the Disciplines	3	
	CY0002 Ethics	3	
	CY1001 Cell	3	
	CY1007^ Climate Change	3	
	CY1101 Molecule	4	
	CY1308 Physics	3	
	CY1500 Introduction to Research	2	
	CY1601 Mathematics I	4	
	CY1602 Mathematics II	4	
	CY2001 Research Attachment 1	4	
	CY2003 Research Attachment 3	4	
CBE Major Prescribed Electives (MPE)			6
2nd Major in Sustainability	Sustainability Compulsory Courses		
	<i>Choose 1 Course from EACH of the 5 Knowledge</i> 1) PEOPLE EM5109 Environmental Issue & Sustainability (3AU) ES5006 Environmental Sustainability (3AU) HV5001 Introduction to Environmental Humanities (3AU) 2) Planet CY1007 Climate Change (NA) 3) Profit AB0603 Social Entrepreneurship (3AU) HE5091 Principles of Economics (3AU)	9	25
	4) Practice EG1001 Engineers in Society (NA) 5) Policy HU1002 Introduction to Urban Planning (3AU) HA1001 Introduction to International Relations and Foreign Policy (3AU) HA1003 Introduction to Public Administration and Public Policy (3AU)		

2nd Major in Sustainability	Interdisciplinary Project	3	
	Sustainability Electives Choose 3- 4 courses from the list of electives (min. 12 AUs) https://www.ntu.edu.sg/ase/admissions/undergraduate-programmes/second-major-in-sustainability#Content_C002_Col00	13	
Total			161

^Counted towards 2nd Major in sustainability requirement (total 5AU)

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with Professional Attachment							
Year 1 Semester 1				Year 1 Semester 2			
Course		Type	AU	Course		Type	AU
CB1102	Introduction to Chemical and Biomedical Engineering	C	1	CB1103	Organic Chemistry For Engineers	C	3
CB1131	Introduction to Biomolecular Engineering	C	3	CH1104	Materials & Energy Balance	C	3
CY1001	Cell	C	3	EG1001^	Engineers in Society	C	2
CY1101	Molecule	C	4	CY1007^	Climate Change	C	3
CY1308	Physics	C	3	CY1602	Mathematics 2	C	4
CY1500	Introduction to Research	C	2	CC0015	Health & Wellbeing	CC	2
CY1601	Mathematics 1	C	4		SN Compulsory 1	BDE	3
				Year 1 Special Term			
				CY2003	Research Attachment 3 (Making and Tinkering)		4
				—	Overseas Learning Trip	—	—
20				24			
Year 2 Semester 1				Year 2 Semester 2			
Course		Type	AU	Course		Type	AU
CH2010	Engineering Statistics	C	3	CH2112	Chemical Reaction Engineering	C	3
CH2103	Fluid Systems	C	3	CH2114	Heat & Mass Transfer in Chemical and Biological Systems	C	3
CH2107	Introduction to Computational Thinking	C	3	CH2123	Chemical Thermodynamics	C	3
CH2108	Thermodynamics	C	3	CH2151	Unit Operations: Fluid-Solid Separation	C	3
CY0001	Writing Across The Disciplines	C	3	CH2802	Chemical & Biomolecular Engineering Laboratory 2B	C	2
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2	CY0002	Ethics	C	3
CC0006	Sustainability: Society, Economy & Environment	CC	3	CY2001	Research Attachment 1	C	4
	Tech-For-Good (T4G)	CSL	3	SP0061	Science & Technology for Humanity	CC	3
23				24			
Year 3 Semester 1				Year 3 Semester 2			
Course		Type	AU	Course		Type	AU
CH3104	Biochemical Engineering	C	3	CH4211	CNYSP Overseas Final Year Project	C	8
CH3109	Decision Tools for Business & Engineering	C	3				
CH3111	Process Control and Dynamics	C	3	Year 3 Special Term			
CH3121	Chemical, Biological & Plant Safety	C	2	CH3910	Professional Attachment	PS	5
CH3140	Unit Operations: Fluid-Fluid Separation	C	3				
CH3802	Chemical & Biomolecular Engineering Laboratory 5	C	3				
MLXXXX	Professional Preparation	PS	1				
	SN Compulsory 2	BDE	3				
21				13			
Year 4 Semester 1				Year 4 Semester 2			
Course		Type	AU	Course		Type	AU
CH4801	Final Year Design Project	C	4	CH4801	Final Year Design Project	C	4
	CBE PE1	MPE	3		CBE PE2	MPE	3
	SN Compulsory 3	BDE	3	CB0494	Introduction to Data Science and Artificial Intelligence	PS	3
	SN Elective 1	BDE	3		SN Elective 4	BDE	4
	SN Elective 2	BDE	3		Interdisciplinary Project	BDE	3
	SN Elective 3	BDE	3				
19				17			
				Total (AU)			
				161			

^ These courses are double-counted towards both CBE as well as the Second Major in Sustainability.