B.Eng (Hons) in Chemical and Biomolecular Engineering with 2nd Major in Future Foods

Track 1 (Global Immersion in WUR)
with Professional Internship
AY2025 - 2026 Intake onwards (CBFF)

Programme	Year of Study	Number of Academic Unit (AU)						
		Major Requirement		Interdisciplinary Collaborative Core			Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	Common Core (CC)	Professional Series (PS)	Care, Serve, Learn (CSL)		
Chemical & Biomolecular Engineering with Second Major in FF_ Track 1 (Global Immersion in WUR)	1	24		6				30
	2	30	3 [3]	8	1		3	45
	3				10		12	22
	4	23	3 [3]		5	3	9	43
	Total	77	6 [6]	14	16	3	24	140
								141*

Programme	Year of Study	Number of Academic Unit (AU)						
		Major Requirement		Interdisciplinary			Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	Common Core (CC)	Professional Series (PS)	Care, Serve, Learn (CSL)		
Chemical & Biomolecular Engineering with Second Major in FF_ Track 2 (NTU Based)	1	24		6				30
	2	28	3 [3]	8			3	42
	3	17			13			30
	4	8	3 [3]		3	3	21	38
	Total	77	6 [6]	14	16	3	24	140
								141*

Category			AU	Total AU
Interdisciplinary Collaborative Core (ICC)	**Common Core (CC)**			14
	CC0001	Inquiry and Communication in the Interdisciplinary World	2	
	CC0003	Ethics & Civics in a Multi-Cultural World	2	
	CC0006	Sustainability: Society, Economy & Environment	3	
	CC0007	Science & Technology for Humanity	3	
	CC0015	Health & Wellbeing	2	
	ML0004	Career Design & Workplace Readiness in the V.U.C.A World	2	

Core (ICC)	**Professional Series (PS)**			
	CB0494	Introduction to Data Science and Artificial Intelligence	3	16
	HW0288	Engineering Communication	2	
	MLXXXX	Professional Preparation	1	
	CH3920	Professional Internship	10	
	Care, Service, Learn (CSL)			
		Service Learning	3	3
Major Requirement	**CBE Core**			
	EG1001	Engineers In Society	2	77
	MH1810	Math 1	3	
	PH1011*	Physics	3	
	CB1102	Introduction to Chemical and Biomedical Engineering	1	
	CB1103	Organic Chemistry For Engineers	3	
	CB1117	Engineering Mathematics	4	
	CB1131	Introduction to Biomolecular Engineering	3	
	CH1104	Materials & Energy Balance	3	
	CH1801	Chemical & Biomolecular Engineering Laboratory 1A	1	
	CH1802	Chemical & Biomolecular Engineering Laboratory 2	1	
	CH2010	Engineering Statistics	3	
	CH2103	Fluid Systems	3	
	CH2107	Introduction to Computational Thinking	3	
	CH2108	Thermodynamics	3	
	CH2112	Chemical Reaction Engineering	3	
	CH2114	Heat & Mass Transfer in Chemical and Biological Systems	3	
	CH2123	Chemical Thermodynamics	3	
	CH2151	Unit Operations: Fluid-Solid Seperation	3	
	CH2801	Chemical & Biomolecular Engineering Laboratory 2A	2	
	CH2802	Chemical & Biomolecular Engineering Laboratory 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	
	CH4801	Final Year Design Project	8	
	CBE Major Prescribed Electives (MPE)			
	CH5220^	Food Standard - Food Safety & Risk Assessment	3^	6
	CH5222^	Future Foods - Introduction to Advanced Meat	3^	

2nd Major in Future Foods (BDEs)	**FF Core Courses**		24
	CH5210 Food Process Technologies and New Production Systems	3	
	CH5211 Data Analytics in Food Systems	3	
	CH5220^ Food Standard - Food Safety & Risk Assessment	–	
	CH5222^ Future Foods - Introduction to Advanced Meat	–	
	CM5101 Food Chemistry & Nutrition	3	
	Electives		
	Track 1 - Global Immersion in WUR: #5 WUR Electives + 1 NTU Elective	15	
	OR		
	Track 2 - NTU Based: 5 NTU Electives		
Total			**140**
			141*

**Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).*
^Counted towards 2nd Major in FF requirement (total 6AU)
#Track 1 students are required to read 5 WUR electives but only 4 will be credit transferred to NTU
[ ] AU of courses that could be used to fulfil Core/MPE requirment and 2nd Major requirment concurrently

B.Eng. (Chemical & Biomolecular Engineering) with 2nd Major in Future Foods
Suggested Study Plan for AY2025-2026 intake (CBFF)
Track 1 (Global Immersion in WUR)
with Professional Internship

Year 1 Semester 1

Course		Type	AU
CB1102	Introduction to Chemical and Biomedical Engineering	C	1
CB1131	Introduction to Biomolecular Engineering	C	3
CH1801	Chemical & Biomolecular Engineering Laboratory 1A	C	1
MH1810	Math 1	C	3
PH1011	Physics	C	3
	or		
PH1012	Physics A *(* For students without 'A' Level Physics)*	C	4
CC0001	Inquiry and Communication in the Interdisciplinary World	CC	2
			13

Year 1 Semester 2

Course		Type	AU
CB1103	Organic Chemistry For Engineers	C	3
CB1117	Engineering Mathematics	C	4
CH1104	Materials & Energy Balance	C	3
CH1802	Chemical & Biomolecular Engineering Laboratory 2	C	1
EG1001	Engineers in Society	C	2
CC0003	Ethics & Civics in a Multi-Cultural World	CC	2
CC0015	Healthy Living & Wellbeing	CC	2
			17

Year 2 Semester 1

Course		Type	AU
CH2103	Fluid Systems	C	3
CH2107	Introduction to Computational Thinking	C	3
CH2108	Thermodynamics	C	3
CH2010	Engineering Statistics	C	3
CH2801	Chemical & Biomolecular Engineering Laboratory 2A	C	2
CH3121	Chemical, Biological & Plant Safety	C	2
CC0006	Sustainability: Society, Economy & Environment	CC	3
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2
MLXXXX	Professional Preparation	PS	1
CM5101	Food Chemistry & Nutrition	BDE	3
			25

Year 2 Semester 2

Course		Type	AU
CH2112	Chemical Reaction Engineering	C	3
CH2114	Heat & Mass Transfer in Chemical and Biological Systems	C	3
CH2123	Chemical Thermodynamics	C	3
CH2151	Unit Operations: Fluid-Solid Seperation	C	3
CH2802	Chemical & Biomolecular Engineering Laboratory 2B	C	2
CC0007	Science & Technology for Humanity	CC	3
CH5220^	Food Standard - Food Safety and Risk Assessment	MPE	3
			20

Year 3 Semester 1 (Exchange in WUR)

Course		Type	AU
	FST WUR Elective 1	BDE	3
	FST WUR Elective 2	BDE	3
	FST WUR Elective 3	BDE	3
	FST WUR Elective 4	BDE	3
	FST WUR Elective 5	BDE	-
			12

Year 3 Semester 2

Course		Type	AU
CH3920	Professional Internship	PS	10
			10

Year 4 Semester 1

Course		Type	AU
CH3104	Biochemical Engineering	C	3
CH3109	Decision Tools for Business & Engineering	C	3
CH3111	Process Control and Dynamics	C	3
CH3140	Unit Operations: Fluid-Fluid Separation	C	3
CH3802	Chemical & Biomolecular Engineering Laboratory 5	C	3
CH4801	Final Year Design Project	C	4
	Service Learning	CSL	3
CH5210	Food Process Technologies and New Production System	BDE	3
			25

Year 4 Semester 2

Course		Type	AU
CH4801	Final Year Design Project	C	4
CB0494	Introduction to Data Science and Artificial Intelligence	PS	3
HW0288	Engineering Communication	PS	2
CH5211	Data Analytics in Food Systems	BDE	3
CH5222^	Future Foods - Introduction to Advanced Meet Alternative	MPE	3
	FF NTU Elective	BDE	3
			18
	Total (AU)		**140**
			141*

**Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).*
^Counted towards 2nd Major in FF requirement (total 6U)

B.Eng. (Chemical & Biomolecular Engineering) with 2nd Major Future Foods
Track 2 (NTU Based)
Suggested Study Plan for AY2025-2026 intake (CBFF)
with Professional Internship

Year 1 Semester 1

Course		Type	AU
CB1102	Introduction to Chemical and Biomedical Engineering	C	1
CB1131	Introduction to Biomolecular Engineering	C	3
CH1801	Chemical & Biomolecular Engineering Laboratory 1A	C	1
MH1810	Math 1	C	3
PH1011	Physics	C	3
	or		
PH1012	Physics A *(* For students without 'A' Level Physics)*	C	4
CC0001	Inquiry and Communication in the Interdisciplinary World	CC	2
			*
			13 **14**

Year 1 Semester 2

Course		Type	AU
CB1103	Organic Chemistry For Engineers	C	3
CB1117	Engineering Mathematics	C	4
CH1104	Materials & Energy Balance	C	3
CH1802	Chemical & Biomolecular Engineering Laboratory 2	C	1
EG1001	Engineers in Society	C	2
CC0003	Ethics & Civics in a Multi-Cultural World	CC	2
CC0015	Healthy Living & Wellbeing	CC	2
			17

Year 2 Semester 1

Course		Type	AU
CH2103	Fluid Systems	C	3
CH2107	Introduction to Computational Thinking	C	3
CH2108	Thermodynamics	C	3
CH2010	Engineering Statistics	C	3
CH2801	Chemical & Biomolecular Engineering Laboratory 2A	C	2
CC0006	Sustainability: Society, Economy & Environment	CC	3
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2
CM5101	Food Chemistry & Nutrition	BDE	3
			22

Year 2 Semester 2

Course		Type	AU
CH2112	Chemical Reaction Engineering	C	3
CH2114	Heat & Mass Transfer in Chemical and Biological Systems	C	3
CH2123	Chemical Thermodynamics	C	3
CH2151	Unit Operations: Fluid-Solid Seperation	C	3
CH2802	Chemical & Biomolecular Engineering Laboratory 2B	C	2
CH5220^	Food Standard - Food Safety and Risk Assessment	MPE	3
CC0007	Science & Technology for Humanity	CC	3
			20

Year 3 Semester 1

Course		Type	AU
CH3104	Biochemical Engineering	C	3
CH3109	Decision Tools for Business & Engineering	C	3
CH3111	Process Control and Dynamics	C	3
CH3121	Chemical, Biological & Plant Safety	C	2
CH3140	Unit Operations: Fluid-Fluid Separation	C	3
CH3802	Chemical & Biomolecular Engineering Laboratory 5	C	3
MLXXXX	Professional Preparation	PS	1
HW0288	Engineering Communication	PS	2
			20

Year 3 Semester 2

Course		Type	AU
CH3920	Professional Internship	PS	10
			10

Year 4 Semester 1

Course		Type	AU
CH4801	Final Year Design Project	C	4
	Service Learning	CSL	3
CH5210	Food Process Technologies and New Production System	BDE	3
	FF NTU Elective 1	BDE	3
	FF NTU Elective 2	BDE	3
	FF NTU Elective 3	BDE	3
			19

Year 4 Semester 2

Course		Type	AU
CH4801	Final Year Design Project	C	4
CB0494	Introduction to Data Science and Artificial Intelligence	PS	3
CH5222^	Future Foods - Introduction to Advanced Meet Alternative	MPE	3
CH5211	Data Analytics in Food Systems	BDE	3
	FF NTU Elective 4	BDE	3
	FF NTU Elective 5	BDE	3
			19
	Total (AU)		**140**
			141*

**Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).*
^Counted towards 2nd Major in FST requirement (total 6U)