

B.Eng (Hons) in Chemical and Biomolecular Engineering with 2nd Major in Food Science & Technology (FST)

with Professional Internship

AY2022 - 2023 Intake onwards

Programme	Year of Study	Number of Academic Units (AU)					
		Major Requirement		Interdisciplinary Collaborative Core		Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	Common Core (CC)	Foundational Core (FC)		
Chemical & Biomolecular Engineering with Second Major in FST	1	24/25*		9			33/34*
	2	28		8	3	8	47
	3	17			12	5	34
	4	8	6			17	31
	Total	77/78*	6	17	15	30	145/146*

Category		AU	Total AU
Interdisciplinary Collaborative Core (ICC)	Common Core (University-level)		
	CC0001 Inquiry and Communication in the Interdisciplinary World	2	17
	CC0002 Navigating the Digital World	2	
	CC0003 Ethics & Civics in a Multi-Cultural World	2	
	CC0005 Healthy Living & Wellbeing	3	
	CC0006 Sustainability: Society, Economy & Environment	3	
	CC0007 Science & Technology for Humanity	3	
	ML0004 Career and Entrepreneurial Development for the Future World	2	
	Foundational Core (College-level)		
	HW0288 Engineering Communication	2	15
Major Requirement	CB0494 Introduction to Data Science and Artificial Intelligence	3	
	BG3880 Professional Internship	10	
	CBE Core		16
	EG1001 Engineers In Society	2	
	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	

Major Requirement	CB1131	Introduction to Biomolecular Engineering	3	61
	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 Separation	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)				6
2nd Major in Food Science & Technology (BDEs)	FST Core Courses			30
	CH5200	Food Microbiology	3	
	CH5201	Food Chemistry	5	
	CH5202	Food Physics	3	
	CH5203	Food Process Engineering	5	
	CH5204	Quality Systems Operations	2	
	Electives (Choose 4)		12	
Total				145/146*

**Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).*

B.Eng. (Chemical & Biomolecular Engineering) with 2nd Major in Food Science & Technology

Suggested Study Plan for AY2022-2023 intake (BEFS)

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
PH1012 <i>or</i> Physics A (* For students without 'A' Level Physics)		4
CC0001 Inquiry and Communication in the Interdisciplinary World	CC	2
CC0002 Navigating the Digital World	CC	2

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15 16**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
CC0005 Healthy Living & Wellbeing	CC	3

18

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 and Entrepreneurial Development for the Future World	CC	2
CH5201 Food Chemistry	BDE	5

24

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 Separation	C	3
CH2802 Chemical & Biomolecular Engineering Laboratory 2B	C	2
CC0007 Science & Technology for Humanity	CC	3
CB0494 Introduction to Data Science and Artificial Intelligence	FC	3
CH5200 Food Microbiology	BDE	3

23

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
HW0288 Engineering Communication	FC	2
CH5203 Food Process Engineering	BDE	5

24

Year 3 Semester 2

Course	Type	AU
CH3880 Professional Internship	FC	10

10

Year 4 Semester 1

Course	Type	AU
CH4801 Final Year Design Project	C	4
CBE PE 1	MPE	3
CBE PE 2	MPE	3
FST Elective 1	BDE	3
FST Elective 2	BDE	3

16

Year 4 Semester 2

Course	Type	AU
CH4801 Final Year Design Project	C	4
CH5202 Food Physics	BDE	3
CH5204 Quality Systems Operations	BDE	2
FST Elective 3	BDE	3
FST Elective 4	BDE	3

15

Total (AU)

145

146*

*Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).