

B.Eng (Hons) in Chemical and Biomolecular Engineering with 2nd Major in Business (International Trading)

with Professional Internship

AY2025 - 2026 Intake onwards CBBM(ITG)

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)	Professional Series (PS)	Care, Serve, Learn (CSL)		
Chemical & Biomolecular Engineering with Second Major in Business - ITP	1	24		6			6	36
	2	28		8	3		11	50
	3	17			11		6	34
	4	8	6		2	3	8	27
	Total	77	6	14	16	3	31	147
		78*						148*

Category		AU	Total AU
Interdisciplinary Collaborative Core (ICC)	Common Core (CC)		
	CC0001 Inquiry and Communication in the Interdisciplinary World	2	14
	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	
Interdisciplinary Collaborative 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	
Interdisciplinary Collaborative Core (ICC)	Care, Service, Learn (CSL)		
	Service Learning	3	3
Major Requirement	CBE Core		
	EG1001 Engineers In Society	2	22
	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	

Major Requirement	CH1801	Chemical & Biomolecular Engineering Laboratory 1A	1	55
	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 Business - International Trading (BDEs)	Business (ITP) Courses			31
	AB1201	Financial Management	3	
	AB1501	Marketing	3	
	AD1102	Financial Accounting	3	
	AD2102	Management Accounting	3	
	BE1402	Business Operations & Process	3	
	BF2226	Trade Incoterms & Ship Chartering	3	
	BF2227	Commodity Markets	3	
	BF2302	International Tax & Trading Law	2	
	BF3212	Trade, Structured & Supply Chain Finance	2	
	BF3213	Enterprise Risk Management in Commodity	2	
	BF3214	Commodities Trading	2	
	BF3226	Strategic Management in Commodity Market	2	
Total				147

148*

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

B.Eng. (Bioengineering) with 2nd Major in Business (International Trading)

Suggested Study Plan for AY2025-2026 intake BEBM(ITG)

with Professional Internship**Year 1 Semester 1**

Course		Type	AU
CB1102	Introduction to Chemical and Biomedical Engineering	C	1
BG1141	Cellular & Molecular Biology for Bioengineers	C	3
BG1801	Bioengineering Lab 1A	C	1
MH1810	Math 1	C	3
PH1011	Physics	C	3
PH1012	<i>or</i> Physics A (* For students without 'A' Level Physics)	C	4
CC0001	Inquiry and Communication in the Interdisciplinary World	CC	2
AB1201	Financial Management	BDE	3
			16
			17

Year 2 Semester 1

Course		Type	AU
BG2119	Anatomy and Physiology	C	3
BG2131	Biomaterials	C	3
BG2142	Biological Thermodynamics	C	3
BG2211	Introduction to Computational Thinking	C	3
BG2801	Bioengineering Lab 2A	C	1
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2
CC0006	Sustainability: Society, Economy & Environment	CC	3
AD1102	Financial Accounting	BDE	3
BF2227	Commodity Markets	BDE	3
			24

Year 3 Semester 1

Course		Type	AU
BG3102	Control in Biosystems	C	3
BG3104	Biomedical Imaging	C	3
BG3105	Biomedical Instrumentation	C	3
BG3112	Cardiovascular Engineering	C	3
BG3801	Bioengineering Lab 3	C	1
HW0288	Engineering Communication	PS	2
MLXXXX	Professional Preparation	PS	1
AD2102	Management Accounting	BDE	3
BF2226	Trade Incoterms and Ship Chartering	BDE	3
			22

Year 4 Semester 1

Course		Type	AU
BG4104	Machine Learning and Optimization for Bioengineers	C	3
BG4122	Medical Device Design	C	3
BG4801	Final Year Project	C	4
	BIE PE 1	MPE	3
	Service Learning	CSL	3
BF2302	International Tax and Trading Law	BDE	2
BF3226	Strategic Management in Commodity Market	BDE	2
			20

Year 1 Semester 2

Course		Type	AU
CB1103	Organic Chemistry For Engineers	C	3
CB1117	Engineering Mathematics	C	4
BG1802	Bioengineering Lab 1B	C	1
EG1001	Engineers in Society	C	2
CC0003	Ethics & Civics in a Multi-Cultural World	CC	2
CC0015	Health & Wellbeing	CC	2
AB1501	Marketing	BDE	3
			17

Year 2 Semester 2

Course		Type	AU
BG2103	Signal Processing in Biosystems	C	3
BG2104	Electronics for Biomedical Engineering	C	3
BG2110	Bioelectricity	C	3
BG2209	Mechanics for Bioengineers	C	3
BG2802	Bioengineering Lab 2B	C	1
CB2002	Introduction to Chemical and Biological Safety	C	1
CC0007	Science & Technology for Humanity	CC	3
BE1402	Business Operations and Processes	BDE	3
BF3214	Commodities Trading	BDE	2
			22

Year 3 Semester 2

Course		Type	AU
BG3920	Professional Internship	PS	10
			10

Year 4 Semester 2

Course		Type	AU
BG4122	Medical Device Design	C	3
BG4801	Final Year Project	C	4
	BIE PE 2	MPE	3
CB0494	Introduction to Data Science and Artificial Intelligence	PS	3
BF3212	Trade, Structured and Supply Chain Finance	BDE	2
BF3213	Enterprise Risk Management	BDE	2
			17

Total (AU)**148****149***

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