

Double Degree in Engineering and Economics

B.Eng (Hons) in Chemical & Biomolecular Engineering and BSocSci (Hons) in Economics

AY2025 - 2026 Intake onwards

with Professional Internship (CBEC)

Programme	Year of Study	Number of Academic Units (AUs)						
		Major Requirement		Interdisciplinary Collaborative Core			Broadening and Deepening Electives	Total
		Core (C)	Major PE (MPE)	Common Core (CC)	Professional Series (PS)	Care, Serve, Learn (CSL)		
Double Degree in Chemical & Biomolecular Engineering and Economics	1	36		6				42
	2	31	3	8	3			45
	3	20			13			33
	4	14	22			3		39
	5		14				2	16
		101	39	14	16	3	2	175
102*								176*
Individual Degree Requirements								
Chemical & Biomolecular Engineering	1	24		6				
	2	28		8	3			
	3	17			13			
	4	8	6			3		
	5							
	Total	77	6	14	16	3	20	136
		78*						137*
Economics	1	12		6				
	2	3	3	8	3			
	3	3			13			
	4	14	16			3		
	5		14					
	Total	32	33	14	16	3	27	125

B.Eng (Hons) in Chemical & Biomolecular Engineering and BSocSci (Hons) in

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	
	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 (C)		
	EG1001 Engineers In Society	2	33
	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	

Major Requirement	CH2108	Thermodynamics	3	44
	CH2112	Chemical Reaction Engineering	3	
	CH2114	Heat & Mass Transfer in Chemical and Biological Systems	3	
	CH2123	Chemical Thermodynamics	3	
	CH2151	Unit Operations: Fluid-Solid	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	3	
	CH3802	Chemical & Biomolecular Engineering Laboratory 5	3	
	CH4801	Final Year Design Project	8	
	Econs Core (C)			24
	HE1001	Microeconomics I	3	
	HE1002	Macroeconomics I	3	
	HE2001	Microeconomics II	3	
	HE2002	Macroeconomics II	3	
	HE2003	Econometrics I	3	
	HE3001	Microeconomics III	3	
	HE3002	Macroeconomics III	3	
	HE3003	Econometrics II	3	
	Major Prescribe Electives (MPE)			39
	CBE Major Prescribed Electives (2 courses)		6	
	MH1820	Introduction to Probability and Statistical Methods	3	
	Econs Level 3xxx (6 courses)		18	
	Econs Level 4xxx (3 courses)		12	
Broadening and Deepening Electives (BDE)				2
Total				175

176*

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

with Professional Internship (CBEC)

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

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

List of Courses that Contributes to BEng (Chemical and Biomolecular Engineering)				AU Load	
Discipline Requirement	Core	EG1001	Engineers In Society	2	77AU
		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 A	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 B	3	
		CH3802	Chemical & Biomolecular Engineering Laboratory 5	3	
		CH4801	Final Year Design Project	8	
	BDE	HE1001	Microeconomics I	3	20AU 15AU from compulsory Economics Core courses. 3AU from Year 3 and 4 Economics PE that yield the highest CGPA. + 5AU (PA only)
		HE1002	Macroeconomics I	3	
		HE2001	Microeconomics II	3	
		HE2002	Macroeconomics II	3	
		HE2003	Econometrics I	3	
		HEXXXX	Economics PE	3	
	Major PE	BGXXXX	BIE PE 1	3	6AU
		BGXXXX	BIE PE 2	3	

Interdisciplinary Collaborative Core	Common Core	CC0001	Inquiry and Communication in the Interdisciplinary World	2	14AU
		CC0003	Ethics & Civics in a Multi-Cultural World	2	
		CC0004	Career Design & Workplace Readiness in the V.U.C.A World	2	
		CC0015	Health & Wellbeing	2	
		CC0006	Sustainability: Society, Economy & Environment	3	
		CC0007	Science & Technology for Humanity	3	
	Professional Series	CB0494	Introduction to Data Science and Artificial Intelligence	3	16AU or 11AU (for PA only)
		HW0288	Engineering Communication Professional Preparation	2 1	
		CH3920/ CH3910	Professional Internship/ Professional Attachment	10/5	
	Care, Service & Learn		Service Learning	3	3AU
TOTAL					136 AU

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

List of courses that contribute towards BSocSci (Econs)				AU Load	
Discipline Requirement	Core	HE1001	Microeconomics I	3	32AU
		HE1002	Macroeconomics I	3	
		HE2001	Microeconomics II	3	
		HE2002	Macroeconomics II	3	
		HE2003	Econometrics I	3	
		HE3001	Microeconomics III	3	
		HE3002	Macroeconomics III	3	
		HE3003	Econometrics II	3	
		BG4801	Final Year Project	8	
	MPE	MH1820	Introduction to Probability and Statistical Methods	3	33AU
		HE3XXX	Econs PE1	3	
		HE3XXX	Econs PE2	3	
		HE3XXX	Econs PE3	3	
		HE3XXX	Econs PE4	3	
		HE3XXX	Econs PE5	3	
		HE3XXX	Econs PE6	3	
		HE4XXX	Econs PE7	4	
		HE4XXX	Econs PE8	4	
		HE4XXX	Econs PE9	4	

	BDE	EG1001 MH1810 PH1011* CB1102 CB1103 CB1117 CB1131 CH1104 CH1801 CH1802	Engineers In Society Math 1 Physics Introduction to Chemical and Biomedical Engineering Organic Chemistry For Engineers Engineering Mathematics Introduction to Biomolecular Engineering Materials & Energy Balance Chemical & Biomolecular Engineering Laboratory 1A Chemical & Biomolecular Engineering Laboratory 2	2 3 3 1 3 4 3 3 1 1	9AU from Year 1 Engineering graded Core courses that yield the highest CGPA.
	BDE	CH2010 CH2103 CH2107 CH2108 CH2112 CH2114 CH2123 CH2151 CH2801 CH2802 CH3104 CH3109 CH3111 CH3121 CH3140 CH3802	Engineering Statistics Fluid Systems Introduction to Computational Thinking Thermodynamics Chemical Reaction Engineering Heat & Mass Transfer in Chemical and Biological Systems Chemical Thermodynamics Unit Operations: Fluid-Solid Separation Chemical & Biomolecular Engineering Laboratory 2A Chemical & Biomolecular Engineering Laboratory 2B Biochemical Engineering Decision Tools for Business & Engineering Process Control and Dynamics Chemical, Biological & Plant Safety Unit Operations: Fluid-Fluid Separation Chemical & Biomolecular Engineering Laboratory 5	3 3 3 3 3 3 3 3 2 2 3 3 3 2 3 3	18AU from Year 2 and 3 Engineering graded courses that yield the highest CGPA + 5AU (PA only)
Interdisciplinary Collaborative Core	Common Core	CC0001 CC0003 CC0006 CC0007 CC0015 ML0004	Inquiry and Communication in the Interdisciplinary World Ethics & Civics in a Multi-Cultural World Sustainability: Society, Economy & Environment Science & Technology for Humanity Health & Wellbeing Career Design & Workplace Readiness in the V.U.C.A World	2 2 3 3 2 2	14AU

	Professional Series	CB0494 HW0288 MLXXXX CH3920/ CH3910	Introduction to Data Science and Artificial Intelligence Engineering Communication Professional Preparation Professional Internship/ Professional Attachment	3 2 1 10/5	16AU or 11AU (for PA only)
	Care, Service, Learn (CSL)		Service Learning	3	3AU
TOTAL					125AU

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