

Double Degree in Engineering and Economics

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

AY2026 - 2027 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		7		3		46
	2	31	3	7	3			44
	3	20			13			33
	4	14	22					36
	5		14				2	16
		101	39	14	16	3	2	175
		102*						176*
Individual Degree Requirements								
Chemical & Biomolecular Engineering	1	24		7		3	3	37
	2	28		7	3		2	40
	3	17			13			30
	4	8	6				15	29
	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 Economics

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 a Dynamic 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 Chemistry, Chemical Engineering 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	

Major Requirement	CH2112	Chemical Reaction Engineering	3	44
	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 Separation	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

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**Students without 'A' Level/Senior High School Physics will take 'PH1012 Physics A' (4AU)*

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AY2026 - 2027 Intake onwards

*with Professional Internship (CBEC)***Year 1 Semester 1**

Course	Type	AU
CB1102 Introduction to Chemistry, Chemical Engineering 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
<i>or</i>		
PH1012 Physics A (* For students without 'A' Level Physics)		4
CC0001 Inquiry and Communication in the Interdisciplinary World	CC	2
CC0007 Science & Technology for Humanity	CC	3
HE1001 Microeconomic I	C	3
HE1002 Macroeconomic I	C	3

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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
CC0003 Ethics & Civics in a Multi-Cultural World	CC	2
CC0015 Health & Wellbeing	CC	2
HE3001 Microeconomics III	C	3

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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	PS	2
MLXXX Professional Preparation	PS	1
HE3002 Macroeconomics III	C	3

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Year 4 Semester 1

Course	Type	AU
CH4801 Final Year Design Project	C	4
CBE PE 1	MPE	3
HE2003 Econometrics I	C	3
Econ PE3XXX 1	MPE	3
Econ PE3XXX 2	MPE	3
Econ PE3XXX 3	MPE	3

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Year 5 Semester 1

Course	Type	AU
BDE 1	BDE	2
Econ PE3XXX 5	MPE	3
Econ PE3XXX 6	MPE	3
Econ PE4XXX 2	MPE	4
Econ PE4XXX 3	MPE	4

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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
ML0004 Career Design & Workplace Readiness in a Dynamic World	CC	2
HE2001 Microeconomics II	C	3
HE2002 Macroeconomics II	C	3
Service Learning	CSL	3

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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
CC0006 Sustainability: Society, Economy & Environment	CC	3
CB0494 Introduction to Data Science and Artificial Intelligence	PS	3
MH1820 Introduction to Probability and Statistical Methods	MPE	3

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Year 3 Semester 2

Course	Type	AU
CH3920 Professional Internship	PS	10

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Year 4 Semester 2

Course	Type	AU
CH4801 Final Year Design Project	C	4
CBE PE 2	MPE	3
HE3003 Econometrics II	C	3
Econ PE3XXX 4	MPE	3
Econ PE4XXX 1	MPE	4

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Year 5 Semester 2

Course	Type	AU

0

Total (AU)

175

176*

*Students without 'A' Level/Senior High School 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 Chemistry, Chemical Engineering 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	Common Core	CC0001	Inquiry and Communication in the Interdisciplinary World	2	14AU

Core		CC0003	Ethics & Civics in a Multi-Cultural World	2		
		ML0004	Career Design & Workplace Readiness in a Dynamic 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	2	
				Professional Preparation	1	
			CH3920/ CH3910	Professional Internship/ Professional Attachment	10/5	
	Care, Service & Learn			Service Learning	3	3AU
	TOTAL					136 AU

**Students without 'A' Level/Senior High School 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	Engineers In Society	2	9AU from Year 1 Engineering graded Core
		MH1810	Math 1	3	
		PH1011*	Physics	3	

		CB1102	Introduction to Chemistry, Chemical Engineering and Biomedical Engineering	1	courses that yield the highest CGPA.
		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	
	BDE	CH2010	Engineering Statistics	3	18AU from Year 2 and 3 Engineering graded courses that yield the highest CGPA + 5AU (PA only)
		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	
Interdisciplinary Collaborative Core	Common Core	CC0001	Inquiry and Communication in the Interdisciplinary World	2	14AU
		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 a Dynamic World	2	
	Professional Series	CB0494	Introduction to Data Science and Artificial Intelligence	3	16AU or 11AU (for PA only)
		HW0288	Engineering Communication	2	
		MLXXXX	Professional Preparation	1	
		CH3920/CH3910	Professional Internship/ Professional Attachment	10/5	