

B.Eng (Hons) in Bioengineering
 AY2026 - 2027 Intake
with Professional Internship (BIE)

Programme	Year of Study	Number of Academic Units (AU)						
		Major Requirement		Interdisciplinary Collaborative Core (ICC)			Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	Common Core (CC)	Professional Series (PS)	Care, Serve, Learn (CSL)		
Bioengineering	1	21		7		3	3	34
	2	27		7	3		3	40
	3	13			13		3	29
	4	11	12				10	33
	Total	72	12	14	16	3	19	136
73*								
137*								

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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
Major Requirement	HW0288 Engineering Communication	2	
	MLXXXX Professional Preparation	1	
	BG3920 Professional Internship	10	
	Care, Service, Learn (CSL)		
Major Requirement	Service Learning	3	3
	BIE Core		
	EG1001 Engineers In Society	2	12
	MH1810 Math 1	3	
	PH1011* Physics	3	
	CB1102 Introduction to Chemistry, Chemical Engineering and Biomedical Engineering	1	
	CB1103 Organic Chemistry For Engineers	3	

Major Requirement	CB1117	Engineering Mathematics	4	60
	BG1141	Cellular & Molecular Biology for	3	
	BG1801	Bioengineering Lab 1A	1	
	BG1802	Bioengineering Lab 1B	1	
	CB2002	Introduction to Chemical and Biological Safety	1	
	BG2103	Biosignal Processing	3	
	BG2104	Electronics for Biomedical Engineering	3	
	BG2110	Bioelectricity	3	
	BG2119	Anatomy and Physiology	3	
	BG2131	Biomaterials	3	
	BG2142	Biological Thermodynamics	3	
	BG2209	Mechanics for Bioengineers	3	
	BG2211	Introduction to Computational Thinking	3	
	BG2801	Bioengineering Lab 2A	1	
	BG2802	Bioengineering Lab 2B	1	
	BG3102	Control in Biosystems	3	
	BG3104	Biomedical Imaging	3	
	BG3105	Biomedical Instrumentation	3	
	BG3112	Cardiovascular Engineering	3	
	BG3801	Bioengineering Lab 3	1	
	BG4104	Machine Learning and Optimization for Bioengineers	3	
		BG4801 Final Year Project <u>OR</u> BG4123 Capstone Project	8	
	BIE Major Prescribed Electives (MPE)			
Broadening and Deepening Electives (BDE)			19	
Total			136	

137*

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

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Suggested Study Plan for AY2026-2027 intake
with Professional Internship (BIE)

Year 1 Semester 1				Year 1 Semester 2			
Course	Type	AU		Course	Type	AU	
CB1102 Introduction to Chemistry, Chemical Engineering and Biomedical Engineering	C	1		CB1103 Organic Chemistry For Engineers	C	3	
BG1141 Cellular & Molecular Biology for Bioengineers	C	3		CB1117 Engineering Mathematics	C	4	
BG1801 Bioengineering Lab 1A	C	1		BG1802 Bioengineering Lab 1B	C	1	
MH1810 Math 1	C	3		EG1001 Engineers in Society	C	2	
PH1011 Physics	C	3		CC0007 Science & Technology for Humanity	CC	3	
<i>or</i>				ML0004 Career Design & Workplace Readiness in a Dynamic World	CC	2	
PH1012 Physics A (*For students without 'A' Level Physics)	C	4		Service Learning	CSL	3	
CC0001 Inquiry and Communication in the Interdisciplinary World	CC	2					
BDE 1	BDE	3					
		16	17*			18	
Year 2 Semester 1				Year 2 Semester 2			
Course	Type	AU		Course	Type	AU	
BG2119 Anatomy and Physiology	C	3		BG2103 Biosignal Processing	C	3	
BG2131 Biomaterials	C	3		BG2104 Electronics for Biomedical Engineering	C	3	
BG2142 Biological Thermodynamics	C	3		BG2110 Bioelectricity	C	3	
BG2211 Introduction to Computational Thinking	C	3		BG2209 Mechanics for Bioengineers	C	3	
BG2801 Bioengineering Lab 2A	C	1		BG2802 Bioengineering Lab 2B	C	1	
CC0003 Ethics & Civics in a Multi-Cultural World	CC	2		CB2002 Introduction to Chemical and Biological Safety	C	1	
BDE 2	BDE	3		CC0006 Sustainability: Society, Economy & Environment	CC	3	
		18		CC0015 Health & Wellbeing	CC	2	
				CB0494 Introduction to Data Science and Artificial Intelligence	PS	3	
						22	
Year 3 Semester 1				Year 3 Semester 2			
Course	Type	AU		Course	Type	AU	
BG3102 Control in Biosystems	C	3		BG3920 Professional Internship	PS	10	
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					
BDE 3	BDE	3					
		19				10	
Year 4 Semester 1				Year 4 Semester 2			
Course	Type	AU		Course	Type	AU	
BG4104 Final Year Project OR Capstone Project	C	4		Final Year Project OR Capstone Project	C	4	
Machine Learning and Optimization for Bioengineers	C	3		BIE PE3	MPE	3	
BIE PE1	MPE	3		BIE PE4	MPE	3	
BIE PE 2	MPE	3		BDE 6	BDE	2	
BDE 4	BDE	3		BDE 7	BDE	2	
BDE 5	BDE	3					
		19				14	
				Total (AU)		136	
						137*	

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