

## B.Eng (Hons) in Bioengineering with 2nd Major in Entrepreneurship

with Professional Internship

AY2023- 2024 Intake onwards (BEET)

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)		
Bioengineering with Second Major in Entrepreneurship (BEET)	1	21/22*		9		6	36/37*
	2	26		8	3	6	43
	3	13	3		12	3	31
	4	17	3			10	30
	Total	77/78*	6	17	15	25	140/141*

Category		AU	Total AU	
Interdisciplinary Collaborative Core (ICC)	<b>Common Core (University-level)</b>		17	
	CC0001 Inquiry and Communication in the Interdisciplinary World			2
	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	
<b>Foundational Core (College-level)</b>		5		
HW0288 Engineering Communication			2	
CB0494 Introduction to Data Science and Artificial Intelligence			3	
Major Requirement	<b>BIE Core</b>		20	
	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
	BG1141	Cellular & Molecular Biology for Bioengineers		3
	BG1801	Bioengineering Lab 1A		1

Major Requirement	BG1802	Bioengineering Lab 1B	1	57
	BG2103	Signal Processing in Biosystems	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	
	BG4122	Medical Device Design	6	
	BG4801	Final Year Project	8	
	BIE Major Prescribed Electives (MPE)			
2nd Major in Entrepreneurship (BDEs)	<b>Compulsory Courses</b>			35^
	ET5211	Technopreneurial Mindset	3	
	ET5212	Entrepreneurial Ecosystems	3	
	ET5213	Managing New Ventures	3	
	ET5214	Financing Entrepreneurial Ventures	3	
	<b>Compulsory Experiential Programme</b>			
	BG3940	Overseas Entrepreneurship Programme (OEP)	10^	
	OR			
	BG3920	Professional Internship (PI)		
<b>Elective Courses</b> (at least 4 courses)			13	
<b>Total</b>				<b>140/141*</b>

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

^5 AU out of the 10AU is from ICC Foundational Core

**B.Eng. (Bioengineering) with 2nd Major in Entrepreneurship**  
**Suggested Study Plan for AY2023-2024 intake (BEET)**  
**with Professional Internship**

Year 1 Semester 1				Year 1 Semester 2			
Course		Type	AU	Course		Type	AU
CB1102	Introduction to Chemical 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	CC0003	Ethics & Civics in a Multi-Cultural World	CC	2
PH1012	<i>or</i>			CC0005	Healthy Living & Wellbeing	CC	3
	Physics A (* For students without 'A' Level Physics)	C	4	ET5213	Managing New Ventures	BDE	3
CC0001	Inquiry and Communication in the Interdisciplinary World	CC	2				
CC0002	Navigating the Digital World	CC	2				
ET5211	Technopreneurial Mindset	BDE	3				
			*				
		18	19			18	
Year 2 Semester 1				Year 2 Semester 2			
Course		Type	AU	Course		Type	AU
BG2119	Anatomy and Physiology	C	3	BG2103	Signal Processing in Biosystems	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
CC0006	Sustainability: Society, Economy & Environment	CC	3	CC0007	Science & Technology for Humanity	CC	3
ML0004	Career and Entrepreneurial Development for the Future World	CC	2	CB0494	Introduction to Data Science and Artificial Intelligence	FC	3
ET5212	Entrepreneurial Ecosystems	BDE	3	ET5214	Financing Entrepreneurial Ventures	BDE	3
		21				22	
Year 3 Semester 1				Year 3 Semester 2			
Course		Type	AU	Course		Type	AU
BG3102	Control in Biosystems	C	3	EG3940	Overseas Entrepreneurship Programme	FC/ BDE	10
BG3104	Biomedical Imaging	C	3		OR		
BG3105	Biomedical Instrumentation	C	3	BG3920	Professional Internship	FC/ BDE	
BG3112	Cardiovascular Engineering	C	3				
BG3801	Bioengineering Lab 3	C	1				
	BIE PE 1	MPE	3				
HW0288	Engineering Communication	FC	2				
	Entrepreneurship Elective 1	BDE	3				
		21				10	
Year 4 Semester 1				Year 4 Semester 2			
Course		Type	AU	Course		Type	AU
BG4104	Machine Learning and Optimization for Bioengineers	C	3	BG4122	Medical Device Design	C	3
BG4122	Medical Device Design	C	3	BG4801	Final Year Project	C	4
BG4801	Final Year Project	C	4		Entrepreneurship Elective 3	BDE	3
	BIE PE 2	MPE	3		Entrepreneurship Elective 4	BDE	3
	Entrepreneurship Elective 2	BDE	4				
		17				13	
						140	
					<b>Total (AU)</b>	<b>141*</b>	

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