

BIE 2014 onwards

B.Eng. (Bioengineering)

Summary of Programme Requirement and Academic Units (AY2014/2015 onwards)

PROGRAMME REQUIREMENT	ACADEMIC UNITS (AU)	
University Requirement		
General Education Requirement: Core Courses (GER-Core)		12
BG0491 Engineers & Society	3	
ET0001 Entrepreneurship & Innovation	1	
GC0001 Introduction to Sustainability	1	
HW0188 Engineering Communication I	2	
HW0288 Engineering Communication II	2	
HY0001 Ethics & Moral Reasoning	1	
ML0001 Absolute Basics for Career	1	
ML0002 Career Power Up	1	
General Education Requirement: Prescribed Electives (GER-PE)		9
GER-PE in Business & Management (BM)	3	
GER-PE in Liberal Arts (LA)	3	
GER-PE in Science, Technology & Society (STS)	3	
General Education Requirement: Unrestricted Electives (GER-UE)		15
Unrestricted Elective	15	
HW0001 English Proficiency <i>(for students who have not passed or been exempted from the Qualifying English Test at the time of admission)</i>		
Major Requirement - Bioengineering		
Core Courses (BIE-Core)		91/92*
BG1101 Introduction to Biomedical Engineering	2	
BG1103 Chemistry for Engineers	3	
BG1105 Materials Science	3	
BG1109 Anatomy and Physiology	3	
BG1117 Engineering Mathematics	4	
BG1131 Molecular Cell Biology for Biomedical Engineers	4	
BG1801 Bioengineering Lab 1A	1	
BG1802 Bioengineering Lab 1B	1	
MH1810 Mathematics 1	3	
PH1011 Physics <u>or</u> *PH1012 Physics A <i>(for students without 'A' Level Physics)</i>	3/4*	
BG2104 Electronics for Biomedical Engineers	3	
BG2109 Biomechanics	3	
BG2110 Bioelectricity	3	
BG2111 Computational Methods	4	
BG2112 Cardiovascular Engineering	4	
BG2131 Biomaterials	3	
BG2141 Mechanics of Materials	3	
BG2142 Biological Thermodynamics	3	
BG2801 Bioengineering Lab 2A	1	
BG2802 Bioengineering Lab 2B	1	
BG3102 Control in Biosystems	3	
BG3103 Signal Processing in Biosystems	3	
BG3104 Biomedical Imaging	3	
BG3105 Biomedical Instrumentation	3	
BG3720 Professional Internship	8	
BG3801 Bioengineering Lab 3	1	

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BG4102 Medical Device Design	3	
BG4103 Biomedical Project Design and Management	4	
BG4801 Final Year Project	8	
Major Prescribed Electives (BIE-PE)		9
3 x BIE-Elective		
TOTAL		136/137*
BIE Electives (<u>Please note</u> the courses listed are subject to availability)		
BIE Elective Group 1: Bioinstrumentations and Bioelectronics		
BG4214 Biomedical Optics	3	
BG4215 Biomedical Nanotechnology	3	
BIE Elective Group 2: Biomaterials and Tissue Engineering		
BG4234 Stem Cell Fundamentals	3	
BG4309 Tissue Engineering and Gene Therapy	3	