

B.Eng. (Bioengineering)
Summary of Programme Requirement and Academic Units (for AY2007/2008 intake)

Programme Requirements	Academic Units (AU)	
University General Education Requirements (GER)		
GER Core Courses (GER-Core)		12
HW110 Effective Communication	2	
HW210 Technical Communication	2	
HW310 Professional Communication	2	
BG4901 Engineers and Society	3	
BG4902 Human Resource Management	3	
GER Prescribed Electives (GER-PE)		15
3 x GER-PE (AHSS) from Arts, Humanities and Social Sciences	9	
1 x GER-PE (MB) from Management and Business	3	
1 x GER-PE (STS) from Science, Technology and Society	3	
GER Unrestricted Electives (GER-UE)		9
3 x GER-UE	9	
English Proficiency* (for students who have not passed or been exempted from the Qualifying English Test at the time of admission)		
Bioengineering Major Requirements		
Major Core Courses (BIE-Core)		109
BG1001 Engineering Physics	4	
BG1002 Bioengineering Physics	4	
BG1003 Chemistry for Engineers	4	
BG1005 Materials Science	3	
BG1006 Mathematics for Engineers A	3	
BG1007 Mathematics for Engineers B	3	
BG1008 Organic Chemistry and Spectrophotometry	4	
BG1009 Anatomy & Physiology	4	
BG1031 Biomolecular Engineering I	4	
BG1701 Bioengineering Lab 1A	1	
BG1702 Bioengineering Lab 1B	1	
BG2004 Electronics for Biomedical Engineers	4	
BG2005 Biomolecular Engineering II	3	
BG2009 Biomechanics	4	
BG2010 Bioelectricity	4	
BG2011 Computational Methods in Biomedical Engineering	4	
BG2012 Bio-fluid Systems	4	
BG2031 Biomaterials	4	
BG2041 Mechanics of Materials	3	
BG2042 Biological Thermodynamics	3	
BG2701 Bioengineering Lab 2A	1	
BG2702 Bioengineering Lab 2B	1	
BG3002 Control in Biosystems	4	
BG3003 Signal Processing in Biosystems	4	
BG3004 Biomedical Imaging	3	
BG3005 Biomedical Instrumentation	3	
BG3006 Advanced Biocomputational Methods	4	
BG3701 Bioengineering Lab 3	1	
BG3720 Industrial Attachment	10	
BG4701 Final Year Project	10	

Major Prescribed Electives (BIE-PE)		12
4 x BIE-PE	12	
TOTAL		157

Specialisations (please note the courses listed are subject to availability.)

Specialisation Group 1: Bioinstrumentation & Bioelectronics

BG4210 Advanced Bioinstrumetnation	3	
BG4213 Bioelectronics	3	
BG4214 Biomedical Optics	3	
BG4215 Biomedical Nanotechnology	3	

Specialisation Group 2: Biomechanics & Clinical Engineering

BG4235 Orthopaedic Implant Engineering and Artificial Organs	3	
BG4236 Sports Engineering	3	

Specialisation Group 3: Biomaterials & Tissue Engineering

BG4230 Drug Delivery and Tissue Engineering	3	
BG4231 Advanced Biomaterials	3	
BG4234 Stem Cell Fundamentals	3	
BG4235 Orthopaedic Implant Engineering and Artificial Organs	3	

Specialisation Group 4: Biomedical Technology

BG4226 Nuclear and Radiation Medical Engineering	3	
BG4232 Biomedical Devices	3	