

Bachelor of Engineering (Materials Engineering)

Year 1 Admission (AY2017-18)

ACADEMIC UNIT (AU) REQUIRED FOR GRADUATION

<i>Bachelor of Engineering (Materials Engineering)</i>	Year of Study	Core	Core Electives	GER			Unrestricted Electives	Total AU
				Core	Electives			
					BM	LA		
Year 1 Admission	1	24/25 ⁺	-	2	3	3	3	38/39 ⁺
	2	23	-	3	-	-	12	38
	3	26	-	4	-	-	-	30
	4	17	12	3	-	-	-	32
	All Years							138/139 ⁺

⁺Students without H2 Level Physics will take PH1012 (4 AU)

Description of Abbreviation

BM – Business & Management

LA – Liberal Arts

STS – Science, Technology & Society

YEAR 1 - Year 1 Admission (AY2017-18)

Course Code and Title	Type (i.e. Core/Core elective/ GER core/ GER elective/ Unrestricted Elective)	AU
YEAR 1 SEMESTER 1		
HW0001 English Proficiency		0
FE1008 Computing	Core	3
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GER Core	1
MH1810 Mathematics I*	Core	3
MS1013 Materials Chemistry*	Core	3
PH1011 Physics**	Core	3
MS8001 Management with Humour	GER Elective (BM)	3
MS8301 Materials and Man	GER Elective (LA)	3
TOTAL		19

** Students without H2 Level Physics will take PH1012 Physics A (4AU)

* Students who obtained at least 3 'A's in H2 level subjects and at least grade 'E' or 'C6' in General Paper (GP) or Knowledge Inquiry (KI) will be eligible for exemption if a grade 'A' is obtained in the corresponding subject at H2 level.

YEAR 1 SEMESTER 2		
ML0001 Absolute Basics for Career Course	GER Core	1
MS1012 Materials Physics	Core	3
MS1014 Materials Chemistry II	Core	3
MS1015 Materials Science	Core	3
MS1016 Thermodynamics of Materials	Core	3
GER-PE (STS)	GER Elective	3
UE 1	Unrestricted Elective	3
TOTAL		19

YEAR 2 – Year 1 Admission (AY2017-18)

Course Code and Title	Type (i.e. Core/Core elective/ GER core/ GER elective/ Unrestricted Elective)	AU
YEAR 2 SEMESTER 1		
HY0001 Ethics and Moral Reasoning	GER Core	1
HW0188 Engineering Communication I	GER Core	2
MH2811 Mathematics II	Core	3
MS2014 Materials Structure and Defects	Core	3
MS2016 Phase Transformation and Kinetics	Core	3
MS2082 Laboratory IIB	Core	1
UE 2	Unrestricted Elective	3
UE 3	Unrestricted Elective	3
TOTAL		19

YEAR 2 SEMESTER 2		
MS2012 Introduction to Manufacturing Processes	Core	3
MS2013 Polymers and Composites	Core	3
MS2015 Mechanical Behaviour of Materials	Core	3
MS2018 Electronic & Magnetic Properties of Materials	Core	3
MS2081 Laboratory IIA	Core	1
UE 4	Unrestricted Elective	3
UE 5	Unrestricted Elective	3
TOTAL		19

YEAR 3 – Year 1 Admission (AY2017-18)

Course Code and Title	Type (i.e. Core/Core elective/ GER core/ GER elective/ Unrestricted Elective)	AU
YEAR 3 SEMESTER 1		
ET0001 Enterprise and Innovation	GER Core	1
ML0002 Career Power Up!	GER Core	1
HW0288 Engineering Communication II	GER Core	2
MS3011 Metallic & Ceramic Materials	Core	3
MS3012 Micro/Nanoelectronic Materials Processing	Core	3
MS3013 Environmental Effects on Materials	Core	3
MS3014 Analysis of Materials	Core	3
MS3015 Materials Aspects in Design	Core	3
MS3081 Laboratory III	Core	1
TOTAL		20

YEAR 3 SEMESTER 2		
MS3099 Professional Internship	Core	10
TOTAL		10

YEAR 4 – Year 1 Admission (AY2017-18)

Course Code and Title	Type (i.e. Core/Core elective/ GER core/ GER elective/ Unrestricted Elective)	AU
YEAR 4 SEMESTER 1		
MS4013 Biomaterials	Core	3
EG0001 Engineers & Society	GER Core	3
MS4089 Final Year Project	Core	4
Major Prescribed Elective 3	Core Elective	3
Major Prescribed Elective 4	Core Elective	3
TOTAL		16

YEAR 4 SEMESTER 2		
MS4012 Quality Control	Core	3
MS4014 Nanomaterials: fundamentals and applications	Core	3
MS4089 Final Year Project	Core	4
Major Prescribed Elective 3	Core Elective	3
Major Prescribed Elective 4	Core Elective	3
TOTAL		16