Bachelor of Engineering (Materials Engineering)
Common Engineering Stream (AY1920-20)

Academic Unit (AU) Required for graduation								
Year of Study	Core	Major Prescribed Electives	GER-Core	GER-PE (BM)	GER-PE(LA)	GER-PE (STS)	Unrestricted Electives	Total AU
1	22/23*	-	3	-	3	3	3	37/38*
2	26	-	5	3	-	-	9	40
3	26	-	3	-	-	-	3	32
4	17	12	3	-	-	-	-	32
								141/142*

[+] *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 - Semester 1		
Course Code and Title	**Course Type**	**AU**
HW0001 Introduction to Academic Communication		
FE1073 Introduction to Engineering Practices	Core	1
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GER-Core	1
HE9091 Principles of Economics	GER-PE(LA)	3
HW0188 Engineering Communication I	GER-Core	2
MH1810 Mathematics I	Core	3
PH1011 Physics**	Core	3
UE 1	Unrestricted Electives	3
Total		**16**

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

Year 1 - Semester 2		
Course Code and Title	**Course Type**	**AU**
MS1008 Introduction to Computational Thinking	Core	3
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-PE (STS)	3

UE 2	Unrestricted Electives	3
Total		**21**

Year 2 - Semester 1		
Course Code and Title	**Course Type**	**AU**
HY0001 Ethics and Moral Reasoning	GER-Core	1
MH2811 Mathematics II	Core	3
MS1013 Materials Chemistry I	Core	3
MS2014 Materials Structure and Defects	Core	3
MS2016 Phase Transformation and Kinetics	Core	3
MS2082 Laboratory IIB	Core	1
MS8001 Management with Humour	GER-PE (BM)	3
UE 3	Unrestricted Electives	3
Total		**20**

Year 2 - Semester 2		
Course Code and Title	**Course Type**	**AU**
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
MS0003 Introduction to Data Science and Artificial Intelligence	GER-Core	3
ML0003 Kickstart your Career Success	GER-Core	1
UE 4	Unrestricted Electives	3
Total		**19**

Year 3 - Semester 1		
Course Code and Title	**Course Type**	**AU**
ET0001 Enterprise and Innovation	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
UE 5	Unrestricted Electives	3
Total		**22**

Year 3 - Semester 2		
Course Code and Title	**Course Type**	**AU**
MS3099 Professional Internship	Core	10
Total		**10**

Year 4 - Semester 1		
Course Code and Title	**Course Type**	**AU**
MS4089 Final Year Project	Core	4
EG0001 Engineers & Society	GER-Core	3
MS4013 Biomaterials	Core	3
Major Prescribed Elective 1	Major Prescribed Electives	3
Major Prescribed Elective 2	Major Prescribed Electives	3
Total		**16**

Year 4 - Semester 2		
Course Code and Title	**Course Type**	**AU**
MS4089 Final Year Project	Core	4
MS4012 Quality Control	Core	3
MS4014 Nanomaterials: fundamentals and applications	Core	3
Major Prescribed Elective 3	Major Prescribed Electives	3
Major Prescribed Elective 4	Major Prescribed Electives	3
Total		**16**