

**Bachelor of Engineering (Materials Engineering)  
Poly Direct Entry (AY2021-22)**

<b>Academic Unit (AU) Required for graduation</b>								
Year of Study	Core	Major Prescribed Electives	GER-Core	GER-PE (BM)	GER-PE(LA)	GER-PE (STS)	Unrestricted Electives	Total AU
2	32	-	8	3	-	-	-	43
3	26	-	3	-	-	-	3	32
4	23	9	3	-	-	-	3	38
								113

Description of Abbreviation

BM – Business & Management

LA – Liberal Arts

STS – Science, Technology & Society

<b>Year 2 - Semester 1</b>		
Course Code and Title	Course Type	AU
MH1810 Mathematics I	Core	3
MS1008 Introduction to Computational thinking	Core	3
MS1015 Materials Science (EF1)	Core	3
MS1016 Thermodynamics of Materials	Core	3
MS2012 Introduction to Manufacturing Processes	Core	3
MS2013 Polymers and Composites	Core	3
MS2081 Laboratory IIA	Core	1
MS8001 Management with Humour	GER-PE (BM)	3
<b>Total</b>		<b>22</b>

<b>Year 2 - Semester 2</b>		
Course Code and Title	Course Type	AU
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GER-Core	1
HW0188 Effective Communication	GER-Core	2
HY0001 Ethics and Moral Reasoning	GER-Core	1
ML0003 Kickstart your Career Success	GER-Core	1
MS0003 Introduction to Data Science and Artificial Intelligence	GER-Core	3
MH2811 Mathematics II	Core	3

MS2014 Materials Structure and Defects	Core	3
MS2018 Electronic & Magnetic Properties of Materials	Core	3
MS2082 Laboratory IIB	Core	1
Engineering Fundamentals (EF2)	Core	3
<b>Total</b>		<b>21</b>

<b>Year 3 - Semester 1</b>		
<b>Course Code and Title</b>	<b>Course Type</b>	<b>AU</b>
ET0001 Enterprise and Innovation	GER-Core	1
HW0288 Engineering Communication	GER-Core	2
MS2015 Mechanical Behaviour of Materials	Core	3
MS2016 Phase Transformation and Kinetics	Core	3
MS3011 Metallic & Ceramic Materials	Core	3
MS3012 Micro/Nanoelectronic Materials Processing	Core	3
MS3015 Materials Aspects in Design	Core	3
MS3081 Laboratory III	Core	1
UE 1	Unrestricted Electives	3
<b>Total</b>		<b>22</b>

<b>Year 3 - Semester 2</b>		
<b>Course Code and Title</b>	<b>Course Type</b>	<b>AU</b>
MS3099 Professional Internship	Core	10
<b>Total</b>		<b>10</b>

<b>Year 4 - Semester 1</b>		
<b>Course Code and Title</b>	<b>Course Type</b>	<b>AU</b>
MS4089 Final Year Project	Core	4
MS3013 Environmental Effects on Materials	Core	3
MS3014 Analysis of Materials	Core	3
MS4013 Biomaterials	Core	3
EG0001 Engineers & Society	GER-Core	3
Major Prescribed Elective 1	Major Prescribed Electives	3
<b>Total</b>		<b>19</b>

<b>Year 4 - Semester 2</b>		
<b>Course Code and Title</b>	<b>Course Type</b>	<b>AU</b>

MS4089 Final Year Project	Core	4
MS4012 Quality Control	Core	3
MS4014 Nanomaterials: fundamentals and applications	Core	3
Major Prescribed Elective 2	Major Prescribed Electives	3
Major Prescribed Elective 3	Major Prescribed Electives	3
UE 2	Unrestricted Electives	3
<b>Total</b>		<b>19</b>