

**Bachelor of Engineering (Materials Engineering)  
Double Degree in BEng (Materials Engineering) and BSocSci (Economics) (AY2020-21)**

**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	33/34*	-	8	-	-	-	-	41/42*
2	32	3	4	-	-	-	-	39
3	22	9	2	-	-	-	5	38
4	18	19	-	-	-	-	-	37
5	8	17	-	-	-	-	-	25
								180/181*

\* 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		0
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GER-Core	1
HY0001 Ethics and Moral Reasoning	GER-Core	1
ET0001 Enterprise and Innovation	GER-Core	1
MH1810 Mathematics I*	Core	3
PH1011 Physics <sup>*/**</sup>	Core	3
MS1008 Introduction to Computational Thinking	Core	3
MS1013 Materials Chemistry (EF1)	Core	3
HE1001 Microeconomic Principles	Core	3
HE1002 Macroeconomic Principles	Core	3
<b>Total</b>		<b>21</b>

\*\* 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**

Course Code and Title	Course Type	AU
MS1012 Materials Physics	Core	3

MS1014 Materials Chemistry	Core	3
MS1015 Materials Science	Core	3
HW0111 Communication: A Journey of Inquiry through Writing and Speech	GER-Core	2
EG0001 Engineers & Society	GER-Core	3
Engineering Fundamentals (EF 2)	Core	3
HE1005 Intro to Prob & Statistical Inference	Core	3
<b>Total</b>		<b>20</b>

Year 2 - Semester 1		
Course Code and Title	Course Type	AU
MS1016 Thermodynamics of Materials	Core	3
MH2811 Mathematics II	Core	3
MS2014 Materials Structure and Defects	Core	3
MS2016 Phase Transformation and Kinetics	Core	3
MS2082 Laboratory IIB	Core	1
HE2005 Principles of Econometrics	Core	3
HExxxx Econs PE1	Major Prescribed Electives	3
<b>Total</b>		<b>19</b>

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
MS2081 Laboratory IIA	Core	1
MS0003 Introduction to Data Science and Artificial Intelligence	GER-Core	3
ML0003 Kickstart your Career Success	GER-Core	1
HE2001 Intermediate Microeconomics	Core	3
HE2002 Intermediate Macroeconomics	Core	3
<b>Total</b>		<b>20</b>

Year 3 - Semester 1		
Course Code and Title	Course Type	AU
MS2018 Electronic & Magnetic Properties of Materials	Core	3
MS3011 Metallic & Ceramic Materials	Core	3
MS3012 Micro/Nanoelectronic Materials Processing	Core	3
MS3014 Analysis of Materials	Core	3
MS3081 Laboratory III	Core	1
HExxxx Econs PE2	Major Prescribed Electives	3
UE 1	Unrestricted Electives	3

<b>Total</b>	<b>19</b>
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<b>Year 3 - Semester 2</b>		
<b>Course Code and Title</b>	<b>Course Type</b>	<b>AU</b>
HW0288 Engineering Communication	GER-Core	2
MS3013 Environmental Effects on Materials	Core	3
MS3015 Materials Aspects in Design	Core	3
HE3021 Intermediate Econometrics	Core	3
HExxxx Econs PE3	Major Prescribed Electives	3
HExxxx Econs PE4	Major Prescribed Electives	3
UE 2	Unrestricted Electives	2
<b>Total</b>		<b>19</b>

<b>Year 4 - Semester 1</b>		
<b>Course Code and Title</b>	<b>Course Type</b>	<b>AU</b>
MS4012 Quality Control	Core	3
HE4010 Singapore Economy in a Globalized World	Core	4
HExxxx Econs PE5	Major Prescribed Electives	3
HExxxx Econs PE6	Major Prescribed Electives	3
HExxxx Econs PE7	Major Prescribed Electives	3
<b>Total</b>		<b>16</b>

<b>Year 4 - Semester 2</b>		
<b>Course Code and Title</b>	<b>Course Type</b>	<b>AU</b>
MS4013 Biomaterials	Core	3
MS4014 Nanomaterials: fundamentals and applications	Core	3
HExxxx Econs PE8	Major Prescribed Electives	3
HExxxx Econs PE9	Major Prescribed Electives	3
HExxxx Econs PE10	Major Prescribed Electives	4
<b>Total</b>		<b>16</b>

<b>Year 4 - Semester 2</b>		
<b>Course Code and Title</b>	<b>Course Type</b>	<b>AU</b>
MS3096 Professional Attachment	Core	5
<b>Total</b>		<b>5</b>

<b>Year 5 - Semester 1</b>		
<b>Course Code and Title</b>	<b>Course Type</b>	<b>AU</b>
MS4089 Final Year Project	Core	4
Major Prescribed Elective 1	Major Prescribed Electives	3

Major Prescribed Elective 2	Major Prescribed Electives	3
HExxxx Econs PE11	Major Prescribed Electives	4
<b>Total</b>		<b>14</b>

<b>Year 5 - Semester 2</b>		
<b>Course Code and Title</b>	<b>Course Type</b>	<b>AU</b>
MS4089 Final Year Project	Core	4
Major Prescribed Elective 3	Major Prescribed Electives	3
HExxxx Econs PE12	Major Prescribed Electives	4
<b>Total</b>		<b>11</b>