

# Bachelor of Engineering (Materials Engineering)

## Double Degree - Materials Engineering and Economics (AY2018-19)

### Professional Internship (PI) Option

#### ACADEMIC UNIT (AU) REQUIRED FOR GRADUATION

Double Degree – Materials Engineering and Economics	Year of Study	Core	Core Electives	GER			Unrestricted Electives	Total AU
				Core	Electives			
					BM	LA		
Year 1 Admission	1	36/37 <sup>+</sup>	-	1	-	-	-	37/38 <sup>+</sup>
	2	25	9	7	-	-	-	41
	3	23	12	3	-	-	-	38
	4	23	6	-	-	-	-	29
	5	8	24	3	-	-	-	35
	All Years							

<sup>+</sup> Students without H2 Level Physics will take PH1012 Physics A (4 AU)

<sup>^</sup> Economic courses

#### Description of Abbreviation

BM – Business & Management

LA – Liberal Arts

STS – Science, Technology & Society

**YEAR 1 Double Degree in Materials Engineering and Economics – PI Option**

Course Code and Title	Type	AU
<b>YEAR 1 SEMESTER 1</b>		
HW0001 English Proficiency		0
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
HE1001 Microeconomic Principles	Core (ECON)	3
HE1002 Macroeconomic Principles	Core (ECON)	3
<b>TOTAL</b>		<b>16</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.

<b>YEAR 1 SEMESTER 2</b>		
MS1008 Introduction to Computational Thinking	Core	3
MS1012 Materials Physics	Core	3
MS1014 Materials Chemistry II	Core	3
MS1015 Materials Science	Core	3
HE1005 Intro to Prob & Statistical Inference	Core (ECON)	3
HE2001 Intermediate Microeconomics	Core (ECON)	3
HE2002 Intermediate Macroeconomics	Core (ECON)	3
<b>TOTAL</b>		<b>21</b>

**YEAR 2 Double Degree in Materials Engineering and Economics – PI Option**

Course Code and Title	Type	AU
<b>YEAR 2 SEMESTER 1</b>		
HY0001 Ethics and Moral Reasoning	GER Core	1
HW0188 Engineering Communication I	GER Core	2
MS1016 Thermodynamics of Materials	Core	3
MS2012 Introduction to Manufacturing Processes	Core	3
HE2005 Principles of Econometrics	Core (ECON)	3
HExxxx Econs PE1	Core Elective (ECON)	3
HExxxx Econs PE2	Core Elective (ECON)	3
HExxxx Econs PE3	Core Elective (ECON)	3
<b>TOTAL</b>		<b>21</b>

<b>YEAR 2 SEMESTER 2</b>		
MS2013 Polymers and Composites	Core	3
MS2014 Materials Structure and Defects	Core	3
MS2015 Mechanical Behaviour of Materials	Core	3
MS2016 Phase Transformation and Kinetics	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
HE3021 Intermediate Econometrics	Core (ECON)	3
<b>TOTAL</b>		<b>20</b>

**YEAR 3 Double Degree in Materials Engineering and Economics – PI Option**

Course Code and Title	Type	AU
<b>YEAR 3 SEMESTER 1</b>		
ET0001 Enterprise and Innovation	GER Core	1
HW0288 Engineering Communication II	GER Core	2
MH2811 Mathematics II	Core	3
MS2018 Electronic & Magnetic Properties of Materials	Core	3
MS2082 Laboratory IIB	Core	1
MS3011 Metallic & Ceramic Materials	Core	3
HExxxx Econs PE4	Core Elective (ECON)	3
HExxxx Econs PE5	Core Elective (ECON)	3
<b>TOTAL</b>		<b>19</b>

<b>YEAR 3 SEMESTER 2</b>		
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
HExxxx Econs PE6	Core Elective (ECON)	3
HExxxx Econs PE7	Core Elective (ECON)	3
<b>TOTAL</b>		<b>19</b>

**YEAR 4 Double Degree in Materials Engineering and Economics – PI Option**

<b>Course Code and Title</b>	<b>Type</b>	<b>AU</b>
<b>YEAR 4 SEMESTER 1</b>		
MS4012 Quality Control	Core	3
MS4013 Biomaterials	Core	3
MS4014 Nanomaterials: Fundamentals and Applications	Core	3
HE4010 Singapore Economy in a Globalized World	Core (ECON)	4
HExxxx Econs PE8	Core Elective (ECON)	3
HExxxx Econs PE9	Core Elective (ECON)	3
<b>TOTAL</b>		<b>19</b>
<b>YEAR 4 SEMESTER 2</b>		
MS3099 Professional Internship	Core	10
<b>TOTAL</b>		<b>10</b>

**YEAR 5 Double Degree in Materials Engineering and Economics – PI Option**

Course Code and Title	Type	AU
<b>YEAR 5 SEMESTER 1</b>		
EG0001 Engineers & Society	GER Core	3
MS4089 Final Year Project	Core	4
Major Prescribed Elective 1	Core Elective	3
Major Prescribed Elective 2	Core Elective	3
HExxxx Econs PE10	Core Elective (ECON)	4
<b>TOTAL</b>		<b>17</b>

<b>YEAR 5 SEMESTER 2</b>		
MS4089 Final Year Project	Core	4
Major Prescribed Elective 3	Core Elective	3
Major Prescribed Elective 4	Core Elective	3
HExxxx Econs PE11	Core Elective (ECON)	4
HExxxx Econs PE12	Core Elective (ECON)	4
<b>TOTAL</b>		<b>18</b>

