

**Bachelor of Engineering (Materials Engineering)
Double Degree in BEng (Materials Engineering) and BSocSci (Economics) (AY2022-23)**

Updated: 27-Jun-22

Academic Unit (AU) Required for graduation						
Year of Study	Core	MPE	CC	FC	BDE	Total AU
1	28 / 29*	3	9	-	-	40 / 41*
2	25	-	8	3	-	36
3	34	3	-	2	-	39
4	4	15	-	10	-	29
5	8	23	-	-	-	31
	99 / 100*	44	17	15	0	175 / 176*

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

Year 1 - Semester 1		
Course Code and Title	Course Type	AU
CC0003 Ethics & Civics in a Multi-Cultural World	CC	2
CC0005 Healthy Living & Wellbeing	CC	3
PH1011 Physics ^{**}	Core	3
MH1810 Mathematics I [*]	Core	3
MS1013 Materials Chemistry I [*]	Core	2
MS1017 Introduction to Materials Science	Core	2
HE1001 Microeconomics I	Core	3
HE1002 Macroeconomics I	Core	3
Total		21

* 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.

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

Year 1 - Semester 2		
Course Code and Title	Course Type	AU
CC0001 Inquiry and Communication in the Interdisciplinary World	CC	2
CC0002 Navigating the Digital World	CC	2
EG1001 Engineer & Society	Core	2
MS1014 Materials Chemistry II	Core	2
MS1018 Properties of Materials	Core	2
MH1820 Introduction to Probability and Statistical Methods	MPE	3
HE2001 Microeconomics II	Core	3
HE2002 Macroeconomics II	Core	3
Total		19

Year 2 - Semester 1		
Course Code and Title	Course Type	AU
CC0007 Science & Technology for Humanity	CC	3
MS1008 Introduction to Computational Thinking	Core	3
MS1016 Thermodynamics of Materials	Core	3
MS2013 Introduction to Polymer Science	Core	3

Pre-Req	Co-Req	Offered in		
		S1	S2	Both
		Y		
		Y		
				Y
				Y
		Y		
		Y		

Pre-Req	Co-Req	Offered in		
		S1	S2	Both
			Y	
			Y	
			Y	
			Y	
			Y	

Pre-Req	Co-Req	Offered in		
		S1	S2	Both
		Y		
		Y		
	MS1017			Y
	MS1014/MS1016			Y

HE2003 Econometrics I	Core	3
HE3001 Microeconomics III	Core	3
Total		18

Year 2 - Semester 2		
Course Code and Title	Course Type	AU
ML0004 Career and Entrepreneurial Development for the Future World	CC	2
CC0006 Sustainability: Society, Economy & Environment	CC	3
MS0003 Introduction to Data Science and Artificial Intelligence	FC	3
MS2014 Materials Structure and Defects	Core	3
MS2016 Phase Transformation and Kinetics	Core	3
MS2083 Polymer Lab	Core	1
HE3003 Econometrics II	Core	3
Total		18

Pre-Req	Co-Req	Offered in		
		S1	S2	Both
			Y	
			Y	
MS1008			Y	
MS1017	MS1018			Y
	MS1016			Y
MS2013				Y

Year 3 - Semester 1		
Course Code and Title	Course Type	AU
HW0288 Effective Communication 2	FC	2
MS2012 Introduction to Manufacturing Processes	Core	3
MS2015 Mechanical Behaviour of Materials	Core	3
MH2811 Mathematics II	Core	3
MS2018 Electronic & Magnetic Properties of Materials	Core	3
MS3082 Design Lab	Core	1
HE3002 Macroeconomics III	Core	3
Total		18

Pre-Req	Co-Req	Offered in		
		S1	S2	Both
				Y
				Y
				Y
	MH1810			Y
				Y
				Y

Year 3 - Semester 2		
Course Code and Title	Course Type	AU
MS3011 Metallic & Ceramic Materials	Core	3
MS3012 Micro/Nanoelectronic Materials Processing	Core	3
MS3013 Corrosion of Materials	Core	3
MS3014 Analysis of Materials	Core	3
MS3015 Materials Aspects in Design	Core	3
MS4012 Quality Control	Core	3
HE3xxx Economics PE1	MPE	3
Total		21

Pre-Req	Co-Req	Offered in		
		S1	S2	Both
	MS2016			Y
				Y
	MS2013/MS3011			Y
				Y
MS3082	MS2013/MS3011			Y
				Y

Year 4 - Semester 1		
Course Code and Title	Course Type	AU
MS4013 Biomaterials	Core	2
MS4014 Nanomaterials: Fundamentals And Applications	Core	2
MPE1	MPE	3
HE3xxx Economics PE2	MPE	3
HE3xxx Economics PE3	MPE	3
HE3xxx Economics PE4	MPE	3
HE3xxx Economics PE5	MPE	3

Pre-Req	Co-Req	Offered in		
		S1	S2	Both
MS2013	MS3011			Y
MS2018/MS3012/MS3013				Y

Total	19
--------------	-----------

Year 4 - Semester 2		
Course Code and Title	Course Type	AU
MS3099 Professional Internship	FC	10
Total		10

Pre-Req **Co-Req** *Offered in*
S1 S2 Both
Not Applicable

Year 5 - Semester 1		
Course Code and Title	Course Type	AU
MS4089 Final Year Project	Core	4
MPE2	MPE	3
MPE3	MPE	2
HE3xxx Economics PE6	MPE	3
HE4xxx Economics PE7	MPE	4
Total		16

Pre-Req **Co-Req** *Offered in*
S1 S2 Both
Not Applicable
 Year 4 Standing

Year 5 - Semester 2		
Course Code and Title	Course Type	AU
MS4089 Final Year Project	Core	4
MPE4	MPE	3
HE4xxx Economics PE8	MPE	4
HE4xxx Economics PE9	MPE	4
Total		15
Total AU for Graduation		175

Pre-Req **Co-Req** *Offered in*
S1 S2 Both
Not Applicable
 Year 4 Standing