

**Bachelor of Engineering (Materials Engineering)
Accelerated Bachelor Programme (AY2022-23)**

Updated: 25-May-22

Academic Unit (AU) Required for graduation

Year of Study	Core	MPE	CC	FC	BDE	Total AU
1	28 / 29 ⁺	-	9	-	3	40 / 41 ⁺
2	23	-	8	3	9	43
3	13	5	-	12	3	33
4	11	6	-	-	3	20
	75 / 76 ⁺	11	17	15	18	136 / 137 ⁺

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

Year 1 - Semester 1

Course Code and Title	Course Type	AU	Pre-Req	Co-Req
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		
MS1016 Thermodynamics of Materials	Core	3		MS1017
MS1017 Introduction to Materials Science	Core	2		
Total		18		

** 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	Pre-Req	Co-Req
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		
MS1008 Introduction to Computational Thinking	Core	3		
MS2013 Introduction to Polymer Science	Core	3		MS1014/MS1016 MH1810
MH2811 Mathematics II	Core	3		
BDE1	BDE	3		
Total		22		

Year 2 - Semester 1

Course Code and Title	Course Type	AU	Pre-Req	Co-Req
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CC0007 Science & Technology for Humanity	CC	3
MS2012 Introduction to Manufacturing Processes	Core	3
MS2014 Materials Structure and Defects	Core	3
MS2015 Mechanical Behaviour of Materials	Core	3
MS2016 Phase Transformation and Kinetics	Core	3
MS2083 Laboratory on Structure-Property Relationship in Polymers	Core	1
BDE2	BDE	3
BDE3	BDE	3
Total		22

MS1017 MS1018

MS2013 MS1016

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
MS2018 Electronic & Magnetic Properties of Materials	Core	3
MS3011 Metallic & Ceramic Materials	Core	3
MS3012 Micro/Nanoelectronic Materials Processing	Core	3
MS3082 Design Lab	Core	1
BDE4	BDE	3
Total		21

Pre-Req Co-Req

MS1008 MS2016

Year 3 - Semester 1		
Course Code and Title	Course Type	AU
MS3099 Professional Internship	FC	10
Total		10

Pre-Req Co-Req

Year 3 - Semester 2		
Course Code and Title	Course Type	AU
HW0288 Effective Communication 2	FC	2
MS4089 Final Year Project	Core	4
MS3013 Corrosion of Materials	Core	3
MS3014 Analysis of Materials	Core	3
MS3015 Industrial Design	Core	3
BDE5	BDE	3
MPE1	MPE	3
MPE2	MPE	2
Total		23

Pre-Req Co-Req

Year 4 Standing MS2013/MS3011

MS3082 MS2013/MS3011

Year 4 - Semester 1		
Course Code and Title	Course Type	AU
MS4089 Final Year Project	Core	4

Pre-Req Co-Req

Year 4 Standing

MS4012 Quality Control	Core	3
MS4013 Biomaterials	Core	2
MS4014 Nanomaterials: Fundamentals And Applications	Core	2
BDE6	BDE	3
MPE3	MPE	3
MPE4	MPE	3
Total		20

MS2013
MS2018/MS3012/MS3013

MS3011