

**Bachelor of Engineering (Materials Engineering)
Common Engineering Stream (AY2023-24)**

Last Update: 13-Oct-23

Academic Unit (AU) Required for graduation						
Year of Study	Core	MPE	CC	FC	BDE	Total AU
1	19 / 20 ⁺	-	9	-	9	37 / 38 ⁺
2	26	-	8	3	3	40
3	13	-	-	12	3	28
4	18	11	-	-	3	32
	76 / 77 ⁺	11	17	15	18	137 / 138 ⁺

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

Year 1 (AY2023-24) - Semester 1		
Course Code and Title	Course Type	AU
CC0001 Inquiry and Communication in the Interdisciplinary World	CC	2
CC0002 Navigating the Digital World	CC	2
FE1073 Introduction to Engineering Practices	Core	1
PH1011 Physics**	Core	3
MH1810 Mathematics I	Core	3
EG1001 Engineer & Society	Core	2
BDE1	BDE	3
Total		16

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

Year 1 (AY2023-24) - Semester 2		
Course Code and Title	Course Type	AU
CC0003 Ethics & Civics in a Multi-Cultural World	CC	2
CC0005 Healthy Living & Wellbeing	CC	3
MH2811 Mathematics II	Core	3
MS1014 Materials Chemistry II	Core	2
MS1018 Properties of Materials	Core	2
MS1008 Introduction to Computational Thinking	Core	3
BDE2	BDE	3

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BDE4	BDE	3
Total		21

Year 2 (AY2024-25) - Semester 1

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
MS1013 Materials Chemistry I	Core	2
MS1016 Thermodynamics of Materials	Core	3
MS1017 Introduction to Materials Science	Core	2
MS2012 Introduction to Manufacturing Processes	Core	3
MS2015 Mechanical Behaviour of Materials	Core	3
MS2016 Introduction to Metallurgy	Core	2
Total		20

Year 2 (AY2024-25) - Semester 2

Course Code and Title	Course Type	AU
CC0007 Science & Technology for Humanity	CC	3
MS0003 Introduction to Data Science and Artificial Intelligence	FC	3
MS2013 Introduction to Polymer Science	Core	3
MS2014 Materials Structure and Defects	Core	3
MS2018 Electronic & Magnetic Properties of Materials	Core	3
MS2083 Laboratory on Structure-Property Relationship in Polymers	Core	1
MS2084 Phase Transformations and Kinetics in Steels	Core	1
BDE5	BDE	3
Total		20

Year 3 (AY2025-26) - Semester 1

Course Code and Title	Course Type	AU
HW0288 Effective Communication	FC	2

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MS3011 Metallic & Ceramic Materials	Core	3
MS3012 Micro/Nanoelectronic Materials Processing	Core	3
MS3013 Electrochemical Corrosion	Core	3
MS3014 Analysis of Materials	Core	3
MS3082 Design Lab	Core	1
BDE6	BDE	3
Total		18

Year 3 (AY2025-26) - Semester 2

Course Code and Title	Course Type	AU
***MS3099 Professional Internship	FC	10
Total		10

***The school will assign students for Professional Internship in Year 3, either Semester 1 or 2.

Year 4 (AY2026-27) - Semester 1

Course Code and Title	Course Type	AU
MS4089 Final Year Project	Core	4
MS3015 Industrial Design	Core	3
MS4012 Quality Control	Core	3
MS4013 Biomaterials	Core	2
MPE1	MPE	3
BDE6	BDE	3
Total		18

Year 4 (AY2026-27) - Semester 2

Course Code and Title	Course Type	AU
MS4089 Final Year Project	Core	4
MS4014 Nanomaterials: Fundamentals and Applications	Core	2
MPE2	MPE	3
MPE3	MPE	3

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MPE4	MPE	2
Total		14
Total AU for Graduation		137