

**Bachelor of Engineering (Materials Engineering)
Poly Direct Entry Admission (AY2022-23)**

Updated

25-May-22

Academic Unit (AU) Required for graduation

Year of Study	Core	MPE	CC	FC	BDE	Total AU
2	25	-	4	3	-	32
3	28	-	7	7	5	47
4	15	9	6	-	3	33
	68	9	17	10	8	112

Year 2 - Semester 1

Course Code and Title	Course Type	AU
CC0002 Navigating the Digital World	CC	2
EG1001 Engineers In Society	Core	2
MS1008 Introduction to Computational Thinking	Core	3
MS1017 Introduction to Materials Science	Core	2
MS2013 Introduction to Polymer Science	Core	3
MH1810 Mathematics I	Core	3
BDE1	BDE	2
Total		17

Pre-Req

Co-Req

Offered in

S1 S2 Both

Y

Y

Y

Y

MS1014/MS1016

Y

Y

Year 2 - Semester 2

Course Code and Title	Course Type	AU
CC0001 Inquiry and Communication in the Interdisciplinary World	CC	2
MS0003 Introduction to Data Science and Artificial Intelligence	FC	3
MS1016 Thermodynamics of Materials	Core	3
MH2811 Mathematics II	Core	3
MS1018 Properties of Materials	Core	2
MS2083 Laboratory on Structure-Property Relationship in Polymers	Core	1
MS2014 Materials Structure and Defects	Core	3
Total		17

Pre-Req

Co-Req

Offered in

S1 S2 Both

Y

Y

Y

MS1017

Y

MH1810

Y

MS1017

Y

MS2013

Y

MS1017

MS1018

Y

Year 3 - Semester 1

Course Code and Title	Course Type	AU
CC0005 Healthy Living & Wellbeing	CC	3
ML0004 Career and Entrepreneurial Development for the Future World	CC	2
HW0288 Effective Communication 2	FC	2
MS2012 Introduction to Manufacturing Processes	Core	3
MS2015 Mechanical Behaviour of Materials	Core	3
MS2016 Phase Transformation and Kinetics	Core	3
MS2018 Electronic & Magnetic Properties of Materials	Core	3
MS3082 Design Lab	Core	1
Total		20

Pre-Req

Co-Req

Offered in

S1 S2 Both

Y

Y

Y

Y

Y

MS1016

Y

Y

Y

Y

Year 3 - Semester 2

Course Code and Title	Course Type	AU
CC0003 Ethics & Civics in a Multi-Cultural World	CC	2
MS3011 Metallic & Ceramic Materials	Core	3
MS3014 Analysis of Materials	Core	3
MS3012 Micro/Nanoelectronic Materials Processing	Core	3
MS3015 Industrial Design	Core	3
MS3013 Corrosion of Materials	Core	3
Total		17

MS1017/MS1018/MS2083

MS2013/MS3011

MS2013/MS3011

Y

Y

Y

Y

Y

Y

Year 3 - Special Term		
Course Code and Title	Course Type	AU
MS3096 Professional Attachment	FC	5
Total		5

Pre-Req

Co-Req

Offered in
S1 S2 Both
Not Applicable

Year 4 - Semester 1		
Course Code and Title	Course Type	AU
CC0007 Science & Technology for Humanity	CC	3
MS4089 Final Year Project	Core	4
MS4014 Nanomaterials: Fundamentals And Applications	Core	2
BDE2	BDE	3
BDE3	BDE	3
MPE1	MPE	3
Total		18

Pre-Req

Co-Req

Offered in
S1 S2 Both
Y
Not Applicable
Y

Year 4 Standing
MS2018/MS3012/MS3013

Year 4 - Semester 2		
Course Code and Title	Course Type	AU
CC0006 Sustainability: Society, Economy & Environment	CC	3
MS4089 Final Year Project	Core	4
MS4012 Quality Control	Core	3
MS4013 Biomaterials	Core	2
MPE2	MPE	3
MPE3	MPE	3
Total		18

Pre-Req

Co-Req

Offered in
S1 S2 Both
Y
Not Applicable
Y

Year 4 Standing

MS2013

MS3011

Y