

**Bachelor of Engineering (Materials Engineering)
CN Yang Scholars Programme (AY2020-21)**

Academic Unit (AU) Required for graduation

Year of Study	Core	Major Prescribed Electives	GER-Core	GER-PE (BM)	GER-PE(LA)	GER-PE (STS)	Unrestricted Electives	Total AU
1	39	-	1	-	-	-	-	40
2	27	-	10	-	-	-	-	37
3	30	3	6	-	-	-	3	42
4	14	6	-	-	-	-	3	23
								142

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

Description of Abbreviation

BM – Business & Management

LA – Liberal Arts

STS – Science, Technology & Society

Year 1 - Semester 1

Course Code and Title	Course Type	AU
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GER-Core	1
CY1001 Introductory Biology	Core	3
CY1101 Principles of Modern Chemistry (EF 1)	Core	3
CY1308 Physics	Core	3
CY1500 Introductory Research Methodology	Core	3
CY1601 Mathematics I	Core	4
Total		17

** 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.

Year 1 - Semester 2

Course Code and Title	Course Type	AU
CY1007 Climate Change	Core	3
CY1307 Relativity and Quantum Physics	Core	3
CY1400 CNYSP Undergraduate Research Experience	Core	3
CY1602 Mathematics II	Core	4
MS1014 Materials Chemistry II	Core	3
Engineering Fundamentals (EF 2)	Core	3

Total	19
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Year 1 - Special Term		
Course Code and Title	Course Type	AU
CY2003 Research Attachment 3 (Making & Tinkering)	Core	4
Total		4

Year 2 - Semester 1		
Course Code and Title	Course Type	AU
CY2001 Research Attachment 1	Core	4
CY0002 Ethics	GER-Core	3
MS1015 Materials Science	Core	3
MS1016 Thermodynamics of Materials	Core	3
MS2012 Introduction to Manufacturing Processes	Core	3
MS2081 Laboratory IIA	Core	1
MS1008 Introduction to Computational Thinking	Core	3
Total		20

Year 2 - Semester 2		
Course Code and Title	Course Type	AU
CY0001 Writing and Reasoning	GER-Core	3
MS2013 Polymers and Composites	Core	3
MS2014 Materials Structure and Defects	Core	3
MS2016 Phase Transformation and Kinetics	Core	3
MS2082 Laboratory IIB	Core	1
MS0003 Introduction to Data Science and Artificial Intelligence	GER-Core	3
ML0003 Kickstart your Career Success	GER-Core	1
Total		17

Year 3 - Semester 1		
Course Code and Title	Course Type	AU
EG0001 Engineers and Society	GER-Core	3
MS2015 Mechanical Behaviour of Materials	Core	3
MS2018 Electronics & Magnetic Properties of Materials	Core	3
MS3011 Metallic & Ceramic Materials	Core	3
MS3012 Micro/Nanoelectronic Materials Processing	Core	3
CY0006 Enterprise, Innovation and Leadership	GER-Core	3
Total		18

Year 3 - Semester 2		
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Course Code and Title	Course Type	AU
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
MS4013 Biomaterials	Core	3
Major Prescribed Elective 1	Major Prescribed Electives	3
UE 1	Unrestricted Electives	3
Total		19

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

Year 4 - Semester 1		
Course Code and Title	Course Type	AU
MS4211 CNYSP Overseas Final Year Project	Core	8
Total		8

Year 4 - Semester 2		
Course Code and Title	Course Type	AU
MS4012 Quality Control	Core	3
MS4014 Nanomaterials: Fundamentals and Applications	Core	3
Major Prescribed Elective 2	Major Prescribed Electives	3
Major Prescribed Elective 3	Major Prescribed Electives	3
UE 2	Unrestricted Electives	3
Total		15