

MATERIALS SCIENCE & ENGINEERING - Single Honours

Single Honours Degree Requirements	MCS	Remarks	Classification
(A) University Level Requirements			
General education modules:			
GER1000 Quantitative Reasoning	4	Only 1 set needs to be completed for both BEng and BBA degrees. May be replaced by selected USP, RVRC or UTCP modules.	CA
GEQ1000 Asking Questions	4		CA
GET	4		CA
GEH	4		CA
GES	4		CA
Sub-total for University Level Requirements	20		
(B) Engineering Programme Requirements			
Faculty requirements:			
EG2401A Engineering Professionalism	2		C1
Foundation requirements:			
MLE1001A Materials Science & Engineering Principles & Practice I	4		C1
MLE2001 Materials Science & Engineering Principles & Practice II	4		C1
MA1512 Differential Equations for Engineering	2		C1
MA1513 Linear Algebra with Differential Equations	2		C1
CS1010E Programming Methodology	4		C1
EE2211 Introduction to Machine Learning	4		C1
EG1311 Design and Make	4		C1
IE2141 Systems Thinking and Dynamics	4		C1
MLE1010 Materials Engineering Principles & Practices	4		C1
MSE core modules:			
CM1501 Organic Chemistry for Engineers	4		C1
PC1432 Physics IIE	4		C1
MLE2101 Introduction to Structure of Materials	4		C1
MLE2102 Thermodynamics and Phase Diagrams	4		C1
MLE2103 Phase Transformation and Kinetics	4		C1
MLE2104 Mechanical Properties of Materials	4		C1
MLE2105 Electronic Properties of Materials	4		C1
MLE3101 Materials Characterization Laboratory	4		C1
MLE3111 Materials Properties & Processing Laboratory	4		C1
MSE project and internship modules:			
MLE4101 B.Eng. Dissertation (12 MCS) or MLE4101A B.Eng. Dissertation (6 MCS)	14 or 16	Students should take one of the following combinations: ● MLE4101 (12 MCS) + MLE4102 (4 MCS) ● MLE4101A (6 MCS) + MLE4102A (8 MCS)	C1
MLE4102 Design Project (4 MCS) or MLE4102A Design Project (8 MCS)			C1
EG3611A Industrial Attachment	-	Exempted for DDP students	-
MSE pathway requirements and electives:			
MSE pathway requirement 1	4	Pathway requirement 2 is counted as Common Module.	C1
Sub-total for Engineering Programme Requirements	88 or 90		
(C) Business Programme Requirements			
Business preparatory modules:			
BPM1701 Calculus and Statistics	0	These modules must be completed within the first semester after matriculation or first semester of commencing the DDP for mid-stream DDP students.	-
BPM1702 Microsoft Excel Skills for Business	0		-
BPM1705 Understanding How Business Works	0		-
STR1000 Career Creation Starter Workshops	0		-
STR2000 Career Creation Starter Clinics	0		-
Global Immersion and Study	-	May be fulfilled through student exchange, overseas internship, case competition, or study trip.	-
BBA core modules:			
ACC1701 Accounting for Decision Makers	4		C2
BSP1702 Legal Environment of Business	4		C2
BSP1703 Managerial Economics	4		C2
BSP2701 Global Economy	2		C2
BSP3701 Strategic Management	4		C2
DAO1704 Decision Analytics Using Spreadsheets	4		C2
DAO2702 Programming for Business Analytics	4		C2
DAO2703 Operations and Technology Management	4		C2
FIN2704 Finance	4		C2
MKT1705 Principles of Marketing	4		C2
MNO1706 Organisational Behaviour	4		C2
MNO2705 Leadership and Decision Making under Uncertainty	4		C2
BBA electives / specialisation modules:			
BBA elective 1	4	It is not compulsory for DDP students to do a specialisation, but those who wish take up a specialisation will need to complete 24 MCS of specialisation modules.	C2
BBA elective 2	4		C2
Sub-total for Business Programme Requirements	54		
(D) Common Modules			
ES2531 Critical Thinking and Writing	4	Replaces ES2002 Business Communication for Leaders (BBA). Can also be replaced by UWC2101% (for USP students), ES1601 (for RVRC students), or UTW2001% (for UTCP students).	CA
BEng module 1	4	IE4240 Project Management (This module is counted as MSE pathway requirement 2.)	CA
BEng module 2	4	Select from list of Common Modules.	CA
BBA module 1	4		CA
BBA module 1	4		CA
Sub-total for Common Modules	20		
TOTAL (minimum)	182 or 184		