## **MATERIALS SCIENCE & ENGINEERING - Double Honours**

Double Honours Degree Requirements General education modules: GER1000 Quantitative Reasoning GER1000 Quantitative Requirements Faculty requirements:  Faculty requirements:  Faculty requirements:  Foundation requirements:  Foundation requirements:  Foundation requirements:  Foundation requirements:  Fundation Requirements:  Fundation requirements:  Fundation Requirements:  Fundation Requirements:  ### MELEOOIA Materials Science & Engineering Principles & Practice I ### MALEOOIA Materials Science & Engineering Principles & Practice I ### MALEOOIA Materials Science & Engineering Principles & Practice I ### MALEOOIA Materials Science & Engineering Principles & Practice I ### MALEOOIA Materials Science & Engineering Principles & Practice I ### MALEOOIA Materials Methodology ### ALEOOIA Materials Properties of Engineering ### ALEOOIA Materials Properties of Aleona Maleona M	Only 1 set needs to be completed for both BEng and BBA degrees. May be replaced by selected USP, RVRC or UTCP	Classification
General education modules: GRR1000 Quantitative Reasoning GR 4 GET	· · · · · · · · · · · · · · · · · · ·	
GER1000 Quantitative Reasoning GEQ1000 Asking Questions GET	· · · · · · · · · · · · · · · · · · ·	
GET 4 GET 4 GET 4 GET 4 GET 4 GET 4 GES 5 Sub-total for University Level Requirements 7 Faculty requirements: 8 Faculty requirements: 9 Faculty requirements: 9 Faculty requirements: 9 Faculty requirements: 9 EC2401A Engineering Professionalism 2 ES2351 Critical Thinking and Writing 4 Foundation requirements: MILE1001A Materials Science & Engineering Principles & Practice I 4 MAL512 Differential Equations for Engineering Principles & Practice I 4 MAL512 Differential Equations for Engineering 2 MAL5131 University of Materials Science & Engineering Principles & Practice I 4 MAL5131 University of Materials Engineering Principles & Practice I 4 MAL513 University of Materials Engineering Principles & Practice I 4 MAL5131 University of Materials Engineering 2 EE2211 Introduction to Machine Learning 4 EE2214 Systems Thinking and Dynamics 4 HEL1010 Materials Engineering Principles & Practices 4 MSE core modules: 6 CM1501 Organic Chemistry for Engineers 9 HEL2101 Systems Thinking and Dynamics 4 HEL2102 Thermodynamics and Phase Diagrams 4 HEL2102 Thermodynamics and Phase Diagrams 4 HEL2103 Phase Transformation and Kinetics 4 HEL2103 Phase Transformation and Kinetics 4 HEL2104 Mechanical Properties of Materials 4 HEL2105 Phase Transformation and Kinetics 4 HEL2105 Principles & Processing Laboratory 4 MSE project and internship modules: 8 HEL2105 Engineerials Properties of Materials 4 HEL3101 Materials Properties of Materials 6 HEL3101 Materials Properties of Materials 9 HEL3101 Agranic Principles & Processing Laboratory 4 HEL3111 Materials Properties of Materials 9 HEL3102 Design Project 5 HEL3031 Introduction Communication 4 HEL3101 Materials Properties of Materials 9 HEL3101 Principle Principles & Processing Laboratory 4 HEL3101 Materials Properties of Materials 9 HEL3102 Design Project 6 HEL3031 Introduction Communication 4 HEL3101 Materials Properties of Materials 9 HEL3101 Materials Properties of Materials 9 HEL3101 Materials Properties Of Materials 9 HEL3101 Materials P	· · · · · · · · · · · · · · · · · · ·	CA
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Sub-total for University Level Requirements (D) Engineering Programme Requirements Faculty requirements:  EG2401A Engineering Professionalism 2	modules.	CA
Faculty requirements:   Faculty requirements:   EG2401A Engineering Professionalism   2		CA
Faculty requirements:   EG2401A Engineering Professionalism   2   2   2   2   2   2   2   2   2		
Faculty requirements:   EG2401A Engineering Professionalism   2   2   2   2   2   2   2   2   2		
ES2351 Critical Thinking and Writing Foundation requirements:  MLE1001A Materials Science & Engineering Principles & Practice   4 MLE2001 Materials Science & Engineering Principles & Practice   4 MLE2001 Materials Science & Engineering Principles & Practice   4 MLE2101 Materials Science & Engineering Principles & Practice   4 MAS131 Direar Algebra with Differential Equations 2 CI51010E Programming Methodology 4 EE2211 Introduction to Machine Learning 4 EE2211 Introduction to Machine Learning 4 EE2111 Design and Make 4 HE2111 Design and Make 4 HE2111 Design and Make 4 HE2111 Materials Engineering Principles & Practices 4 MIE2101 Materials Engineering Principles & Practices 4 MIE2102 Thermodynamics and Phase Diagrams 4 HE2102 Physics IIE 4 HE2102 Physics IIE 4 HE2103 Physics IIE 4 HE2103 Physics IIE 4 HE2104 Mechanical Properties of Materials 4 HE2104 Mechanical Properties of Materials 4 HE2105 Hearmodynamics and Phase Diagrams 4 HE2101 Materials Characterization Laboratory 4 HE2311 Materials Properties of Materials 4 HE3111 Materials Properties of Materials 4 HE3111 Materials Properties of Materials 4 HE3101 Being. Dissertation (12 MCs)		
Foundation requirements:  MLE1001A Materials Science & Engineering Principles & Practice   4  MLE2001 Materials Science & Engineering Principles & Practice   4  MLE2001 Materials Science & Engineering Principles & Practice   4  MLE3201 Materials Science & Engineering Principles & Practice   4  MLE3120 Inferential Equations for Engineering   2  MA1513 Linear Algebra with Differential Equations   2  CS1010E Programming Methodology   4  EE2211 Introduction to Machine Learning   4  EE2211 Introduction to Machine Learning   4  EE2311 Design and Make   4  EE2131 Design and Make   4  EE2141 Systems Thinking and Dynamics   4  MLE1010 Materials Engineering Principles & Practices   4  MSE core modules:   Comparison of Materials   4  MSE core modules:   Comparison of Materials   4  MLE2101 Introduction to Structure of Materials   4  MLE2102 Thermodynamics and Phase Diagrams   4  MLE2103 Phase Transformation and Kinetics   4  MLE2103 Materials Characterization Laboratory   4  MLE3101 Materials Properties of Materials   4  MLE3101 Materials Properties of Processing Laboratory   4  MLE3111 Materials Properties & Processing Laboratory   4  MSE project   4  EG3611A Industrial Attachment   -  MSE pathway requirement and electives:   -  MSE pathway requirement and electives:   -  MSE pathway requirement 1   4  MSE pathway requirement 2   4  Sub-total for Engineering Programme Requirements   4  Evel 1000 exposure module - Asian Studies   4  Eevel 1000 exposure module - Asian Studies   4  Eevel 1000 exposure module - Humanities   4  FAS1102 Public Writing and Communication   Com		C1
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MLE2001 Materials Science & Engineering Principles & Practice II	(ich oral stadents).	
MLE2001 Materials Science & Engineering Principles & Practice II		C1
MA1512 Differential Equations for Engineering         2           MA1513 Linear Algebra with Differential Equations         2           CS1010E Programming Methodology         4           EE2211 Introduction to Machine Learning         4           EC1311 Design and Make         4           EC2111 Stroman Make         4           MLE1010 Materials Engineering Principles & Practices         4           MEE1011 Materials Engineering Principles & Practices         4           MESCOR Commodules:         4           CM1501 Organic Chemistry for Engineers         4           MC15101 Introduction to Structure of Materials         4           MLE2102 Thermodynamics and Phase Diagrams         4           MLE2103 Phase Transformation and Kinetics         4           MLE2103 Phase Transformation and Kinetics         4           MLE2104 Mechanical Properties of Materials         4           MLE2105 Electronic Properties of Materials         4           MLE2106 Electronic Properties of Materials         4           MLE2310 Materials P		C1
MA1513 Linear Algebra with Differential Equations   2   CS1010E Programming Methodology   4   4   E2141 Introduction to Machine Learning   4   4   E61311 Design and Make   4   E61311 Design and Parameters   5   E61311 De		C1
CS1010E Programming Methodology   4		C1
EE2211 Introduction to Machine Learning         4           EG1311 Design and Make         4           EI22141 Systems Thinking and Dynamics         4           MLE1010 Materials Engineering Principles & Practices         4           MSE core modules:		C1
EG1311 Design and Make  IE2141 Systems Thinking and Dynamics  A MLE1010 Materials Engineering Principles & Practices  MSE core modules:  CM1501 Organic Chemistry for Engineers  CM1501 Organic Chemistry for Engineers  A PC1432 Physics IIE  MLE2101 Introduction to Structure of Materials  A LE2102 Thermodynamics and Phase Diagrams  A LE2103 Phase Transformation and Kinetics  A MLE2103 Phase Transformation and Kinetics  A MLE2104 Materials Characterization Laboratory  A MLE2105 Electronic Properties of Materials  A MLE3101 Materials Characterization Laboratory  A MLE3111 Materials Properties & Processing Laboratory  A MLE3111 Materials Properties & Processing Laboratory  A MSE project and Internship modules:  MLE4102 Design Project  G3611A Industrial Attachment  MSE pathway requirements and electives:  MSE pathway requirement 1  A MSE pathway requirement 2  A Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  4 Level 1000 exposure module - Humanities  A Level 1000 exposure module - Humanities  A Level 1000 exposure module - Humanities  A CAS1102 Public Writing and Communication  Of A FASS Faculty Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3303 Econometrics II  Blective Modules:  EC2101 Microeconomic Analysis II  EC3304 Econometrics II  Blective Modules:  EC2105 Macroeconomic Analysis II  EC3107 Macroeconomic Analysis II  EC3108 Macroeconomic Analysis II  EC3109 Macroeconomic Analysis II  EC3109 Macroeconomic Analysis II  EC3101 Microeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3104 (Level 3000)  5 E Celective 2 (Level 4000)  5 D Ecelective 2 (Level 4000)  5 D Ecelective 2 (Level 4000)  5 D Ecelective 3 (Level 4000)  5 D Ecelective 4 (Level 4000)  5 D Ecelective 5 (Level 4000)  5 D Ecelective 6 (Level 4000)  5 D Ecelective 6 (Level 4000)		C1
MLE1010 Materials Engineering Principles & Practices  MSE core modules:  CM1501 Organic Chemistry for Engineers  PC1432 Physics IIE  A MLE2101 Introduction to Structure of Materials  MLE2102 Thermodynamics and Phase Diagrams  A MLE2103 Phase Transformation and Kinetics  A MLE2103 Phase Transformation and Kinetics  A MLE2104 Mechanical Properties of Materials  MLE2105 Electronic Properties of Materials  A MLE3101 Materials Characterization Laboratory  A MLE3111 Materials Properties & Processing Laboratory  A MLE3111 Materials Properties & Processing Laboratory  MSE project and internship modules:  MLE4101 B.Eng. Dissertation (12 MCs)  MLE4102 Design Project  EG3611A Industrial Attachment  MSE pathway requirements and electives:  MSE pathway requirement 1  A MSE pathway requirement 2  MSE pathway requirement 2  A Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  4 Level 1000 exposure module - Humanities  4 PAS1102 Public Writing and Communication  Of A FAS1103 Effective Workplace Communication  Of FASS Faculty Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2102 Macroeconomic Analysis II  EC2102 Macroeconomic Analysis II  EC3303 Econometrics II  Elective Modules:  EC2101 (Level 3000)  A EC elective 1 (Level 4000)  B C elective 2 (Level 4000)  C C elective 3 (Level 4000)  C C elective 4 (Level 4000)  C C elective 5 (Level 4000)  D C C elective 5 (Level 4000)  C C elective 5 (Level 4000)  D C C elective 5 (Level 4000)  C C elective 5 (Level 4000)  D C C elective		C1
MLE1010 Materials Engineering Principles & Practices  MSE core modules:  CM1501 Organic Chemistry for Engineers  PC1432 Physics IIE  A MLE2101 Introduction to Structure of Materials  MLE2102 Thermodynamics and Phase Diagrams  A MLE2103 Phase Transformation and Kinetics  A MLE2103 Phase Transformation and Kinetics  A MLE2104 Mechanical Properties of Materials  MLE2105 Electronic Properties of Materials  A MLE3101 Materials Characterization Laboratory  A MLE3111 Materials Properties & Processing Laboratory  A MLE3111 Materials Properties & Processing Laboratory  MSE project and internship modules:  MLE4101 B.Eng. Dissertation (12 MCs)  MLE4102 Design Project  EG3611A Industrial Attachment  MSE pathway requirements and electives:  MSE pathway requirement 1  A MSE pathway requirement 2  MSE pathway requirement 2  A Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  4 Level 1000 exposure module - Humanities  4 PAS1102 Public Writing and Communication  Of A FAS1103 Effective Workplace Communication  Of FASS Faculty Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2102 Macroeconomic Analysis II  EC2102 Macroeconomic Analysis II  EC3303 Econometrics II  Elective Modules:  EC2101 (Level 3000)  A EC elective 1 (Level 4000)  B C elective 2 (Level 4000)  C C elective 3 (Level 4000)  C C elective 4 (Level 4000)  C C elective 5 (Level 4000)  D C C elective 5 (Level 4000)  C C elective 5 (Level 4000)  D C C elective 5 (Level 4000)  C C elective 5 (Level 4000)  D C C elective		C1
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MLE2101 Introduction to Structure of Materials  MLE2102 Thermodynamics and Phase Diagrams  4 MLE2103 Phase Transformation and Kinetics  4 MLE2104 Mechanical Properties of Materials  4 MLE2105 Electronic Properties of Materials  4 MLE3101 Materials Characterization Laboratory  4 MLE3111 Materials Properties & Processing Laboratory  4 MLE3111 Materials Properties & Processing Laboratory  MLE4101 B.Eng. Dissertation (12 MCs)  MLE4102 Design Project  4 EG363114 Industrial Attachment  - MSE pathway requirements and electives:  MSE pathway requirement 1  MSE pathway requirement 2  4 Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  Level 1000 exposure module - Humanities  4 Level 1000 exposure module - Humanities  4 FAS1102 Public Writing and Communication  of FAS1102 Public Writing and Communication  of FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC3303 Econometrics I  EC3304 Econometrics I  EC4014 (Level 4000)  5 EC elective 3 (Level 4000)  5 EC elective 4 (Level 4000)  5 EC elective 5 (Level 4000)  5 EC elective 6 (Level 4000)  5 EC elective 6 (Level 4000)  5 EC elective 6 (Level 4000)  5 DE Celective 6 (Level 4000)  5 EC elective 7 (Level 4000)  5 EC elective 7 (Level 4000)  5 EC elective 8 (Level 4000)  5 EC elective 8 (Level 4000)  5 EC elective 9 (Level 400		C1
MLE2102 Thermodynamics and Phase Diagrams  MLE2103 Phase Transformation and Kinetics  MLE2104 Mechanical Properties of Materials  MLE2105 Electronic Properties of Materials  MLE3101 Materials Characterization Laboratory  4 MLE3111 Materials Properties & Processing Laboratory  4 MSE project and internship modules:  MLE4101 B.Eng. Dissertation (12 MCs)  MLE4102 Design Project  4 EG3611A Industrial Attachment  MSE pathway requirements and electives:  MSE pathway requirement 1  4 MSE pathway requirement 2  4 Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  4 Level 1000 exposure module - Humanities  4 FAS1102 Public Writing and Communication  or  FAS1102 Public Writing and Communication  or  FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2101 Microeconomic Analysis I  EC3101 Microeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3103 Econometrics I  EC3104 (Level 4000)  EC elective 1 (Level 3000)  EC elective 2 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)		C1
MLE2103 Phase Transformation and Kinetics 4 MLE2104 Mechanical Properties of Materials 4 MLE2105 Electronic Properties of Materials 4 MLE3101 Materials Characterization Laboratory 4 MLE3111 Materials Characterization Laboratory 4 MLE3111 Materials Properties & Processing Laboratory 4 MSE project and internship modules:  MLE4101 B.Eng. Dissertation (12 MCs)		C1
MLE2104 Mechanical Properties of Materials  MLE2105 Electronic Properties of Materials  MLE3101 Materials Characterization Laboratory  4 MLE3111 Materials Properties & Processing Laboratory  4 MSE project and internship modules:  MLE4101 B.Eng. Dissertation (12 MCs)  MLE4102 Design Project  EG3611A Industrial Attachment  - MSE pathway requirements and electives:  MSE pathway requirement 1  4 MSE pathway requirement 2  Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  Level 1000 exposure module - Social Sciences  4 Level 1000 exposure module - Humanities  4 FAS1102 Public Writing and Communication  or  FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  (D) Economics Major Requirements  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC3103 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3304 Econometrics I  EC3304 Econometrics II  EC3304 Econometrics II  Elective modules:  EC elective 1 (Level 3000)  EC elective 2 (Level 4000)  EC elective 2 (Level 4000)  EC elective 4 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC		C1
MLE2105 Electronic Properties of Materials  MLE3101 Materials Characterization Laboratory  4 MMLE3111 Materials Properties & Processing Laboratory  4 MSE project and internship modules:  MLE4101 B.Eng. Dissertation (12 MCs)  MLE4102 Design Project  EG3611A Industrial Attachment  MSE pathway requirements and electives:  MSE pathway requirement 1  MSE pathway requirement 2  Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  Level 1000 exposure module - Social Sciences  4  Level 1000 exposure module - Humanities  FAS1102 Public Writing and Communication  of FASS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  (D) Economics Major Requirements  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis II  EC2102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3304 Econometrics II  EC3304 Econometrics II  EC3304 Econometrics II  EC3304 Econometrics II  EC3305 Econometrics II  EC406 Level 4000  EC elective 1 (Level 3000)  EC elective 2 (Level 4000)  EC elective 3 (Level 4000)  EC elective 4 (Level 4000)  EC elective 5 (Level 4000)  EC elective 5 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  E		C1
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MLE3111 Materials Properties & Processing Laboratory  MSE project and internship modules:  MLE4101 B.Eng. Dissertation (12 MCs)  MLE4102 Design Project  EG3611A Industrial Attachment  MSE pathway requirements and electives:  MSE pathway requirement 1  A MSE pathway requirement 2  Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  Level 1000 exposure module - Humanities  Level 1000 exposure module - Humanities  FAS1102 Public Writing and Communication or FASS Faculty Requirements  (D) Exposition of the fast of the f		C1
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MLE4101 B.Eng. Dissertation (12 MCs)  MLE4102 Design Project  4 EG3611A Industrial Attachment  MSE pathway requirements and electives:  MSE pathway requirement 1  MSE pathway requirement 2  Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  Level 1000 exposure module - Social Sciences  Level 1000 exposure module - Humanities  4 FAS1102 Public Writing and Communication  or  FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  (D) Economics Major Requirements  ESsential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2104 Quantitative Methods for Economic Analysis  EC3302 Macroeconomic Analysis II  EC3303 Econometrics I  EC3304 Econometrics I  EC3305 Econometrics I  EC3402 Macroeconomic Analysis II  EC3306 Econometrics II  ELective modules:  EC elective 1 (Level 3000)  EC elective 2 (Level 4000)  EC elective 3 (Level 4000)  EC elective 4 (Level 4000)  EC elective 5 (Level 4000)  EC elective 5 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC elective 9 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)		CI
MLE4102 Design Project  EG3611A Industrial Attachment  MSE pathway requirements and electives:  MSE pathway requirement 1  MSE pathway requirement 2  Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  Level 1000 exposure module - Social Sciences  4  Level 1000 exposure module - Humanities  FAS1102 Public Writing and Communication  or  FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  (D) Economics Major Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3303 Econometrics I  EC3304 Econometrics I  EC3304 Econometrics I  EC3304 Econometrics I  EC3304 Econometrics I  EC406 Level 4000  EC elective 2 (Level 4000)  EC elective 3 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC elective 9 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4	Replaced with XFE4401 Integrated Honours Project. Students	
EG3611A Industrial Attachment  MSE pathway requirements and electives:  MSE pathway requirement 1  MSE pathway requirement 2  4  Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  Level 1000 exposure module - Bocial Sciences  4  Level 1000 exposure module - Humanities  FAS1102 Public Writing and Communication  or  FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2104 Quantitative Methods for Economic Analysis  4  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3303 Econometrics I  EC3304 Econometrics I  Elective modules:  EC elective 1 (Level 3000)  EC elective 2 (Level 4000)  EC elective 4 (Level 4000)  EC elective 4 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)	who do not complete XFE4401 must fulfil this requirement.	C1
EG3611A Industrial Attachment  MSE pathway requirements and electives:  MSE pathway requirement 1  MSE pathway requirement 2  4  Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  Level 1000 exposure module - Bocial Sciences  4  Level 1000 exposure module - Humanities  FAS1102 Public Writing and Communication  or  FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2104 Quantitative Methods for Economic Analysis  4  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3303 Econometrics I  EC3304 Econometrics I  Elective modules:  EC elective 1 (Level 3000)  EC elective 2 (Level 4000)  EC elective 4 (Level 4000)  EC elective 4 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)	viio do not complete xi £4401 mast familitiis requirement.	C1
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MSE pathway requirement 2  Sub-total for Engineering Programme Requirements  (C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies  Level 1000 exposure module - Social Sciences  4  Level 1000 exposure module - Humanities  FAS1102 Public Writing and Communication or FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  (D) Economics Major Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2104 Quantitative Methods for Economic Analysis  EC3101 Microeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3303 Econometrics I  EC3303 Econometrics I  EC3304 Econometrics II  Elective modules:  EC elective 1 (Level 3000)  EC elective 2 (Level 4000)  EC elective 3 (Level 4000)  EC elective 5 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)		C1
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(C) FASS Faculty Requirements  Level 1000 exposure module - Asian Studies 4  Level 1000 exposure module - Social Sciences 4  Level 1000 exposure module - Humanities 4  FAS1102 Public Writing and Communication or 4  FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst 5  Sub-total for FASS Faculty Requirements 16  (D) Economics Major Requirements		
Level 1000 exposure module - Asian Studies  Level 1000 exposure module - Social Sciences  4  Level 1000 exposure module - Humanities  FAS1102 Public Writing and Communication or FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  [O] Economics Major Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2102 Macroeconomic Analysis II  EC3101 Microeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3302 Macroeconomic Analysis II  EC3303 Econometrics I  EC3304 Econometrics I  Elective modules:  EC elective 1 (Level 3000)  EC elective 2 (Level 4000)  EC elective 3 (Level 4000)  EC elective 4 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  FO EC elective 6 (Level 4000)  FO EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  FO EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  FO EC elective 6 (Level 4000)  FO EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)		
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Level 1000 exposure module - Humanities 4  FAS1102 Public Writing and Communication or AsS1103 Effective Workplace Communication + CFG1002 Career Catalyst Sub-total for FASS Faculty Requirements 16  (D) Economics Major Requirements  Essential modules:  EC2101 Microeconomic Analysis I 4  EC2102 Macroeconomic Analysis I 4  EC2104 Quantitative Methods for Economic Analysis 4  EC3101 Microeconomic Analysis II 4  EC3102 Macroeconomic Analysis II 4  EC3102 Macroeconomic Analysis II 4  EC3303 Econometrics I 4  EC3304 Econometrics I 4  EC3304 Econometrics II 4  Elective modules:  EC elective 1 (Level 3000) 5  EC elective 2 (Level 4000) 5  EC elective 3 (Level 4000) 5  EC elective 5 (Level 4000) 5  EC elective 5 (Level 4000) 5  EC elective 6 (Level 4000) 5  EC elective 7 (Level 4000) 5  EC elective 6 (Level 4000) 5  EC elective 7 (Level 4000) 5  EC elective 8 (Level 4000) 5  EC elective 7 (Level 4000) 5  EC elective 8 (Level 4000) 5  EC elective 7 (Level 4000) 5  EC elective 8 (Level 4000) 5  EC elective 8 (Level 4000) 5  EC elective 9 (Level 4000) 6  EC elective 9 (Level 4000)	MS1102E, SE1101E, SN1101E	
FAS1102 Public Writing and Communication  or FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  (D) Economics Major Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC2102 Macroeconomic Analysis II  EC3101 Microeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3302 Econometrics I  EC3303 Econometrics I  EC3304 Econometrics II  Elective modules:  EC elective 1 (Level 3000)  EC elective 2 (Level 4000)  EC elective 4 (Level 4000)  EC elective 4 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  DEC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC elective 9 (Level 4000)  EC elective 9 (Level 4000)	EC1101E Introduction to Economic Analysis	C2
Or         4           FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst         16           CD Economics Major Requirements         16           Essential modules:         EC2101 Microeconomic Analysis I           EC2102 Macroeconomic Analysis I         4           EC2103 Microeconomic Analysis II         4           EC3102 Macroeconomic Analysis II         4           EC3302 Macroeconomic Analysis II         4           EC3303 Econometrics I         4           EC3304 Econometrics II         4           Elective modules:         EC elective 1 (Level 3000)           EC elective 2 (Level 4000)         5           EC elective 3 (Level 4000)         5           EC elective 4 (Level 4000)         5           EC elective 5 (Level 4000)         5           EC elective 6 (Level 4000)         5           EC elective 6 (Level 4000)         5           EC elective 6 (Level 4000)         5           EC elective 7 (Level 4000)         5           EC elective 8 (Level 4000)         5           EC elective 9 (Level 4000)         5           EC elective 6 (Level 4000)         5	Choose one from the following: EL1101E, EN1101E, TS1101E, HY1101E, GET1029	C2
FAS1103 Effective Workplace Communication + CFG1002 Career Catalyst  Sub-total for FASS Faculty Requirements  (D) Economics Major Requirements  Essential modules:  EC2101 Microeconomic Analysis I  EC2102 Macroeconomic Analysis I  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3102 Macroeconomic Analysis II  EC3303 Econometrics I  EC3304 Econometrics I  EC3304 Econometrics II  Elective modules:  EC elective 1 (Level 3000)  EC elective 2 (Level 4000)  EC elective 3 (Level 4000)  EC elective 4 (Level 4000)  EC elective 5 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 6 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 6 (Level 4000)  EC elective 7 (Level 4000)  EC elective 8 (Level 4000)  EC elective 8 (Level 4000)  EC elective 9 (Level 4000)  EC elective 6 (Level 4000)		C2
Sub-total for FASS Faculty Requirements         16           (D) Economics Major Requirements         Essential modules:           EC2101 Microeconomic Analysis I         4           EC2102 Macroeconomic Analysis I         4           EC2103 Microeconomic Analysis II         4           EC3101 Microeconomic Analysis II         4           EC3302 Econometrics I         4           EC3303 Econometrics II         4           Elective modules:         EC elective 1 (Level 3000)         4           EC elective 2 (Level 4000)         5           EC elective 3 (Level 4000)         5           EC elective 4 (Level 4000)         5           EC elective 5 (Level 4000)         5           EC elective 6 (Level 4000)         5           EC elective 6 (Level 4000)         5           EC elective 6 (Level 4000)         5           EC elective 7 (Level 4000)         5           EC elective 8 (Level 4000)         5           EC elective 9 (Level 4000)         5           EC elective 9 (Level 4000)         5           EC 4001 Honours Thesis         9           9         3 Level 4		
(D) Economics Major Requirements   Essential modules:		
Essential modules:   EC2101 Microeconomic Analysis   4     EC2102 Macroeconomic Analysis   4     EC2104 Quantitative Methods for Economic Analysis   4     EC3101 Microeconomic Analysis   4     EC3102 Macroeconomic Analysis   4     EC3102 Macroeconomic Analysis   4     EC3303 Econometrics   4     EC3303 Econometrics   4     EC3304 Econometrics   4     Elective modules:   EC elective 1 (Level 3000)   4     EC elective 2 (Level 4000)   5     EC elective 3 (Level 4000)   5     EC elective 4 (Level 4000)   5     EC elective 5 (Level 4000)   5     EC elective 6 (Level 4000)   5     EC elective 6 (Level 4000)   5     EC elective 7 (Level 4000)   5     EC elective 8 (Level 4000)   5     EC elective 9 (Level 4000)   5     EC elective 9 (Level 4000)   5     EC elective 10 (Level 4000)   5     EC elective 5 (Level 4000)   5     EC elective 6 (Level 4000)   5     EC elective 6 (Level 4000)   5     EC elective 7 (Level 4000)   5     EC elective 8 (Level 4000)   5     EC elective 9 (Level 4000		
EC2102 Macroeconomic Analysis   4		
EC2102 Macroeconomic Analysis   4		C2
EC2104 Quantitative Methods for Economic Analysis       4         EC3101 Microeconomic Analysis II       4         EC3102 Macroeconomic Analysis II       4         EC3303 Econometrics I       4         EC3304 Econometrics II       4         Elective modules:         EC elective 1 (Level 3000)       4         EC elective 2 (Level 4000)       5         EC elective 3 (Level 4000)       5         EC elective 4 (Level 4000)       5         EC elective 5 (Level 4000)       5         EC elective 6 (Level 4000)       5         Honours requirement:       EC4401 Honours Thesis         or 3 Level 4000 EC electives       -		C2
EC3102 Macroeconomic Analysis II 4 EC3303 Econometrics I 4 EC3304 Econometrics II 4  Elective modules:  EC elective 1 (Level 3000) 4 EC elective 2 (Level 4000) 5 EC elective 3 (Level 4000) 5 EC elective 4 (Level 4000) 5 EC elective 5 (Level 4000) 5 EC elective 6 (Level 4000) 6		C2
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EC3303 Econometrics I 4  EC3304 Econometrics II 4  Elective modules:  EC elective 1 (Level 3000) 4  EC elective 2 (Level 4000) 5  EC elective 3 (Level 4000) 5  EC elective 4 (Level 4000) 5  EC elective 5 (Level 4000) 5  EC elective 6 (Level 4000) 5  Honours requirement:  EC4401 Honours Thesis  or 3 Level 4000 EC electives		C2
Elective modules:         4           EC elective 1 (Level 3000)         4           EC elective 2 (Level 4000)         5           EC elective 3 (Level 4000)         5           EC elective 4 (Level 4000)         5           EC elective 5 (Level 4000)         5           EC elective 6 (Level 4000)         5           Honours requirement:         EC4401 Honours Thesis           or 3 Level 4000 EC electives         -		C2
EC elective 1 (Level 3000) 4  EC elective 2 (Level 4000) 5  EC elective 3 (Level 4000) 5  EC elective 4 (Level 4000) 5  EC elective 5 (Level 4000) 5  EC elective 5 (Level 4000) 5  EC elective 6 (Level 4000) 5  Honours requirement:  EC4401 Honours Thesis  or 3 Level 4000 EC electives		C2
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EC elective 6 (Level 4000) 5  Honours requirement:  EC4401 Honours Thesis or 3 Level 4000 EC electives		C2
Honours requirement:  EC4401 Honours Thesis  or 3 Level 4000 EC electives		C2
EC4401 Honours Thesis <u>or</u> 3 Level 4000 EC electives		C2
or 3 Level 4000 EC electives		
	Replaced with XFE4401 Integrated Honours Project. Students	C2
Sub-total for Economics Major Requirements 57	who do not complete XFE4401 must fulfil this requirement.	CZ
(E) Common Modules		
BEng module 4	Select from list of Common Modules	CA
EC module 4	elect nomination common violaties	CA
Essential common module 4	ST1131 Introduction to Statistics	CA
XFE4401 Integrated Honours Project 16	Replaces dissertation / honours thesis modules in both degree programmes	CA
Sub-total for Common Modules 28	- op. smalles	
TOTAL (minimum) 207		