MECHANICAL ENGINEERING – MINORS IN QUANTITATIVE FINANCE AND ECONOMICS (CAREER IN FINANCE)

FOR COHORT AY2021/2022 ONWARDS	MC
Common Curriculum	**60**
Singapore Studies	4
Cultures and Connections	4
Communities and Engagement	4
Critical Thinking and Writing	4
Programming Methodology	4
Quantitative Reasoning with Data	4
Design Thinking	4
Design and Make	4
Systems Thinking and Dynamics	4
Introduction to Machine Learning	4
Liveable Cities	4
Creating Narratives	4
Fundamentals of Project Management	4
B.Eng. Dissertation or Mechanical Systems Design	8
Major Requirements	**60**
Mathematics I	4
Differential Equations for Engineering	2
Linear Algebra and Differential Equations	2
Engineering Professionalism	2
Industrial Attachment	10
Engineering Principles & Practice I	4
Engineering Principles & Practice II	4
Strength of Materials	4
Engineering Thermodynamics	4
Fluids Mechanics I	4
Feedback Control Systems	4
Mechanics of Machines	4
Manufacturing Processes	4
Engineering Innovation and Modelling	4
Technical Elective	4
Minor in Quantitative Finance (See here for latest detailed minor requirements.)	**20**
Introduction to Quantitative Finance	4
Basic Applied Mathematics* (can be replaced by other modules – see above link)	4
Fundamentals of Quantitative Finance	4
Investment Instruments and Risk Management	4
Advanced Mathematics in Quantitative Finance / Regression Analysis / Econometrics I / Investment Analysis and Portfolio Management / Financial Modelling	4
Minor in Economics (See here for latest detailed minor requirements.)	**20**
At least 20MCs of EC-coded or EC-recognised (max 4 MCs) modules including:	
Introduction to Economic Analysis	4
Microeconomic Analysis I and/or Macroeconomic Analysis I	4 or 8
TOTAL	**160**

List of Technical Elective modules:	
• ME2114 Mechanics of Material • ME2135 Intermediate Fluid Mechanics • ME2143 Sensors and Actuators • ME3122 Heat Transfer • ME3211 Mechanics of Solids • ME3221 Sustainable Energy Conversion • ME3241 Microprocessor Applications • ME3242 Automation • ME3243 Robotic System Design • ME3252 Materials Engineering Principles for Engineers • ME3261 Computer-Aided Design and Manufacturing • ME3263 Design for Manufacturing and Assembly • ME3281 Microsystems Design and Applications • ME3291 Numerical Methods in Engineering • ME4105 Specialisation Study Module (Offshore Oil & Gas Technology) • ME4212 Aircraft Structures	• ME4223 Thermal Environmental Engineering • ME4225 Applied Heat Transfer • ME4226 Energy and Thermal Systems • ME4227 Internal Combustion Engines • ME4231 Aerodynamics • ME4232 Small Aircraft and Unmanned Aerial Vehicles • ME4233 Computational Methods in Fluid Mechanics • ME4241 Aircraft Performance and Stability • ME4242 Soft Robotics • ME4245 Robot Mechanics and Control • ME4253 Biomaterials Engineering • ME4255 Materials Failure • ME4261 Tool Engineering • ME4262 Automation in Manufacturing • ME4263 Fundamentals of Product Development • ME4291 Finite Element Analysis