4.2.10.2 Degree Requirement

To graduate, a student needs to accumulate a total of no less than 40 MCs and obtain a minimum Cumulative Average Point (CAP) of 3.00 (equivalent to an average of Grade B-) for the best modules equivalent of 40 MCs, inclusive of the two core modules. Of the 40 MCs, at least 30 MCs must be from the approved list of core and elective graduate level modules, the remaining credits may be from other levels in the same or other disciplines subject to the approval of the Department.

The following modules are offered for the MSc (Materials Science and Engineering):

Core Modules
MST5001 Structures and Properties of Materials
MST5002 Materials Characterisation

Elective Modules
MLE5102 Mechanical Behaviours of Materials
MLE5104 Physical Properties of Materials
MLE5210 Modelling and Simulation of Materials
MLE6101 Thermodynamics and Kinetics of Materials
MLE6103 Structures of Materials
MLE6205 Magnetic Materials and Applications
MLE6206 Nanomaterials: Science and Engineering
BN5201 Advanced Biomaterials
CE5604 Advanced Concrete Technology
CM5212 Crystal Engineering
CM5237 Advanced Optical Spectroscopy and Imaging
CM5262 Contemporary Materials Chemistry
CM5268 Advanced Organic Materials
CN5161 Polymer Processing Engineering
CN5162 Advanced Polymeric Materials
CN5251 Membrane Science and Technology
CN6163 Inorganic Nanomaterials for Sustainability
EE5431R Fundamentals of Nanoelectronics
EE5434 CMOS Processes and Integration
EE5502 MOS Devices
EE5508 Semiconductor Fundamentals
EE5517 Optical Engineering
ME5161 Optical Techniques in Experimental Stress Analysis
ME5506 Corrosion of Materials
ME5513 Fracture and Fatigue of Materials
ME5516 Emerging Energy Conversion and Storage Technologies
ME5611 Sustainable Product Design & Manufacturing
ME6303 Advanced Fluid Dynamics
ME6504 Defects and Dislocations in Solids
ME6505 Engineering Materials in Medicine
ME6604 Modelling of Machining Processes
MT5002 Management of Industrial R&D
MT5007    Management of Technological Innovation
PC5204    Special Topics in Physics
PC5205    Topics in Surface Physics
PC5212    Physics of Nanostructures
All modules are of 4 MCs each.

Not all modules listed are necessarily available in any one year and the curriculum is subject to changes.