

**List of Courses**  
**Master of Science (Mechanical Engineering)**  
**School of Mechanical Engineering**  
**Faculty of Engineering, Universiti Teknologi Malaysia**

Type	Code	Courses
University General Course <i>(Select one only)</i>	UHMS 6013 UHS 6013 UECS 6023 UBSE 1123 UBSS 6023 UECS 6013 UHLM 6013 UHMZ 6023 UHPS 6013 URTS 6013	Seminar on global development, economic and social issues Philosophy of science and civilization Introduction to Technopreneurship Organization behaviour and development Business ethics, responsibility and sustainability IT Project Management Bahasa Melayu Penulisan Ilmiah Malaysian society and culture Dynamics of leadership Environmental ethics
Programme Core	MEMM1903 MEMM1013 MEMM1023	Research Methodology Emerging technologies and management Product innovation and development
Master Project	MEMM1914 MEMM2926	Master Project I Master Project II

Track	Code	Elective Courses
1. General Mechanical	MEMM1133 MEMM1143 MEMM1223 MEMM1233 MEMM2213 MEMM1253 MEMM1273 MEMM1283 MEMM1313 MEMM1323 MEMM1423 MEMM1453 MEMM2413 MEMM2423 MEMM1533 MEMM1553	<i>-Select 5 courses from any track (1 to 12)</i> Elasticity and Plasticity Plates, Shell and Pressure Vessels Adaptive control and Intelligent System Robotic System and Control Advanced Control System Acoustics Vibration measurement and control Structural Dynamics Viscous fluid flow Compressible Flows Thermo Fluid Measurement and Diagnostic Indoor environmental quality Advanced Engineering Thermodynamics Advanced Combustion Virtual Reality for Engineers Creative Design Engineering

2. Structural Health and monitoring	MEMM1213 MEMM1263 MEMM1463 MEMM1123 MEMM1343 MEMB1633 MEMM1113	-Select 5 courses from this track Automatic control & instrumentation Condition monitoring Conduction and convection heat transfer Computational method in solid mechanics Friction, wear & lubrication Assets Integrity & Management Fatigue & fracture mechanics
3. Sustainable Engineering	MEMM1213 MEMM1413 MEMM1433 MEMM2113 MEMM1543 MEMM1723	-Select 5 courses from this track Automatic control & instrumentation Energy management Sustainable energy system and technology Advanced mechanics of composite structure Engineering design and reliability Green manufacturing technology
4. Computational Mechanics	MEMM1913 MEMM1123 MEMM1333 MEMM1513 MEMM2223 MEMM1523	-Select 5 courses from this track Advance Engineering Mathematics Computational method in solid mechanics Computational Fluid Dynamics CAD and It's Applications Advanced Industrial Automation Optimization in Engineering design
5. Manufacturing Engineering	MEMM1733 MEMM2733 MEMM1713 MEMM2703 MEMM1723 MEMM2763 MEMM2773 MEMM2713 MEMM2723 MEMM1753	-Select 5 courses from this track Digital Manufacturing IT for Manufacturing Statistical Quality Engineering Automation systems and robotics Green Manufacturing Technology Advanced Manufacturing Processes Machining and Machine Tools Technology Welding technologies and Applications Smart Manufacturing Manufacturing Science
6. Materials Engineering	MEMM1613 MEMM1623 MEMM1633 MEMM1643 MEMM2613 MEMM2623 MEMM2633 MEMM2643 MEMM2653 MEMM2663	-Select 5 courses from this track Advanced Materials Processing Smart Materials Assets Integrity and Management Structural composites Advanced Materials Characterization Advanced Surface Modification for metallic materials Electron Microscopy for Nanomaterials Mechanical Behavior of Materials Corrosion and Materials Degradation Advanced Ceramic Processing

7. Future generation vehicle	MEMV2213 MEMV1313 MEMV1613 MEMV1203 MEMV1623 MEMV1013	-Select 5 courses from this track Automotive Noise, Vibration and Harshness Advanced Vehicle Dynamics Future Mobility Solution Automotive Electronics & Control Vehicle Connectivity Advanced Automotive Technology
8. Energy efficient vehicle	MEMV2213 MEMV1403 MEMV1503 MEMV2413 MEMV2513 MEMV1013	-Select 5 courses from this track Automotive Noise, Vibration and Harshness Internal Combustion Engine & Boosting system Advanced Vehicle Powertrain Low Carbon Fuel Automotive Tribology Advanced Automotive Technology
9. Industrial Aerodynamics	MEMF1313 MEMF2323 MEMF2343 MEMF2353 MEMF2213	-Select all 5 courses from this track Advanced Aerodynamics Computational Aerodynamics Industrial Aerodynamic and Wind Engineering Experimental Aerodynamics Advanced Aircraft Dynamics and Control
10. Advanced Aerospace Engineering	MEMF1313 MEMF2213 MEMF2013 MEMF2113 MEMF2423 MEMF2433 MEMF2443 MEMF2513 MEMF2613 MEMF2223	-Select 5 courses from this track Advanced Aerodynamics Advanced Aircraft Dynamics and Control Computational Method for Aerostructures Advanced Aircraft Structures and Materials Jet Propulsion Rocket Technology Gas Turbine Technology Helicopter System and Performance Aviation Management and Airworthiness Aircraft Instrumentation and Avionics
11. Ship technology	MEMO1213 MEMO2813 MEMO2113 MEMO2003 MEMO1713 MEMO2313 MEMO1413 MEMO2833 MEMO3843 MEMO2513	-Select 3 compulsory courses & any 2 courses from this track Dynamic of Marine Structures (compulsory) Safety, Risk and Reliability in Marine Operation (compulsory) Strength and Vibration of Marine Structures (compulsory) Marine Environment and Renewable Energy Ship Repair, Survey and Inspection Ship Powering and Propulsion Dynamic of Marine Power Plant Marine Transport System Maritime Management and Law Design for Advance Marine Vehicles

12. Offshore technology	MEMO1213 MEMO2813 MEMO2113 MEMO2003 MEMO2123 MEMO2223 MEMO2723	<i>-Select 3 compulsory courses &amp; any 2 courses from this track</i> Dynamic of Marine Structures (compulsory) Safety, Risk and Reliability in Marine Operation (compulsory) Strength and Vibration of Marine Structures (compulsory) Marine Environment and Renewable Energy Decommissioning and Recycling of Marine Structures Mooring and Riser Analysis Unmanned Underwater Vehicles for Offshore Operations
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