

MASTER OF PHILOSOPHY

FIELD OF RESEARCH: MARINE TECHNOLOGY

PROGRAMME SPECIFICATION

The Master of Philosophy Field of Research: Marine Technology (MKMM) is offered on a full-time basis. The duration of study is in between minimum of one (1) year to a maximum of four (4) years. This master programme must be supervised by an academic staff (main supervisor) from the Graduate Faculty. The academic progress of a candidate is assessed through a research progress report submitted at the end of each semester as well as on the research proposal presented during mini-viva. The degree is awarded based on an examination of the thesis (including viva-voce) submitted by the candidate upon completion of the study

General Information

1. Awarding Institution	Universiti Teknologi Malaysia		
2. Teaching Institution	Universiti Teknologi Malaysia		
3. Programme Name	Master of Philosophy		
4. Final Award	Master of Philosophy Field of Research: Marine Technology		
5. Programme Code	MKMB3		
6. Professional or Statutory Body of Accreditation	MQA		
7. Language(s) of Instruction	English		
8. Mode of Study	Research		
9. Mode of operation (Franchise, self-govern, etc)	Self-governing		
10. Study Scheme	Full Time		
11. Study Duration	Minimum : 1 year Maximum : 4 years		
Type of Semester	No. of Semesters		No of Weeks/Semester
	Min	Max	
Normal	2	8	14
Short	-		-

Course Classification

No.	Classification	Credit Hours	Percentage
i.	University Elective (1 course)	3	
ii.	Research Methodology	HW	
iii.	Research (Minimum 2 semesters)	0	
iv	Thesis	0	
	Total	3	

Programme Educational Objectives (PEO)

PEO1: Graduates are able to incorporate in-depth relevant knowledge in engineering practices with capabilities to research, develop and integrate.

PEO2: Graduates are able to apply a wide range of relevant knowledge to critically analyze and solve problems related to engineering in various situations and contexts effectively and innovatively.

PEO3: Graduates are able to advocate and communicate ideas and/or solutions to mechanical engineering problems intellectually, ethically and professionally

PEO4: Graduates able to adopt the latest relevant niche knowledge and technologies through life-long learning process

Programme Learning Outcomes (PLO)

PLO1: Demonstrate advanced knowledge and capabilities to further develop or use these for new situations in mechanical engineering.

PLO2: Demonstrate research skills in appraising available information and research evidence, and applying them in mechanical engineering contexts

PLO3: Apply critical thinking and problem solving skills in addressing mechanical engineering problems utilizing relevant tools and techniques.

PLO4: Perform research on mechanical engineering problems professionally, ethically and responsibly.

PLO5: Communicate technical knowledge and ideas effectively in written and oral forms.

PLO6: Adopt the latest relevant knowledge and technologies through life-long learning.

GRADUATION CHECKLIST

Students must pass all the stated courses and assessment in this checklist to graduate. It is the responsibility of the students to ensure that all courses and assessment are taken and passed. Students who do not complete any of the assessments are not allowed to graduate.

NO.	CODE	COURSE	CREDIT EARNED (JKD)	CREDIT COUNTED (JKK)	TICK (√) IF PASSED
SCHOOL OF MECHANICAL ENGINEERING COURSES					
1	UXXX XXX3	University Elective (1 course)			
2	UKMP 0010	Research Methodology			
3	MKMS XX00	Research (Minimum 2 semesters)			
4		Thesis			
5		Publication (minimum one (1) publication from journal article or conference proceeding or book chapter)			

Field of Research @ School of Mechanical Engineering

Applied Mechanics & Design:

- Adaptive Control and Intelligent System
- Computational Solid Mechanics
- Mechatronics & Instrumentation
- Artificial Intelligence
- Elasticity & Plasticity
- Automatic Control & System Engineering
- Fatigue and Fracture Mechanics
- Biomechanics & Biomedical Engineering
- Finite Element Method
- Functional Control Systems
- CAD & Virtual Reality
- Guided Wave & Acoustic
- Composite Structure & Ballistic Impact
- Structural Dynamic & mechanics
- Structural Impact & Crashworthiness
- Thin-Walled and Polymeric Materials
- Tissue Engineering Scaffolds
- Porous Structures
- Reliability & Engineering Design
- Shells & Pressure Vessels
- Structural Vibration and condition Monitoring

Thermofluids:

- Advanced Refrigeration and Air-Conditioning System
- Combustion & heat transfer
- Compressible Flow
- Computational Fluid Dynamics
- Fuel, biomass and energy
- Heating & Ventilation
- Micro-Cooling
- Sustainable Energy Technology
- Thermofluids Measurement and Diagnostics
- Energy Management
- Tribology & lubrication

Materials, Manufacturing & Industry:

- Additive Manufacturing
- Advanced Manufacturing Processes
- Advanced Materials
- Automation in Manufacturing
- CAD/CAPP/CAM/CNC
- Carbon Nanomaterials
- Casting technology
- Ceramics and Composites
- Ceramics Coating
- Corrosion
- Ferrous metallurgy
- Shape memory alloys
- Solder Metallurgy Technology
- Solid State Kinetics
- Surface Coating
- Surface Treatment
- Industrial Engineering
- Surface Engineering & Composites Machining
- Sustainable Product Design
- System Dynamic Modelling
- Virtual Manufacturing
- Work Design
- Quality improvement and design of experiment
- Operations management
- Operations research
- Plasma Technology
- Life cycle assessment
- Supply chain management
- Lean manufacturing
- Facility design and management
- Ergonomics
- Safety and health

Automotive, Aeronautic & Offshore:

- Advanced ICE
- Aerodynamics
- Airspace Safety Monitoring System
- Automotive Tribology
- Avionics and Antennae
- Biofuel and Multiphase Flow
- Brake Design & Safety
- Combustion Technology
- Computer Vision
- Contact Mechanics
- Electric and Hybrid Vehicles
- Engine Air Management
- Ethnographic Factors in Fishing Boat Design
- FEM & Model Updating
- Flight Guidance and Control
- Flight Simulation
- Helicopter Technology
- Aircraft Structures
- Rocket Propulsion
- Wind Tunnel Testing
- Turbo machinery & Aero acoustics
- Unsteady Aerodynamics
- Vehicle Powertrain
- Vehicle Stability and Control
- Vehicle Dynamics and Control
- Vortex Induced Vibration
- Wave Structure Interaction
- Hull-Riser-Mooring Coupled Dynamics
- Hydromechanics
- Low Emission Combustor
- Marine Active Control
- Marine Safety and Environment
- Marine Transport and Management
- Mega-Float Design & System Modelling
- Ship Dynamics
- Smart Offshore Structure
- Stability & Design
- Subsea & Offshore Engineering System
- Energy@Waste Heat Recovery