

# MASTER OF **ENGINEERING** IN MECHANICAL ENGINEERING

Inclusive . Global . Sustainable

FACULTY OF ENGINEERING

by coursework

FEBRUARY, JULY &  
SEPTEMBER  
Intakes

# INTRODUCTION

This new program is suitable for fresh graduates, practicing engineers and academicians with primary degrees in Mechanical Engineering who wish to extend in depth and breadth the knowledge and skills gain from their engineering graduate studies.

The programme offers two specialization areas in mechanical engineering field which are Mechanical & Energy Sustainability and Design & Manufacturing in the elective courses that enable the students to choose their area of interest. These areas of specialization are in line with the current needs of the industry.

# ADMISSION

The Master of Engineering in Mechanical Engineering programme starts in February, July and September every year. Application is open throughout the year and can be done online via: <https://cgsweb.unimas.my/PGApplication/>

## PROGRAMME STRUCTURE

### Semester 1 (September)

|            |                               |
|------------|-------------------------------|
| KNJ6012    | Research Method               |
| KNJ6023    | Computational Method in Solid |
| Elective A |                               |
| Elective B |                               |
| Elective C |                               |

### Semester 2 (February)

|            |                        |
|------------|------------------------|
| KNJ6054    | Project 1              |
| KNJ6043    | Engineering Management |
| Elective D |                        |
| Elective E |                        |

### Semester 3

|            |                          |
|------------|--------------------------|
| KNJ6033    | Thermodynamics in Energy |
| Elective F |                          |
| KNJ6067    | Project 1                |

### Common for both area of specialization

|         |                                              |
|---------|----------------------------------------------|
| KNJ6233 | Computer Aided Design and Applications       |
| KNJ6403 | Applied Data Analytics                       |
| KNJ6413 | Occupational Safety and Health for Engineers |

### List of Elective Courses\*

#### Mechanical & Energy Sustainability

|         |                                        |
|---------|----------------------------------------|
| KNJ6073 | Tribology                              |
| KNJ6133 | Mechanical Behaviour of Materials      |
| KNJ6183 | Combustion Engineering                 |
| KNJ6193 | Advance Heat Transfer                  |
| KNJ6103 | Vibration                              |
| KNJ6113 | Applied Biomechanics                   |
| KNJ6163 | Fracture Mechanics                     |
| KNJ6223 | Solar Energy                           |
| KNJ6213 | Energy Optimization and Management     |
| KNJ6093 | Acoustics                              |
| KNJ6203 | Heat, Ventilation and Air Conditioning |
| KNJ6083 | Structural Dynamics                    |

#### Design & Manufacturing

|         |                                                 |
|---------|-------------------------------------------------|
| KNJ6243 | Engineering Design Optimization                 |
| KNJ6253 | Product Realization                             |
| KNJ6393 | Additive Manufacturing                          |
| KNJ6323 | Reliability and Quality Control Engineering     |
| KNJ6123 | Characterisation of Materials                   |
| KNJ6273 | Lean Manufacturing                              |
| KNJ6283 | Industrial Ergonomics                           |
| KNJ6293 | Industrial Automation                           |
| KNJ6353 | Computer Integrated Manufacturing               |
| KNJ6383 | Probability and Statistics for Quality Analysis |
| KNJ6153 | Polymer and Composites                          |
| KNJ6263 | Supply Chain Management                         |
| KNJ6343 | Metal Cutting and High Speed Machining          |
| KNJ6363 | System Modelling and Simulation                 |
| KNJ6143 | Materials Selection and Processing              |
| KNJ6173 | Corrosion and Prevention                        |

# DURATION OF THE PROGRAMME

The minimum of study is 1 year on full time to a maximum period of 3 years. Teaching and learning activities for the programme are conducted in weekends.

# FACILITIES AND RESOURCES

- Flexible Manufacturing System
- Laboratory
- Robotic and Automation Laboratory
- Mechanics Dynamic Laboratory
- Computer Numerical Control Laboratory
- Non Destructive Test Laboratory
- Energy Research Room Laboratory
- Advance Metrology/ Basic Metrology
- Laboratory
- Mechanical of Solid Laboratory
- Mechanical Metallurgy Laboratory
- Physical Metallurgy Laboratory
- Applied & Basic Thermodynamics
- Laboratory
- CAE Laboratory
- Computer Numerical Laboratory
- Control Laboratory
- Fluid Laboratory
- General and Training Workshop
- Laboratory
- Instrumentation Laboratory
- Mechanics Statics Laboratory

## COURSE FEES

Malaysian student **RM 18,726.00**

International student **RM 30,626.00**

Fees include administrative, tuition and course materials for the duration of the programme. Further payment will be required if the students extend their studies.

# WHO SHOULD APPLY

The programme aims at providing opportunities to various group of potential candidates such as:

- Fresh graduates
- Practicing engineers
- Academicians

# ENTRY REQUIREMENTS

For admission into the programme, a candidate must meet the following criteria:

- A Mechanical Engineering Bachelor's Degree with a minimum CGPA of 2.50 or;
- A Mechanical Engineering Bachelor's degree or equivalent but CGPA less than 2.50 may be admitted subject to a minimum of five years working experience in the relevant field or, Other equivalent qualifications approved by Senate
- For international students, an IELTS score of 5.0 is required in addition to the entry requirements

# PROGRAMME SCHEDULE

The programme requires students to accumulate 40 credit hours in their studies in which preferably 14, 13 and 13 credit hours are completed in Semester 1, Semester 2 and Semester 3, respectively.

# CONTACT US

## PHONE NUMBERS

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## WEBSITE

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