# MASTER BY MIXED-MODE

## MASTER OF SCIENCE IN MECHANICAL ENGINEERING - CEEM703
## DURATION OF STUDY: 1.5- 2 YEARS/ 3-4 SEMESTERS
## *(INTAKE : MAC & OCTOBER)*

### Synopsis

The Master of Science in Mechanical Engineering (EM750) is a research-based programme that leads to the award of the Master of Science (MSc). This program prepares students with the necessary research skills in various fields of specialization in the field of mechanical engineering. The program is designed for those who desire to be involved in research and development activities as well as a stepping stone for those who aspire to be academicians. Master of Science graduates also have the option to further their studies towards a Doctor of Philosophy (PhD).

### Entry Requirement

<table>
<tr><th colspan="2">General</th></tr>
<tr><td colspan="2">Bachelor's degree in Mechanical Engineering or related field with a minimum CGPA of 2.75 or equivalent, from UiTM or other higher learning institutions recognised by the UiTM Senate;<br><br>Related field:<br><br>Physics; Chemistry; Computer Science; Engineering and engineering trades; Mechanics and Metal Work; Electricity and Energy; Electronics and Automation; Chemical and Process; Motor vehicles, ships and aircraft; Civil Engineering; Material Engineering; Materials (wood, paper, plastic and glass); Mining and extraction; Applied science; Engineering Technology; Chemical Engineering; Electrical Engineering<br><br>OR<br><br>Bachelor's degree in Mechanical Engineering or related field not meeting CGPA of 2.50, can be accepted subject to a minimum of 5 years of working experience in relevant field.<br><br>Related field:<br><br>Physics; Chemistry; Computer Science; Engineering and engineering trades; Mechanics and Metal Work; Electricity and Energy; Electronics and Automation; Chemical and Process; Motor vehicles, ships and aircraft; Civil Engineering; Material Engineering; Materials (wood, paper, plastic and glass); Mining and extraction; Applied science; Engineering Technology; Chemical Engineering; Electrical Engineering</td></tr>
<tr><th>Local</th><th>International</th></tr>
<tr><td>OR<br><br>Fulfilled the Accreditation of Prior Experiential Learning APEL A (T-7) admission process for Master's Degree in related fields.<br><br>Related field:<br><br>Physics; Chemistry; Computer Science; Engineering and engineering trades; Mechanics and Metal Work; Electricity and Energy; Electronics and Automation; Chemical and Process; Motor vehicles, ships and aircraft; Civil Engineering; Material Engineering; Materials (wood,</td><td>Language Requirements<br><br>● TOEFL certificate with a score of at least 417-450 for (paper-based) or 107-131 (computer based) or 35-45 (IBT); OR<br>● IELTS certificate with at least Band 5.0; OR<br>● MUET Band 3.0<br>● Any English Language Test which is equivalent to B1 in Common European Framework of Reference for Language (CEFR)</td></tr>
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| paper, plastic and glass); Mining and extraction; Applied science; Engineering Technology; Chemical Engineering; Electrical Engineering; Mechanical Engineering | Applicants that do not meet the English proficiency requirements are required to attend and pass the SIX (6) months of English Proficiency Class (EPC). At the end of the EPC, candidates are required to sit for IELTS/TOEFL/MUET examination with the score according to the academic program. |

## Fee Structures

### Local

| FEES | TOTAL RINGGIT MALAYSIA (RM) | |
|---|---|---|
| | **Full-time** | **Part-time** |
| Fees for semester 1 | RM 4, 148 | RM 3, 413 |
| Fees for semester 2 | RM 4, 300 | RM 3, 340 |
| Fees for semester 3 | RM 4, 510 | RM 3, 340 |
| Fees for semester 4 | | RM 3, 550 |
| **TOTAL ESTIMATION FOR TUITION FEES** | **RM 12, 958** | **RM 13, 643** |

**ESTIMATED FEES* Subject to change*

**Fees for Convocation RM210 will be charged in the final semester*

### International

| FEES | TOTAL RINGGIT MALAYSIA (RM) |
|---|---|
| Fees for semester 1 | RM 6, 971 |
| Fees for semester 2 | RM 7, 170 |
| Fees for semester 3 | RM 7, 380 |
| **TOTAL ESTIMATION FOR TUITION FEES** | **RM 21, 521** |

## Programme Structures

| **FULL-TIME** | | |
|---|---|---|
| **Year 1** | | **Year 2** |
| Semester 1 | Semester 2 | Semester 3 |
| 1. MEC701 - Research Methodology<br>2. MEC705 - Modeling and Simulation of Engineering Systems<br>3. MEC706 - Advanced Numerical Methods<br>4. ELECTIVE (Choose ONE only)<br>a. MEC711 - Advanced Mechanics of Materials<br>b. MEC713 - Mechanics of Composite Materials<br>c. MEC712 - Fracture Mechanics<br>d. MEC714 - Shocks and Impact Engineering<br>e. MEC722 - Advanced Mechanical Vibration<br>f. MEC729 - Engineering Acoustics<br>g. MEC730 - Finite Element Method<br>h. MEC731 - Material Selection and Failure Analysis<br>i. MEC735 - Design Optimization<br>j. MEC737 - Cad, Cae & Cam<br>k. MEC738 - Mechanical Engineering Design and Innovation | 1. MEC702 - Dissertation Part A<br>2. MEC777 - Project Management<br>3. ELECTIVE (Choose ONE only)<br>a. MEC713 - Mechanics of Composite Materials<br>b. MEC711 - Advanced Mechanics of Materials<br>c. MEC712 - Fracture Mechanics<br>d. MEC714 - Shocks and Impact Engineering<br>e. MEC722 - Advanced Mechanical Vibration<br>f. MEC729 - Engineering Acoustics<br>g. MEC730 - Finite Element Method<br>h. MEC731 - Material Selection and Failure Analysis<br>i. MEC735 - Design Optimization<br>j. MEC737 - Cad, Cae & Cam<br>k. MEC738 - Mechanical Engineering Design and Innovation | 1. MEC703 - Dissertation Part B |

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|---|---|---|
| l. MEC741 - Computational Fluid Dynamics<br>m. MEC742 - Lubrication of Machine Elements<br>n. MEC745 - Pipe Flows<br>o. MEC751 –Mechanics and Thermodynamics of Propulsion<br>p. MEC751 - Mechanics and Thermodynamics Of Propulsion<br>q. MEC753 - Hvac & Refrigeration Systems<br>r. MEC755 - Renewable and Sustainable Engineering Technology<br>s. MEC756 - Combustion Engineering<br>t. MEC781 - Advanced Robotics<br>u. MEC782 - Advanced Control Systems<br>v. MEC783 - Microcontroller Applications<br>w. MEC784 - Mechatronic System Design<br>x. MEC785 - Machine Learning<br>y. MEC786 - Embedded Microprocessors and Real-Time Systems<br>z. MEC791 - Fundamental of Biomechanics<br>aa. MEC792 - Advanced Bio Fluid Mechanics<br>bb. MEC793 - Biomedical Instrumentation<br>ab. MEC794 - Advanced Design Technique<br>ac. MEM732 - Product Design And Innovation<br>ad. MEM733 - Occupational Ergonomics<br>ae. MEM757 - Climate Change and Carbon Management<br>af. MEM762 - Computer Integrated Manufacturing<br>ag. MEM765 - Robotics and Automation<br>ah. MEM767 - Manufacturing Technology And Simulation<br>ai. MEM768 - Micro-Nano Process Technology<br>aj. MEM769 - Advanced Industrial Management<br>ak. MEM779 - Quality and Reliability Engineering | l. MEC741 - Computational Fluid Dynamics<br>m. MEC742 - Lubrication of Machine Elements<br>n. MEC745 - Pipe Flows<br>o. MEC751 - Mechanics and Thermodynamics of Propulsion<br>p. MEC753 - Hvac & Refrigeration Systems<br>q. MEC755 - Renewable and Sustainable Engineering Technology<br>r. MEC756 - Combustion Engineering<br>s. MEC781 - Advanced Robotics<br>t. MEC782 - Advanced Control Systems<br>u. MEC783 - Microcontroller Applications<br>v. MEC784 - Mechatronic System Design<br>w. MEC785 - Machine Learning<br>x. MEC786 - Embedded Microprocessors and Real-Time Systems<br>y. MEC791 - Fundamental of Biomechanics<br>z. MEC792 - Advanced Bio Fluid Mechanics<br>aa. MEC793 - Biomedical Instrumentation<br>ab. MEC794 - Advanced Design Technique<br>ac. MEM732 - Product Design And Innovation<br>ad. MEM733 - Occupational Ergonomics<br>ae. MEM757 - Climate Change and Carbon Management<br>af. MEM762 - Computer Integrated Manufacturing<br>ag. MEM765 - Robotics and Automation<br>ah. MEM767 - Manufacturing Technology And Simulation<br>ai. MEM768 - Micro-Nano Process Technology<br>aj. MEM769 - Advanced Industrial Management<br>ak. MEM779 - Quality and Reliability Engineering | |

| PART-TIME | | | |
|---|---|---|---|
| **Year 1** | | **Year 2** | **Year 3** |
| Semester 1 | Semester 2 | Semester 3 | Semester 4 |
| 1. MEC701 - Research Methodology<br>2. MEC705 - Modeling and Simulation of Engineering System<br>3. ELECTIVE (Choose ONE only)<br>a. MEC711 - Advanced Mechanics Of Materials<br>b. MEC713 - Mechanics of Composite Materials<br>c. MEC712 - Fracture Mechanics<br>d. MEC714 - Shocks and Impact Engineering<br>e. MEC722 - Advanced Mechanical Vibration<br>f. MEC729 - Engineering Acoustics<br>g. MEC730 - Finite Element Method<br>h. MEC731 - Material Selection and Failure Analysis<br>i. MEC735 - Design Optimization<br>j. MEC737 - Cad, Cae & Cam<br>k. MEC738 - Mechanical Engineering Design and Innovation<br>l. MEC741 - Computational Fluid Dynamics<br>m. MEC742 - Lubrication Of Machine Elements<br>n. MEC745 - Pipe Flows<br>o. MEC751 - Mechanics And Thermodynamics Of Propulsion<br>p. MEC753 - Hvac & Refrigeration Systems<br>q. MEC755 - Renewable And Sustainable Engineering Technology<br>r. MEC756 - Combustion Engineering | 1. MEC706 - Advanced Numerical Methods<br>2. MEC777 - Project Management<br>3. ELECTIVE (Choose ONE only)<br>b. MEC711 - Advanced Mechanics of Materials<br>c. MEC713 - Mechanics of Composite Materials<br>d. MEC712 - Fracture Mechanics<br>e. MEC714 - Shocks and Impact Engineering<br>f. MEC722 - Advanced Mechanical Vibration<br>g. MEC729 - Engineering Acoustics<br>h. MEC730 - Finite Element Method<br>i. MEC731 - Material Selection and Failure Analysis<br>j. MEC735 - Design Optimization<br>k. MEC737 - Cad, Cae & Cam<br>l. MEC738 - Mechanical Engineering Design and Innovation<br>m. MEC741 - Computational Fluid Dynamics<br>n. MEC742 - Lubrication of Machine Elements<br>o. MEC745 - Pipe Flows<br>p. MEC751 - Mechanics and Thermodynamics Of Propulsion<br>q. MEC753 - Hvac & Refrigeration Systems<br>r. MEC755 - Renewable and Sustainable Engineering Technology<br>s. MEC756 - Combustion Engineering | 1. MEC702 - Dissertation Part A | 1. MEC703 - Dissertation Part B |

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|---|---|---|---|
| s. MEC781 - Advanced Robotics<br>t. MEC782 - Advanced Control Systems<br>u. MEC783 - Microcontroller Applications<br>v. Mec784 - Mechatronic System Design<br>w. MEC785 - Machine Learning<br>x. MEC786 - Embedded Microprocessors And Real-Time Systems<br>y. MEC791 - Fundamental Of Biomechanics<br>z. MEC792 - Advanced Bio Fluid Mechanics<br>a. MEC793 - Biomedical Instrumentation<br>ab. MEC794 - Advanced Design Technique<br>ac. MEM732 - Product Design And Innovation<br>ad. MEM733 - Occupational Ergonomics<br>ae. MEM757 - Climate Change and Carbon Management<br>af. MEM762 - Computer Integrated Manufacturing<br>ag. MEM765 - Robotics and Automation<br>ah. MEM767 - Manufacturing Technology And Simulation<br>ai. MEM768 - Micro-Nano Process Technology<br>aj. MEM769 - Advanced Industrial Management<br>ak. MEM779 - Quality and Reliability Engineering | t. MEC781 - Advanced Robotics<br>u. MEC782 - Advanced Control Systems<br>v. MEC783 - Microcontroller Applications<br>w. MEC784 - Mechatronic System Design<br>x. MEC785 - Machine Learning<br>y. MEC786 - Embedded Microprocessors and Real-Time Systems<br>z. MEC791 - Fundamental of Biomechanics<br>aa. MEC792 - Advanced Bio Fluid Mechanics<br>bb. MEC793 - Biomedical Instrumentation<br>ab. MEC794 - Advanced Design Technique<br>ac. MEM732 - Product Design And Innovation<br>ad. MEM733 - Occupational Ergonomics<br>ae. MEM757 - Climate Change and Carbon Management<br>af. MEM762 - Computer Integrated Manufacturing<br>ag. MEM765 - Robotics and Automation<br>ah. MEM767 - Manufacturing Technology And Simulation<br>ai. MEM768 - Micro-Nano Process Technology<br>aj. MEM769 - Advanced Industrial Management<br>ak. MEM779 - Quality and Reliability Engineering | | |