

# LEVEL 4 AWARD IN MECHANICAL TECHNOLOGY

## Program Description

The Level 4 Award in Mechanical Technology aims to equip students with a strong foundation in mechanical systems, technical drawing, Instruments and sensors, and pumps and compressors, combining theoretical knowledge with practical, hands-on skills. It prepares students to analyse, design, and troubleshoot mechanical components and systems while ensuring proficiency in machining, 2D and 3D CAD modelling, CNC machining, Pneumatic and Hydraulic, and maintenance techniques. The program also emphasizes the application of engineering principles to solve real-world mechanical challenges. The program places a strong emphasis on workplace safety, environmental compliance, and adaptability to emerging technologies. Through hands-on training in industry settings, students acquire valuable experience, enabling them to apply their skills in real-world industrial environments. This prepares them for successful technical careers in their respective fields.

## Program Learning Outcomes

Upon successful completion of this program, the graduates will be able to:

1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the Mechanical Engineering Technology.
2. An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the Mechanical Engineering Technology.
3. An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
4. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results.
5. An ability to function effectively as a member of a technical team.

## Requirements

### Completion Requirements

Students seeking the Level 4 Award in Mechanical Technology qualification must successfully complete 30 credits, including:

1. Mandatory core course credits  
30 CH
2. On Job Training (MCT 130 [250hrs] and MCT 131 [250hrs])  
0 CH
3. Two preparatory English courses:
  - a. General English for Certificate (ESP 0103)
  - b. Workplace English for Certificate (GEC 0103)

| Code    | Title   | Credit Hours |
|---------|---|--------------|
| HSE 100 | Explore Health, Safety and Environment at Workplace   | 2            |
| MCT 110 | Interpret and Prepare Technical Drawings              | 3            |
| MCT 211 | Explore knowledge and skills of pumps and compressors | 2            |

|         |   |   |
|---------|---|---|
| MCT 210 | Prepare CAD environment, create 2D-3D drawings and understand manufacturing automation (ENG05090NU21) | 4 |
| MCT 100 | Perform basic machining   | 4 |
| MCT 214 | Explore 3D printing technologies in engineering   | 2 |
| MCT 213 | Operate and Maintain Computer Numerical Control (CNC) machines  | 2 |
| MCT 101 | Perform basic mechanical maintenance  | 4 |
| MCT 212 | Explore the basics of pneumatic and hydraulic Systems   | 4 |
| MCT 111 | Select instruments and sensors for measurement  | 3 |
| MCT 130 | On Job Training 1   | 0 |
| MCT 131 | On Job Training 2   | 0 |

| Description            | Data  |
|------------------------|-------|
| Total Required Credits | 30    |
| Program Code           | MPMEC |
| Major Code             | MEC   |

## Ideal Study Plan

### Recommended Sequence of Study

#### Level 4 Award in Mechanical Technology

| Year 1                    |   | Credit Hours |
|---------------------------|---|--------------|
| Semester 1                |   |              |
| HSE 100                   | Explore Health, Safety and Environment at Workplace   | 2            |
| MCT 110                   | Interpret and Prepare Technical Drawings  | 3            |
| MCT 211                   | Explore knowledge and skills of pumps and compressors   | 2            |
| MCT 210                   | Prepare CAD environment, create 2D-3D drawings and understand manufacturing automation (ENG05090NU21) | 4            |
| MCT 100                   | Perform basic machining   | 4            |
| MCT 130                   | On Job Training 1   | 0            |
| <b>Credit Hours</b>       |   | <b>15</b>    |
| Semester 2                |   |              |
| MCT 214                   | Explore 3D printing technologies in engineering   | 2            |
| MCT 213                   | Operate and Maintain Computer Numerical Control (CNC) machines  | 2            |
| MCT 101                   | Perform basic mechanical maintenance  | 4            |
| MCT 212                   | Explore the basics of pneumatic and hydraulic Systems   | 4            |
| MCT 111                   | Select instruments and sensors for measurement  | 3            |
| MCT 131                   | On Job Training 2   | 0            |
| <b>Credit Hours</b>       |   | <b>15</b>    |
| <b>Total Credit Hours</b> |   | <b>30</b>    |