

# LEVEL 5 DIPLOMA IN INDUSTRIAL AND MANUFACTURING TECHNOLOGY

## Program Description

The Level 5 Diploma in Industrial and Manufacturing Technology program is designed to equip students with the knowledge and skills needed to succeed in the ever-changing field of manufacturing. This program typically emphasizes hands-on training in areas such as manufacturing processes, machine operation, quality control, and industrial automation. Students learn to apply theoretical concepts to real-world scenarios, preparing them for entry-level positions in manufacturing and related industries. The curriculum often includes a combination of classroom instruction, laboratory work, and industry internships to ensure graduates are well-equipped to meet the demands of the workplace and contribute effectively to various aspects of industrial and manufacturing technology.

## Program Learning Outcomes

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

1. Apply knowledge of mathematics, engineering principles and skills to solve well defined engineering problems related to industrial and manufacturing technology, with a focus on achieving Sustainability Development Goals and promoting circular economy practices.
2. Use computer-aided design (CAD) and computer-aided manufacturing (CAM) software to create technical drawings and produce products.
3. Demonstrate the necessary skills to operate and maintain a variety of manufacturing equipment, including CNC machines, lathes, and mills.
4. Apply quality control and production planning principles to ensure the consistent production of high-quality products.
5. Demonstrate ethical and professional conduct, personal accountability, and a commitment to continuous self-improvement, team work, and effective communication with a diverse range of stakeholders.
6. Comply with HSE regulations to ensure the safety and well-being of workers.

## Occupation and Industry Sector

## Requirements

### Completion Requirements

Students seeking the Level 5 Diploma in Industrial and Manufacturing Technology qualification degree must successfully complete all mandatory core courses worth 90 credits.

Code	Title	Credit Hours
<b>Industrial Mandatory Core Courses</b>		
ECT 100	Create Simple Software Programs	4
GED 100	Develop English language skills	3
MAT 100	Apply geometry and trigonometry and solve algebraic equations	4
MCT 110	Interpret and Prepare Technical Drawings	3

MCT 100	Perform basic machining	4
HSE 100	Explore Health, Safety and Environment at Workplace	2
IMT 100	Participate in Supply Chain Operations	4
IMT 200	Apply Quality Control Tools and Techniques for Process Improvement	3
IMT 201	Discover Manufacturing Technology	4
IMT 202	Apply Principles of Engineering Economics	3
IMT 203	Implement Lean Production System	4
IMT 204	Explore Facilities Layout and Material Handling System	3
IMT 205	Manage Engineering Projects	3
IMT 206	Apply Production Planning and Control Principles and Techniques	4
IMT 230	Perform Practical Training and Support in Manufacturing Industries	4
MAT 102	Develop Knowledge on Basics of Probability and statistics	4
MCT 101	Perform basic mechanical maintenance	4
MCT 111	Select instruments and sensors for measurement	3
MCT 122	Analyse Static Loads	3
MCT 123	Describe the fundamentals of material science	4
MCT 125	Perform CAD CAM	4
MCT 200	Interpret and document technical information	2
MCT 201	Apply engineering technology to real or simulated situations to produce technical solutions	4
MCT 210	Prepare CAD environment, create 2D-3D drawings and understand manufacturing automation	4
MCT 212	Explore the basics of pneumatic and hydraulic Systems	4
MCT 214	Explore 3D printing technologies in engineering	2

Description	Data
Total Required Credits	90
Program Code	DPIMT
Major Code	IMT

## Ideal Study Plan

### Recommended Sequence of Study Level 5 Diploma in Industrial and Manufacturing Technology

Year 1		
Semester 1		Credit Hours
GED 100	Develop English language skills	3
MAT 100	Apply geometry and trigonometry and solve algebraic equations	4
MCT 100	Perform basic machining	4
ECT 100	Create Simple Software Programs	4
MCT 101	Perform basic mechanical maintenance	4
MCT 110	Interpret and Prepare Technical Drawings	3
<b>Credit Hours</b>		<b>22</b>
Semester 2		
IMT 100	Participate in Supply Chain Operations	4
MAT 102	Develop Knowledge on Basics of Probability and statistics	4
HSE 100	Explore Health, Safety and Environment at Workplace	2

## 2 Level 5 Diploma in Industrial and Manufacturing Technology

MCT 122	Analyse Static Loads	3
MCT 210	Prepare CAD environment, create 2D-3D drawings and understand manufacturing automation	4
MCT 212	Explore the basics of pneumatic and hydraulic Systems	4
<b>Credit Hours</b>		<b>21</b>
<b>Year 2</b>		
<b>Semester 3</b>		
IMT 200	Apply Quality Control Tools and Techniques for Process Improvement	3
IMT 201	Discover Manufacturing Technology	4
IMT 202	Apply Principles of Engineering Economics	3
MCT 111	Select instruments and sensors for measurement	3
MCT 123	Describe the fundamentals of material science	4
MCT 125	Perform CAD CAM	4
MCT 214	Explore 3D printing technologies in engineering	2
<b>Credit Hours</b>		<b>23</b>
<b>Semester 4</b>		
IMT 203	Implement Lean Production System	4
IMT 204	Explore Facilities Layout and Material Handling System	3
IMT 205	Manage Engineering Projects	3
IMT 206	Apply Production Planning and Control Principles and Techniques	4
IMT 230	Perform Practical Training and Support in Manufacturing Industries	4
MCT 200	Interpret and document technical information	2
MCT 201	Apply engineering technology to real or simulated situations to produce technical solutions	4
<b>Credit Hours</b>		<b>24</b>
<b>Total Credit Hours</b>		<b>90</b>