Manufacturing Engineering Apprenticeships Overview
Overview

Background and consortium

Apprenticeship Title and Occupational Profile

Programme Overview

Cost, Registration, Employer Obligations, Apprentice Support Structure

Companies enrolled to date
Manufacturing Engineering Apprenticeships

Development Process

1. Proposal Research Skills Need Industry-Led Consortium
2. Apprenticeships Underway Industry-Led Consortium
3. Approval of Employers Registration of Apprentices Solas
4. Implementation Plan & Budget Agreed Solas and HEA
5. Creation of Industrial Training Order Solas
6. Validation & Q/A for Programme Approved Validation Body/QQ
7. Occupational Profile Approved Apprenticeship Council
8. Programme Development Industry-Led Consortium
9. Project Plan Approved Development Funding Allocated Solas, HEA, Apprenticeship Council
10. Assessment & Approval for Development Apprenticeship Council Minister for Education & Skills
11. National Apprenticeships Development Critical Path and Implementation Partners
12. Apprenticeships Underway Industry-Led Consortium
14. Approval of Employers Registration of Apprentices Solas
15. Implementation Plan & Budget Agreed Solas and HEA
16. Creation of Industrial Training Order Solas
17. Validation & Q/A for Programme Approved Validation Body/QQ
18. Occupational Profile Approved Apprenticeship Council
19. Programme Development Industry-Led Consortium
20. Project Plan Approved Development Funding Allocated Solas, HEA, Apprenticeship Council
21. Assessment & Approval for Development Apprenticeship Council Minister for Education & Skills
22. National Apprenticeships Development Critical Path and Implementation Partners
Apprenticeship Programme Titles

1. Manufacturing Technician, Level 6
   Academic title: Higher Certificate in Engineering in Manufacturing (Apprenticeship)

2. Manufacturing Engineer, Level 7
   Academic title: Bachelor of Engineering in Manufacturing (Apprenticeship)
Occupational Profile
Manufacturing Technician Typical tasks/responsibilities

Manufacturing Technician, Level 6

• The Manufacturing Technician provides technical support function for manufacturing operations, including troubleshooting equipment and process issues, validation and qualification activities of the manufacturing site through the creation and support of necessary validation documentation for equipment, process and product release.

• The manufacturing technician will work both autonomously and cross-functionally with Production, Operations, Engineering Support, Quality, Facilities, and Safety to ensure that the engineering activities/projects are completed as per defined project schedule.

• The manufacturing technician will also work in establishing and coordinating corrective/preventive maintenance activities for Production/Operations equipment within the manufacturing site.
Occupational Profile – Manufacturing Engineer

Typical tasks/responsibilities

Manufacturing Engineer, Level 7

• A Manufacturing Engineer facilitates efficient operations within the production area, to optimise existing processes, implement new processes and to ensure that production goals are met. Monitors performance of equipment, machines and tools and corrects equipment problems or process parameters that produce non-conforming products, low yields or product quality issues, all within a highly regulated and complex manufacturing environment.

• Analyses and solves problems from basic engineering principles, theories and initiates technical activities leading to new or improved products or process to meet strategic goals and objectives of the company.

• Applies project management methodologies and Kaizen improvement philosophy to manage production/product design and process and systems improvement respectively.
Programme Overview

• Developed by the Irish Medtech Association along with Galway Mayo Institute of Technology (coordinating provider) and representatives from the Medtech industry.

• 2 year programme – Manufacturing Technician
• 3 year programme – Manufacturing Engineer

• Level 6 - Manufacturing Technician
• Level 7 - Manufacturing Engineer

• Phase Block Release
  • 15 week block per year in one of the participating Institutes of Technology - CIT, LIT, GMIT & Sligo IT

• Entry Requirements: Leaving Certificate (or equivalent), Grade 06 at ordinary level in 5 subjects 2 of which must be maths and a language (English or Irish).
Programme Overview – Modules

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGINEERING MATHEMATICS</td>
<td>ENGINEERING MANUFACTURING</td>
<td>COMPUTER AIDED DESIGN</td>
</tr>
<tr>
<td>LEARNING INNOVATION SKILLS</td>
<td>ELECTRICAL SCIENCE</td>
<td>ENGINEERING SCIENCE</td>
</tr>
<tr>
<td>QUALITY</td>
<td>METROLOGY</td>
<td>MFG DESIGN OF FIXTURES</td>
</tr>
<tr>
<td>MAINTENANCE &amp; SAFETY</td>
<td>MANUFACTURING AUTOMATION</td>
<td>LEAN MANUFACTURING</td>
</tr>
<tr>
<td>INSTRUMENTATION &amp; CONTROL</td>
<td>MFG PROCESS PLANNING</td>
<td>ADVANCED MFG PROCESSES</td>
</tr>
<tr>
<td>ENGINEERING SW SYSTEMS</td>
<td>POLYMER PROCESS TECH.</td>
<td>SIX SIGMA GREEN BELT</td>
</tr>
<tr>
<td>OPERATIONS MANAGEMENT</td>
<td>PROJECT MANAGEMENT</td>
<td></td>
</tr>
</tbody>
</table>

Level 6 Year 1 & 2

Level 7 Year 1, 2 & 3

Manufacturing Engineering Apprenticeships
Cost & Registration

- Company pays apprentice salary for both on and off the job phases.
- Salary set by individual company.
- Tiered remuneration recommended for 2 and 3 year programmes.
- Government pays for college training.
- Annual apprentice registration fee of €1,500 will apply.
Key Employer Obligations

- Company must ensure apprentice is released to attend induction presentation and ‘off the job’ blocks.

- Company must provide access for the apprentice to the appropriate equipment and resources to complete the ‘on the job’ elements of the programme.

- Company must assign a person qualified in the occupation to act as a mentor to the apprentice for ‘on the job’ elements.
Apprentice Support Structure for ‘On the Job’ Learning

- Apprentice
- Academic Supervisor
- Quality Assurance
- Industry Mentor (Trainer and Assessor)
- Compliance
- Authorised Officer SOLAS/ETB

Collaboration
Other Ibec Apprenticeships & info

• Manufacturing Engineering Apprenticeship
  trish.breen@ibec.ie / 087 715 7967

• Polymer Technologist Apprenticeship
  shane.Beirne@ibec.ie / 01- 605 1677

• Laboratory Technician Apprenticeship
  siobhan.dean@ibec.ie / 01 – 605 1671

• International Financial Services Apprenticeship
  carol.kenna@ibec.ie / 01 – 605 1631