



# Engineering Manufacturing Technician Level 4

A Manufacturing Technician provides specialist technical support for engineers, so that organisations can develop, produce or test new/existing products, processes, or procedures to meet a customer specification in terms of quality, cost and delivery, as efficiently and effectively as possible.

They gather information and data from a range of sources and analyse the information/data, make decisions, solve problems and produce and/or update technical documentation, reports or specifications. Manufacturing Technicians work in a wide range of sectors, such as Automotive, Aerospace/Airworthiness, Chemical Processing, Land Systems, Marine, Maritime Defence.

**Duration:** The length of this apprenticeship is typically 42 months.

**Qualifications:** Individuals must achieve a level 4 Higher National Certificate in Engineering or Manufacturing Operations.

**Functional Skills:** Maths and English level 2 (if not already held)

## The Apprentice Journey



### Learning Journey

Apprentices will undertake training and development both in the workplace ('on the job') and at the Innovion training centre ('off the job').



### Mandatory Qualifications

1. Level 4 HNC in Engineering or Manufacturing Operations

Units within this will be agreed with the employer.

## The Programme

The learning programme will be designed with the employer but will consist of a blend of formal learning, development and assessment of competence. This will be delivered by both Innovion and the employer. The knowledge, skills and behaviours that will be developed during this programme include:

Knowledge	Skills	Attitudes & Behaviours
<ul style="list-style-type: none"> <li>• Problem solving &amp; communication tools/ techniques</li> <li>• Benefits and applications of lean methods and tools</li> <li>• How Industry 4.0 will impact organisations</li> <li>• Quality management systems</li> <li>• Manufacturing methods used and their applications</li> <li>• Principles of quality control and quality assurance</li> <li>• Team integration &amp; project management techniques</li> <li>• Core engineering principles</li> <li>• Statutory and organisation health and safety policies, procedures and regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Read and extract relevant engineering and manufacturing related data and information</li> <li>• Use project management &amp; problem solving tools</li> <li>• Analyse and interpret data and information</li> <li>• Communicate using the appropriate audience method</li> <li>• Use the approved process and quality compliance procedures</li> <li>• Use lean tools and techniques</li> <li>• Apply documentation control processes and procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Champions the importance of environmental, health and safety management</li> <li>• Operates in a systematic, proactive and transparent way</li> <li>• Promotes adoption of emerging technologies to optimise performance</li> <li>• Takes full responsibility for workload &amp; CPD</li> <li>• Complies with health &amp; safety regulations and policies</li> <li>• Creates and maintains positive, professional, trusting and ethical working relationships</li> </ul>

Formative assessment of skills, knowledge and behaviours will take place throughout, including regular 1:1 reviews to ensure good progress.



## Gateway

The employer and Innovion must agree that the individual is ready to move onto End-Point Assessment.

This will be decided at a tri-partite review meeting.



## End-Point Assessment

The EPA must demonstrate that the apprentice can effectively perform in the occupation in a fully competent, holistic and productive manner.

The EPA must be undertaken by an organization independent of Innovion and the employer.

To pass the EPA, the individual must have met the criteria for entry onto the **Register of Engineering Technicians**, with Level 4 competence.

The Observation is graded as pass only. The Discussion & portfolio can be pass or distinction.

<ul style="list-style-type: none"> <li>• Influence &amp; impact of human &amp; environment factors</li> <li>• Prioritisation of workload/time management</li> <li>• How organisations manage and monitor internal and or supplier performance</li> <li>• Application of materials, production methods &amp; tools and frequency used to check quality</li> <li>• Departmental process, documentation and data collection systems</li> <li>• Applications and limitations of computer based software system/packages</li> <li>• Impact of sustainability and environmental efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Use financial planning, recording and review processes and documentation</li> <li>• Use computer based software system/packages</li> </ul>	<ul style="list-style-type: none"> <li>• Acts professionally with a positive, respectful attitude</li> </ul>
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## Programme Delivery

Training is delivered at both the employer premises and at Innovion, through a blended learning approach. Activities may include:

- Workshop, laboratory & classroom-based delivery
- Online learning
- Distance and directed self-study
- Research
- Work shadowing
- Mentoring & 1:1 coaching
- Assignments & workbooks
- Industry visits & seminars

## Gateway

To be eligible to move to the End-Point Assessment, the apprentice must evidence the relevant knowledge, skills and behaviours set out in the apprenticeship standard. They must also have achieved level 2 in English and maths and the mandatory qualifications.

## End-Point Assessment

The final, end point assessment is completed in the last few months of the apprenticeship. It is based on the following methods:

<p><b>Questioned Observation</b></p> <p>Apprentices will be observed 1:1 by an independent assessor completing tasks for 3 hrs in the workplace and questioned against the KSBs. Health &amp; safety must be compliant.</p>	<p><b>Professional Discussion &amp; Portfolio</b></p> <p>An independent assessor will conduct the discussion on a 1:1 basis for 1hr covering all the KSBs.</p>	<p><b>Portfolio of Evidence</b></p> <p>The professional discussion will be supported by the apprentices portfolio of evidence compiled during the programme.</p>
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Final endorsement is given by the employer as to the occupational and professional competence and overall completion of the apprenticeship.

## Certification

The apprentice will receive an Apprenticeship Certificate which is awarded by the Institute for Apprenticeships. In addition to this they will receive their individual certificates for the qualifications they achieved e.g. the Level 4 HNC.

## Progression

On completion, apprentices may choose to register as an Engineering Technician, e.g. with the Institute of Mechanical Engineers or Institution of Engineering & Technology, which will support their career development. There are also other apprenticeship opportunities that could support the acquisition of new skills needed for a promotion or career move.