Engineering Manufacturing Technician Level 4 Apprenticeship

The broad purpose of the occupation is to provide 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.

This occupation is found in large and small engineering and manufacturing organisations providing products and services throughout a wide range of sectors, such as Automotive, Aerospace/Airworthiness, Chemical Processing, Land Systems, Marine, Maritime Defence, Materials Manufacturers and their respective supply chains. Research indicates that the sector needs to recruit approximately 124,000 engineers and technicians every year.

Expected course duration

4 years

College attendance

2 years day release attendance

Year 1 – Wednesday
Year 2 – Thursday

College Day Release intakes

September

When can the apprentice start employment?

When offered job role and start date agreed with employer.

When can the apprenticeship training start?

Training can start at any time and the college attendance will start in September.

Course Content

HNC General Engineering

Year 1:

- Engineering Maths
- Electro-Mechanical Science
- Pneumatics and Hydraulics Applications
- PLC's and Automation

Year 2:

- Mechanical Principles
- Electrical and Electronic Principles

Entry requirements

GCSE grade 4 in Maths and English

Other requirements…

To be working within an Engineering environment.

Desirable:

BTEC or VRQ Level 3 Engineering 120 Credit Diploma or A Level Maths and Physics.

What training is required in the workplace?

- Ensure the safe and efficient performance of every production task in compliance with company procedures, approved engineering data and local Health and Safety requirements.
- Ensure Safe Systems of Work and risk assessments (assisting as necessary in the completion of risk assessments) are adhered to for engineering or manufacturing activities.
- Prepare product and process documentation by collecting, analysing, and summarising information and trends. Manage internal and/or Supplier Quality Notifications, and liaison with the required stakeholders for resolution.
- Liaise with internal and external customers to implement programme initiatives, such as the application of lean analysis methods, processes and tools.
- Carry out new product introduction and/or existing product modifications within engineering and/or manufacturing by contributing to activities such as facilitation of quality activities (including any testing and/or commissioning requirements), supplier approvals, gate reviews.
- Deliver financial planning or costing analysis such as:- estimation of costs for manufacture, supplying drawings or specification for quotations, obtaining manufacture quotes, calculating costs associated with quality problem or machine downtime.
- Develop new technology initiatives by contributing to activities such as, justifying capital investment equipment/system upgrades from purchase through to installation and commissioning.
- Produce and maintain reports measuring Key Performance Indicators for data management activities.
- Ensure processes and current methods of engineering and manufacturing are as efficient and cost effective, such as:- utilising time and motion analysis, line balancing and flow to achieve the required level of production output.
- Liaise with appropriate internal and external stakeholders at all levels to ensure that engineering and manufacturing operations are completed in line with the agreed time scales.
- Examples of stakeholders could include production managers, production operatives, auditors, suppliers, customers. Ensure work process and outcomes comply with any local, national and or international regulatory or compliance requirements. Such as :- maintain compliance to Aerospace Regulatory bodies (CAA, EASA,MAA) as well as the wider regulations (such as Anti Bribery and Corruption, Export Control).
- Resolve identified engineering and/or manufacturing problems such as:- contributing to the route cause analysis exercise applying appropriate levels of containment and corrective action.

- Produce engineering and/or manufacturing documentation (such as:- Build Manuals, Standard Operating Instructions/processes, Bill of Materials) to aid and ensure consistent, compliant and cost effective manufacturing processes.
- Review engineering or manufacturing methods to determine the most effective and economical method whilst meeting drawing/specification requirements.

Further study and career options

Course progression:

HND/Degree Apprenticeship to fulfil additional job role/responsibilities on completion of level 3 outcomes and EPA.

Campuses

Study is available at our Bedford College campus.

For more information, please visit here:

https://www.instituteforapprenticeships.org/apprenticeship-standards/engineering-manufacturing-technician-v1-0