ENGINEERING MANUFACTURING TECHNICIAN (GENERAL ENGINEERING) APPRENTICESHIP LEVEL 4

For new or existing staff

Qualification

BTEC HNC in Engineering for England

This occupation is found in large and small engineering and manufacturing organisations from a wide range of sectors and their respective supply chains. The broad purpose of the occupation is to provide specialist technical support for engineers, so that organisations can develop, produce or test new and existing products, processes, or procedures to meet quality, cost and delivery requirements, as efficiently and effectively as possible.

Delivery model and duration:
1 day per week for 2 years, followed by the time working on demonstrating the Knowledge, Skills and Behaviours required for the Apprenticeship Standard.

Duration: 42 months plus 6 months for End Point Assessment
Ideal for:

This apprenticeship is ideal for engineers with 12 months or more experience, as well as for those who finished Level 3 apprenticeship or a similar full-time course and looking to advance their skills and knowledge.

The apprenticeship will cover the following core areas:

- Engineering maths
- Engineering project
- Production engineering for manufacturing
- Quality and process Improvement
- Engineering design
- Mechatronics
- Mechanical principles
- Digital principles

Benefits to business:

- Fill skills gaps in your organisation
- Keep the business up to date with the latest industry knowledge and innovative practice
- Develop new talent or existing employees looking to progress in their careers

Entry Criteria:

- GCSEs in English and maths at grade 9-4 or A* - C. Plus Level 3 Qualification in Engineering or a Maths based subject.

Benefits for learners:

- Combine on-the-job training with academic study to gain the latest technical knowledge and practical industry experience at no cost
- Gain a valuable, nationally recognised qualification

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End Point Assessment

The End Point Assessment will test the entire Standard, and be undertaken as follows:

- Assessment method 1: Observation with questioning
- Assessment method 2: Professional discussion supported by a portfolio of evidence

Components

- BTEC HNC in Engineering for England
- Portfolio of evidence, reflecting workplace practice and mapped to the Knowledge, Skills and Behaviours in the apprenticeship standard.

Skills

- Read and extract relevant engineering and manufacturing related data and information (such as workplans or project plans, schedules, drawings, specifications, production data, quality reports, costing data, statistical information) drawing accurate conclusions and making informed decisions.
- Use project management tools, such as Strengths, Weaknesses, Opportunities, Threats (SWOT), stakeholder matrices, risk mapping, radar chart and summary risk profiles.
- Use problem solving tools such as Root Cause Analysis (RCA) Process Failure Modes Effects Analysis (PFMEA), Fishbone, Practical Problem Solving (PPS) and Advanced Product Quality Planning (APQP).
- Analyse and interpret data and information in order to generate manufacturing engineering documentation such as Parts Per Million (PPM) quality adherence, cost analysis and test data.
- Communicate using the appropriate method for the audience such as, formal and informal presentations, written reports, verbal, electronic, social media and incorporating relevant and appropriate data or metrics.
- Use the approved process and quality compliance procedure to create or amend engineering or manufacturing documentation.
- Use lean tools and techniques, such as Six Sigma, 8 Wastes, Workplace organisation such as 5S's (sort, set in order, shine, standardise and sustain), Kaizen and Poka-Yoke (Error proofing).
- Apply documentation control processes and procedures such as format, location, access, authorisation.
- Use financial planning, recording and review processes and documentation such as departmental budgets, estimating, cost control, cost forecasting, and investment appraisal.
- Use computer based software systems or packages such as Computer Aided Design (CAD), Data Analytics and Databases.

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