Engineering Technician Level 3 Apprenticeship

Engineering Technicians in the Aerospace, Aviation, Automotive, Maritime Defence and wider Advanced Manufacturing and Engineering Sector are predominantly involved in highly skilled, complex work.

Engineering Technicians take responsibility for the quality and accuracy of the work they undertake within the limits of their personal authority. They also need to be able to demonstrate a core set of behaviours in order to be competent in their job role, complement wider business strategy and development. This will enable them to support their long-term career development.

Engineered and manufactured products and systems that Engineering Technicians work on could involve mechanical, electrical, electronic, electromechanical and fluid power components/systems.

Expected course duration

4 years.

College attendance

Year 1 - off the job training Monday to Friday
Year 2 - Level 3 AME Day Release Wednesday
Year 3 - Level 3 AME Day Release

When can the apprentice start employment?

Anytime throughout the year.

When can the apprenticeship training start?

September delivery start at College.

Course Content

Year 1 Foundation Competence Units Level 2

- Complying with statutory regulations and organisational safety requirements
- Working efficiently and effectively in an engineering environment
- Using and communicating technical information
- Conducting business improvement activities
- Producing components using hand fitting techniques
- Maintaining mechanical devices and equipment
- Maintaining electrical equipment/systems
- Wiring and testing electrical equipment and circuits
- Wiring and testing programmable controller based systems
- Producing mechanical assemblies
- General turning and milling applications

Year 2 and 3 AME Level 3 Units

- Health and safety in the engineering workplace
- Communications for engineering technicians
- Mathematics for engineering technicians
- Engineering project
- Mechanical principles of engineering systems
- Electrical and electronic principles in engineering
- Maintenance of fluid power systems and components

- Computer Aided Design (CAD) techniques
- Applications and principles of Programmable Logic Controllers (PLCs)
- Engineering maintenance procedures and techniques

AME Level 3 Units

Electrical route:

- Health and Safety in the Engineering Workplace
- Mathematics for Engineering Technicians
- Principles and Applications of Electronic Devices and Circuits
- Electronic Measurement and Testing
- Electrical and Electronic Principles in Engineering
- Communications for Engineering Technicians
- Engineering Project
- Further Engineering Mathematics
- Selecting and Using Programmable Controllers
- Further Electrical Principles
- Industrial Robot Technology

Mechanical Route:

- Health and Safety in the Engineering Workplace
- Mathematics for Engineering Technicians
- Properties and Applications of Engineering Materials
- Mechanical Principles of Engineering Systems
- Engineering Drawing for Technicians
- Communications for Engineering Technicians
- Engineering Project
- Further Engineering Mathematics
- Electro-pneumatic and Hydraulic Systems and Devices
- Further Mechanical Principles and Applications
- Applications of Mechanical Systems in Engineering

Entry requirements

Grade requirements
Essential:
GCSE grade 4 and above in Maths and English *(or equivalent)*

Other requirements
To be working within an Engineering environment

What training is required in the workplace?

Knowledge:

- understanding the importance of complying with statutory, quality, organisational and health and safety regulations
- understanding of general engineering/manufacturing mathematical and scientific principles, methods, techniques, graphical expressions, symbols formulae and calculations used by engineering technicians
- understanding the structure, properties and characteristics of common materials used in the sector
- understanding the typical problems that may arise within their normal work activities/environment
- understanding approved diagnostic methods and techniques used to help solve engineering/manufacturing problems
- understanding the importance of only using current approved processes, procedures, documentation and the potential implications for the organisation if this is not adhered to
- understanding and interpreting relevant engineering/manufacturing data and documentation in order to complete their job role
- understanding the different roles and functions in the organisation and how they interact.
- understanding why it is important for an organisation to continually review their processes and procedures.

Skills:

- obtaining, checking and using the appropriate documentation (such as job instructions, drawings, quality control documentation)
- working safely at all times, complying with health, safety and environmental legislation, regulations and organisational requirements
- planning and where applicable obtaining all the resources required to undertake the work activity
- undertaking the work activity using the correct processes, procedures and equipment
- carrying out the required checks (such as quality, compliance or testing) using the correct procedures, processes and/or equipment
- dealing promptly and effectively with engineering/manufacturing problems within the limits of their responsibility using approved diagnostic methods and techniques and report those which cannot be resolved to the appropriate personnel
- completing any required documentation using the defined recording systems at the appropriate stages of the work activity
- restoring the work area on completion of the activity and where applicable return any resources and consumables to the appropriate location

Further study and career options

Course progression:
Level 4 Engineering Standard to fulfil additional job role/responsibilities on completion of level 3 outcomes and EPA.

Campuses

Study is available at our Corby campus.

For more information, please visit here:

https://www.instituteforapprenticeships.org/apprenticeship-standards/engineering-technician-v1-1