Product Design and Development Technician (ST0457) Level 3 Apprenticeship

Product Design & Development Technicians primarily work on all stages of product creation and modification. They support activities ranging from early concept feasibility, design and development stages right through to final preparation for launch and customers. This includes working in concept studios, rapid prototyping, assembly, testing, validating and analysing performance. Typically, they work closely with engineers in bring new concepts to life or supporting redesigns of existing products.

Expected course duration

4 years.

College attendance

- **Year 1 – 2 days attendance**
- **Year 2 – 1 day attendance**
- **Year 3 – 1 day attendance**
- **Year 4 – Workplace assessments**

When do annual college day release intakes take place?

September 2025.

When can the apprentice start employment?

July/August.

When can the apprenticeship training start?

September.

Course content

Areas covered include:

Hand fitting, Milling, Turning, Wiring and testing electrical equipment and circuits, Forming and assembling electrical cable enclosure and support systems, Assembling and testing electronic circuits and maintaining electronic equipment/systems

Knowledge, skills and behaviours developed:

- understand mathematical techniques, formula and calculations in a product design and development environment
- understand material applications and methods of testing (destructive and non-destructive)
- understand Computer Aided Design (CAD) methods and applications
- understand material joining applications and systems
- understand mechanical, electrical, electronic and process control systems
- understand measurement, monitoring, testing and diagnostic methods and techniques

- read and interpret relevant data and documentation used in the design and development of components, assemblies and systems
- produce components and prototypes using a wide range of hand fitting techniques
- produce assemblies and rigs using a range of materials and techniques
- prepare and using lathes, milling machines, as well as other general or specialist high technology equipment such as 3D printing/additive manufacturing techniques
- use a range of mechanical, electrical and electronic testing devices and equipment
- apply mechanical principles and joining techniques to develop products, devices and equipment
- apply electrical and electronic principles to develop products devices and equipment
- identify, diagnose and rectify design problems through the whole creation process including design studio, workshops, test environments or under laboratory conditions
- contribute to the business by identifying possible opportunities for improving working practices, processes and/or procedures

Entry requirements

- Maths and English GCSE minimum Grade 4

Assessment methods

Observations, professional discussions, written job reports.

Qualification

- Level 2 Diploma in Advanced Manufacturing Engineering (Foundation Competence)
- Level 3 Diploma in Advanced Manufacturing Engineering (Development Competence) – Product Design and Development

What training is required in the workplace?

Employer to ensure workplace training is in line with the Standard's Knowledge, skills and behaviours.

Further study and career options

Level 4 Engineering Manufacturing Technician.

Additional information

Apprentices will need to ensure they have PPE for the practical workshop delivery this includes overalls, steel toecap boots, safety goggles and gloves.

Campuses

Bedford College

For more information, please visit here:

Engineering technician / Institute for Apprenticeships and Technical Education

How to apply

Through the apprenticeship vacancy page of our website:
https://bedfordcollegegroup.ac.uk/study/apprenticeships/apprenticeship-vacancies/

and the national apprenticeship website:
https://www.apprenticeships.gov.uk/