

# Product Design and Development Engineer BEng (Hons) Degree Apprenticeship Level 6

Manufacturing remains one of the key industries for the UK. In its various guises, the UK manufacturing industry employs almost three million people, contributes approximately half of UK exports and two thirds of business research and development. The UK remains a global engineering and manufacturing power and is recognised as being the world's second biggest aerospace manufacturer, the world's second biggest defence exporter and one of Europe's biggest carmakers.

Design and development engineering is essential to the success of both everyday products (mobile phones, household appliances and cars) to larger items (industrial tools, equipment and machinery). The West Midlands is home to a wealth of innovative companies reliant on savvy design, ranging from multi-national lesser-known names to high profile organisations such as Jaguar Land Rover, Moog and Morgan Cars.

The Black Country houses a cluster of successful Tier 1 aerospace suppliers including UTC Aerospace Systems, one of the world's largest suppliers of aerospace and defence products; Assa Abloy, the world's largest lock design and manufacturer has its UK headquarters in the Black Country; and across the West Midlands region, almost 15,000 SMEs are underpinning our buoyant manufacturing sector.

The University of Wolverhampton is a committed driving force behind economic growth in the engineering and manufacturing sector and the region. This new Product Design and Development Engineer Degree Apprenticeship is both needed and timely; it has the potential to help fill identified regional skills gaps in engineering companies of all sizes, and meet employers' needs to improve levels of knowledge, understanding and skills within their workforce.



## Job roles/Occupations

Since many of the basic principles of product design and development engineering apply to all industries, the course benefits numerous sectors, including: traditional engineering, plant and machinery, aerospace, automotive, biotechnology, clothing, food and drink, oil, pharmaceuticals, plastics, fast-moving consumer goods and consumables.

Product design includes: specifying, designing, modelling, producing prototypes and testing. Development engineers and designers need to produce high quality goods efficiently using the most cost-effective methods.

Product designers are often busy juggling different projects, working alongside engineers and colleagues from other disciplines. Typical tasks can include: developing client briefs and specifications, working on ideas as part of a team or developing design concepts using CAD (computer-aided design). Product developers take part in specialist or multi-disciplinary team meetings, sketching initial design ideas and identifying the suitability and availability of materials, producing detailed, final hand drawings and specifications or producing design specifications, including parts lists and costings, through CAD. Making samples or working models by hand or using computerised prototyping equipment, such as rapid prototyping and additive layer manufacturing machines, is commonplace.

## How it works

The Degree Apprenticeship standard has been designed and developed in collaboration with many employers and professional bodies. Apprentices should be employed in roles where they are able to put their academic knowledge into practice via real life projects.

The usual duration for this course is three to four years and students will typically spend one day a week at the University. Delivery will be at our Telford Innovation Campus and will include timetabled access to classrooms, lecture theatres, laboratories and workshops. There will also be occasional industrial visits and trips; and additional technician and teaching staff hours associated with teaching, project and practical activities, with further time committed to support Apprenticeship students in the workplace to satisfy the work-based learning elements of the Degree Apprenticeship.

Modules will include:

- Engineering Practice
- Mechanical Design
- Innovative Design
- Design Information Systems
- Environment and Society
- Design and Simulation.

## Benefits

This Degree Apprenticeship will provide individuals with enhanced skills, knowledge and experience in a range of areas that will benefit businesses, including:

- engineering functions and procedures
- practical and logical approaches to problem-solving
- interpersonal, presentation and communication skills
- team working and people management

- the ability to work well under pressure and take on new challenges
- organisation and time management
- project management and the ability to work to tight deadlines
- commercial awareness
- an awareness of health and safety issues.

## Qualifications

On successful completion of this Apprenticeship, Apprentices will be awarded BEng (Hons) Product Design and Development Engineer and their Apprenticeship Certificate. This will allow Apprenticeship graduates to work towards Incorporated Engineer (IEng) status within the Institution of Engineering and Technology (IET) or Institution of Mechanical Engineers (IMechE).

## Entry requirements

Individual employers will set the selection criteria for their Apprenticeships. However, typically this would be five GCSEs at grade C or above, including Mathematics, English and a Science, Technology or Engineering related subject, as well as two A-levels at grade C or above in Mathematics and a Science related subject; or the successful completion of a BTEC in Engineering at Level 3.

Mature applicants with sufficient experience and/or appropriate qualifications (other than those above) will be considered. Those who have already achieved one or more qualifications within this Apprenticeship standard may be eligible to join part-way through the course, thereby reducing the length of study.

## Fees and funding

**For employers with a payroll below £3 million:** For employers who will not be paying the Apprenticeship Levy, the Government will pay 95% of the cost of the Apprenticeship training and assessment for Apprentices of any age. They may also be eligible for extra employer incentives.

**For employers with a payroll above £3 million:** Employers will be able to use their Apprenticeship Levy contributions towards the cost of the Apprenticeship using their digital account.

We will agree a payment schedule and discuss funding availability with each employer before starting any Apprenticeships to ensure the cost to a business is clear upfront.

## Register your interest

Call: 0800 953 3222

Email: [apprenticeshiphub@wlv.ac.uk](mailto:apprenticeshiphub@wlv.ac.uk)

[wlv.ac.uk/apprenticeships](http://wlv.ac.uk/apprenticeships)