

For **new** or **existing** staff

# Product Design and Development Engineer Degree Apprenticeship Level 6

Delivered by Gloucestershire College

**Product Design and Development Engineers** work on all stages of product creation, product modification and product componentry. They support activities ranging on early concept feasibility, Computer Aided Design and other modelling, activities and stages 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 suppliers and managers in bringing new concepts to life or contributing to redesigns of existing products.

## Delivery model and duration:

Part time 5-year apprenticeship with first three years spent at Gloucestershire College and the remaining two years at UWE, Bristol. This can be supported by some remote delivery if required.

**Duration:** 5 years.

## Ideal for:

- Product Design Engineer
- Development Engineer
- Product Developer
- Manufacturing Engineer

## The apprenticeship will cover the following core areas:

- Systems Design
- Dynamics, Modelling and Simulation
- Structural Mechanics
- Thermofluids
- Applied Electrical Technologies
- Engineering Practice
- Engineering Project
- A range of options in year 5

## Benefits to business:

- Qualified and competent staff
- Improved staff productivity
- Offering the latest styles and techniques
- Having a competitive advantage

## Qualification:

### BEng (Hons) Product Design and Development Engineer

#### » Completers may want to progress to

Working towards Incorporated Engineer (IEng) status within the Institution of Engineering and Technology (IET) or Institution of Mechanical Engineers (IMechE)

Masters qualification - Level 7

## Entry Criteria:

Successful candidates typically have 5 GCSE's at Grade C/4 or above, including mathematics, English and a science, technology or engineering related subject, as well as A Levels at grade C or above in both a mathematical based subject and a science, technology, engineering or additional mathematics related subject, or 90+ credits in an Engineering BTEC



## Why work with Gloucestershire College

We will work in partnership with you to help you achieve your business objectives by providing exceptional apprenticeship programmes, a comprehensive range of staff training and skills development courses and access to an unrivalled resource of motivated and work ready employees.

☎ 01452 563400

✉ [business.hub@gloscol.ac.uk](mailto:business.hub@gloscol.ac.uk)

🌐 [www.gloscol.ac.uk/apprenticeships](http://www.gloscol.ac.uk/apprenticeships)



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## Benefits to business:

- Get work-ready, graduate-calibre employees embedded within your organisation who truly understand your business and bring fresh perspectives and ideas
- Attract and retain the best talent, whilst supporting the youth employment agenda
- Generate a return on investment through accelerated development and increased commitment

## Benefits for learners:

- Learn practical and logical approaches to problem-solving
- Develop the ability to work well under pressure and take on new challenges
- Gain project management skills and the ability to work to tight deadlines
- Develop good commercial awareness

## End Point Assessment

The End Point Assessment will consist of a case studies presentation to showcase the work that you have completed during your apprenticeship and an Occupational Professional Discussion. Each element is worth 50% of your final grade and will be graded Fail, Pass or Distinction.

Unit	Overview
<b>Vocational Skills</b>	<p>How to comply with statutory requirements and stringent organisational safety requirements</p> <p>How to effectively use, interpret and evaluate a range of engineering data sources and documentation</p> <p>Organising work efficiently and effectively in managing engineering resources when completing tasks</p> <p>Producing components using hand fitting techniques and producing mechanical assemblies</p> <p>Producing Electrical or Electronic Drawings or CAD Models using a CAD system</p> <p>Preparing and using lathes, milling and other general or specialist high tech equipment</p> <p>Applying mechanical, electrical and electronic devices and equipment</p> <p>Using computer software packages to assist with engineering activities</p> <p>Producing and managing engineering project plans</p> <p>Project Management in undertaking engineering activities</p> <p>Establishing design briefs, presenting and discussing technical proposals</p> <p>Managing and controlling product design change</p> <p>Supporting team feasibility design reviews</p> <p>Demonstrating technical and commercial management in planning and managing tasks &amp; resources</p>
<b>Academic Knowledge</b>	<p>Mathematics and science for engineers</p> <p>Materials and manufacture</p> <p>Mechanical, electrical and electronic principles and applications</p> <p>Statics and dynamics</p> <p>How to undertake and apply business-led projects</p> <p>Engineering operations and business management</p> <p>Applying advanced technology techniques</p>
<b>Occupational Behaviours</b>	<p>A safety mindset</p> <p>A strong work ethic</p> <p>A logical approach</p> <p>Problem solving orientation</p> <p>Quality focus</p> <p>Personal responsibility and resilience</p> <p>Clear communication</p> <p>Being a team player</p> <p>Applying Lean Manufacturing Principles</p> <p>Adaptability</p> <p>Self-Motivation</p> <p>Willingness to learn</p> <p>Commitment</p>

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