# EMBEDDED ELECTRONIC SYSTEMS DESIGN AND DEVELOPMENT ENGINEER DEGREE APPRENTICESHIP LEVEL 6

UWE Bristol | University of the West of England

**DELIVERED BY GLOUCESTERSHIRE COLLEGE AND UWE BRISTOL**

**For new or existing staff**

## Qualification

**BEng (Hons) Electronic and Computer Engineering Degree**

**Completers may want to progress to**
Masters qualification – Level 7

**This apprenticeship Standard is suitable for an engineer who applies their knowledge of electronics and embedded software to the design of circuits or devices that provide a useful function, that are capable of being manufactured at a competitive cost, and that are reliable and safe. This involves the use of the engineer's knowledge of electronics and electronic principles, married to an expertise in the end use of the final product. This apprenticeship is suitable for engineers working in a wide range of sectors to rely on embedded systems design including telecommunications, information and computer technology, defence, energy (including renewables), transport and consumer electronics.**

**Delivery model and duration:**
Part time study with the first 3 years at Gloucestershire College Cheltenham Campus, the remaining two years at UWE Bristol

**Duration: 60 months + 3 months for End Point Assessment**

**Ideal for:**
- Hardware Engineer
- Software Engineer
- Systems Engineer
- Design Engineer

**The apprenticeship will cover the following core areas:**
- Professional engineering skills
- Electrical circuit theory
- Analogue and digital design techniques
- Fundamentals of structured software design
- Structured programming for embedded software
- Mathematical modelling techniques for circuit design
- Embedded software development
- Thermal management

**Entry Criteria:**
5 GCSEs at grade 9 - 4 or A* - C including maths, English and science, technology or engineering related subjects and A Levels at grade C or above in both a mathematical based subject and a science, tech, engineering or additional mathematics related subject, or 90+ credits in an Engineering BTEC. Learners must have the equivalent to 112 UCAS points.

**Benefits to business:**
- Increase future productivity
- Keep the business up to date with the latest knowledge and innovative practice
- Deliver on the job training to employees tailored to business needs
- Develop and retain existing staff by offering support and a fresh perspective

**Benefits for learners:**
- Flexible study towards a higher education qualification
- Improve your career prospects
- Gain high level technical knowledge and practical experience
- Progress your career quickly

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Gloucestershire College

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## Components

- Functional Skills Level 2 English and maths
- Requirement to achieve a BEng or BSc Degree prior to the EPA gateway

## End Point Assessment

The End Point Assessment will test learners' competencies in their roles, and be undertaken as follows:

Occupational competence assessment is based on two assessment components through an approved end point assessment organisation.

**Method 1** – Case studies presentation underpinned by supporting evidence

**Method 2** – Occupational professional discussion underpinned by an occupational competence report and supporting evidence report and supporting evidence

## Knowledge, Skills and Behaviours

Design functional electronic systems and circuits from component level

Write and document structured code to comply with industry norms

Mathematical modelling

Awareness of international standards and compliance requirements for the products deigned

Safety mind-set

Strong work ethic

Logical approach

Problem solving orientation

Quality focus

Team player

Willingness and commitment

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