

EMBEDDED ELECTRONIC SYSTEMS DESIGN AND DEVELOPMENT ENGINEER DEGREE APPRENTICESHIP LEVEL 6

DELIVERED BY GLOUCESTERSHIRE COLLEGE
AND UWE BRISTOL

For new or existing staff

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.

Qualification

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

Completers may want to progress to
Masters qualification – Level 7

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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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 designed

Safety mind-set

Strong work ethic

Logical approach

Problem solving orientation

Quality focus

Team player

Willingness and commitment