Post-Graduate Apprenticeships for Electronics Engineers

UK Electronics Skills Foundation

TechWorks

If you thought apprenticeships were just for 16-year-olds leaving school, it's time to take another look

> "This new apprenticeship standard is a significant milestone, reflecting what the Electronics industry in the UK both wants and needs."
>
> *Alan Banks, CEO of TechWorks*

Across the general public, awareness of degree apprenticeships remains relatively low, for instance in a recent survey, 45% of respondents said that they hadn't heard of them. Nevertheless, they do offer a valid alternative to traditional university study, with qualifications to match. In the Electronics sector, the UKESF and TechWorks worked with employers to create an undergraduate degree (Level 6) apprenticeship standard for Embedded Electronics Systems Design & Development Engineering.

> *Almost 250 employees have started degree apprenticeship programmes based on the Level 6 Standard*

Since 2017, almost 250 employees have started degree apprenticeship programmes based on this Level 6 Standard at a wide range of different universities. This is very encouraging. However, we realised that a majority of employers would still be looking to recruit mostly graduate engineers who have studied on 'traditional' undergraduate courses. Now there is an opportunity for all these Electronics employers to ensure practicing engineers can boost their expertise, through an apprenticeship.

This is because revised Government rules mean that apprentices (of any age) are eligible for funding. For non-apprenticeship Levy-paying companies in England they can now receive funding for 95% of their training costs, while Levy-paying employers can channel their payments by using their Levy pot to cover their apprentice training costs in full.

Electronic Systems Principal Engineer

Last year we developed the **Electronic Systems Principal Engineer** apprenticeship standard in collaboration with TechWorks and leading industry employers (such as ARM, Dialog, GE Aviation and Qualcomm). The Standard will enable graduate engineers following apprentice programmes to acquire in-depth, post-graduate, technical knowledge and gain valuable skills for the leadership of technical projects.

> *The Standard, for the occupation of 'Electronic Systems Principal Engineer' was approved for delivery by the Institute for Apprenticeships & Technical Education in July 2019. It has been awarded a funding allocation of £14,000. It is a post-graduate, Level 7, qualification and it was developed with a group of major employers. The Knowledge, Skills and Behaviours (KSBs) in the Standard are aligned with the competencies required by the Engineering Council for professional registration as a Chartered Engineer and the learning outcomes from a typical Electronics MSc course.*

> *The Level 7 Principal Engineer standard attracts funding of £14,000 per apprentice*

How it Works

Let's take a step back and answer the question, "What exactly is an apprenticeship?"

An apprenticeship is a combined package of work and study. Effectively, apprenticeships are work-based training programmes. These enable employees to work and learn by combining off-the-job technical training and education with workplace learning and assessment.

To be clear, apprentices are not just young employees and/or those without formal qualifications.

The typical apprentice on programmes using this new Standard will be an ambitious, self-motivated graduate with an upper second class or higher award in an Electronic Engineering or other appropriate science degree, currently working in the Electronics systems sector. They will be keen to progress and attain senior engineering and/or technical project management roles.

Usually, employees will attend block weeks of study and study remotely whilst remaining in employment, ensuring relevance and flexibility for their employers. A graduate of this Level 7 apprenticeship will be capable of managing substantive projects and confidently leading their teams.

This is a new way for employers to invest in their graduate engineering workforce; gaining post-graduate-level skills and knowledge, all the while continuing to contribute to their organisation.

Perspective from a University

UWE Bristol — University of the West of England

The University of the West of England, Bristol (UWE) is the first university to offer a degree apprenticeship programme using the Level 7 Standard. Degree apprentices are full-time employed members of staff who work for a company while studying towards a university-awarded honours degree.

> *UWE is ranked 11th in the UK for student satisfaction and was included in the top 30 in The Guardian's 2020 university guide*

UWE works with employers to confirm the suitability of the programme with them before any apprentices start work. The university then supports the employer with the monitoring process throughout the apprenticeship, particularly with guidance about the 20% 'off the job' training requirements. Regular review meetings are held with the employer and apprentices once the programme commences to ensure compliance with the standard and wellbeing monitoring of the apprentices. UWE's Level 7 Apprenticeship, incorporating the MSc Digital Electronics Systems Engineering degree, is provided over two years and commences in January each year. It is delivered via block release, normally 6–7 weeks across the apprenticeship period.

> **"UWE has provided masters-level learning to the advanced engineering sector over the last 30 years, so is experienced in delivering flexible programmes developed in conjunction with industry partners. UWE is developing and delivering its suite of Engineering-related masters-level Degree Apprenticeships, with industry-based candidates already studying and heading towards their end point assessments: these apprentices are studying either MSc Digital Electronic Systems Engineering or PG Diploma in Engineering Competence. Both of these have been specifically designed for the Standard they support."**
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> *University of the West of England*

The new, Level 7, Standard offers great opportunities for the Electronics sector. However, we now need more universities and employers to collaborate and work together to create programmes using this Standard.

Call to Action

This new post-graduate education route brings together university study and the invaluable on-the-job training typical of an apprenticeship. Such apprenticeships would give individuals the skills and theory needed to progress in their organisation, as well as a formal postgraduate qualification. There are opportunities for both new and existing employees at organisations of all sizes across the sector.

For employers, it could offer an effective way of building additional capability in their graduate engineers in a cost-effective way by utilising their Apprenticeship Levy payments.

For graduate engineers, it offers the opportunity to accelerate and develop their knowledge and competencies while maintaining a full-time job.

For universities, there is the opportunity to adapt their MSc courses and work with industrial partners to create postgraduate apprenticeship programmes.

> **"We are now encouraging universities to work with their industrial partners to create postgraduate programmes based on this new Apprenticeship Standard. This would undoubtedly benefit the whole of the Electronics industry in the UK."**
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> *Stew Edmondson, CEO of the UKESF*