



Degree Apprenticeships and the EPC Toolkit for Engineering Departments

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&

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EPC Sub Committees and Working Groups

- Research, Innovation and Knowledge Transfer
- Recruitment and Admission
- **Engineering Education, Employability & Skills (EEES)**
 - Perkins Review → short life EEES working groups on:
 - Placements and Contextual learning
 - **HE in the Workplace (Apprenticeships)**

NB Both now absorbed into work of main EEES subcommittee

Professor John Perkins'
Review of Engineering Skills



Why an Apprenticeships Toolkit?

- Many Engineering Departments considering or being encouraged to develop HE courses to respond to government apprenticeship agenda.
 - Lots of information out there for employers
 - Some for universities
 - Almost none for engineering or engineering depts.
 - And no single easy to access index of where to find.....
- Tried to develop a toolkit to assist departments, academic staff and prospective course leaders tasked with developing higher and degree apprenticeships



This is what EPC does



Engineering Professors' Council

The voice of engineering in UK higher education

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E4E
Education for Engineering

EPC is an active member of [Education for Engineering](#), the body by which the engineering profession offers coordinated and clear

Protected: Curriculum development and teaching innovation toolkit



Here, you'll find just a sample of the range of resources available to support curriculum development and innovation in teaching engineering programmes, with links to some of the engineering education research centres. This is an area which is developing constantly so please do [contribute links and resources](#) to keep it up to date.

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Degree Apprenticeships

What The Toolkit Covers....

- ▶ What's is a higher or Degree Apprenticeship?
- ▶ Why should we get involved?
- ▶ Designing a Degree Apprenticeship Programme
- ▶ Are there specific requirements an HEI needs to be aware of when planning the delivery of Degree Apprenticeships?
- ▶ Getting started – advice for university departments? ▶ ▶ ▶
- ▶ Apprenticeships in Scotland, Wales and Northern Ireland
- ▶ Frequently Asked Questions

<http://epc.ac.uk/degree-apprenticeships/>



Degree Apprenticeships Toolkit

Example of information provided....

- ▶ **A note on the student cohort**
- ▶ **Consultation and market data**
- ▶ **Structure**
- ▶ **Length and structure of programme**
- ▶ **Constitution of programme**
- ▶ **Agreeing the business case**
- ▶ **Length of contract**
- ▶ **Schedule of teaching and learning**
- ▶ **What are the funding arrangements?**
- ▶ **Funding**
- ▶ **Development Funding**
- ▶ **Further advice and information**

<http://epc.ac.uk/%20degree-apprenticeships-advice-for-university-departments%20/>



Case Studies (more please!)

Case study: Advanced Manufacturing Research Centre, University of Sheffield



The University of Sheffield has been an early entrant to this new form of higher learning. Its Advanced Manufacturing Research Centre – AMRC has excellent relationships with businesses – both large multinationals and also local SMEs. It has been delivering research and taught masters degrees since its inception almost two decades ago. For the past three years, the AMRC and the University of Sheffield has provided higher apprentice training, with an annual intake of 205 students. Having identified a gap in manufacturing education at degree level, it has been able to take advantage of the government initiative and funding around degree



Degree Apprenticeships

Plus links to other relevant background information such as....

- How to arrange a contract with the Skills Funding Agency
- Apprenticeship Agreement examples
- Legal Information about the National Certification System for Apprenticeships



Workshop Qu's

- What would you like to know about Higher/Degree apprenticeships?

<http://epc.ac.uk/degree-apprenticeships/>

- Does the current toolkit give you what you need?
- What else would you like to see?
- What institutions might be willing to contribute?
 - Confidentiality/commercial advantage?





Some issues we think are worth further exploration #1

Degree Apprenticeship Delivery Models and Financial Viability /Sustainability

- Student no's, cohort size, geographic reach, market size
- Cost and risks of bespoke elements, DL/Blended, mentoring, learning contracts etc

engineeringGateways

Flexible Pathways to becoming a Professional Engineer
A work based route to meet the competence requirements for Chartered and Incorporated Engineer registration

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engineeringGateways

Learning

Whilst Earning





Some issues we think are worth further exploration #2

Education vs Training

- Compatibility of university expectations re educational learning outcomes and assessment including general engineering knowledge (mathematical competence etc.) re employer expectations re job specific skills and training

“Ann Watson, chief operating officer at Sema, says the industry’s view of the academic world is that it is not healthy, not what is needed; it is ‘stuffy’ and could do with a ‘breath of fresh air’”



<https://www.theengineer.co.uk/issues/december-2013-online/academias-engineering-skills-shortage/>





Some issues we think are worth further exploration #2

■ Education vs Training contd....

Neil Dyer Tml Precision Engineering 17th December 2013 at 1:19 pm

The big problem is that universities are not teaching engineers in the practical sense.

They may be the employers first choice if you wanted a desk based stress analyst or a mathematical systems model, but if you wanted a person to take a CAD model of a automotive or aircraft part and work out the most efficient way of machining it from a solid billet and actually make one, then quite frankly a university graduate would be my last choice.

Industry is left to pick up the tab and shell out for exceedingly expensive CAD/CAM courses for new recruits and after this you then end up with a desk based wiz, who hasn't a clue what you can and can't do with a 4 flute end mill.

Far too much time is spent on theory and stuff that has very little or no practical use.

the ENGINEER

<https://www.theengineer.co.uk/issues/december-2013-online/academias-engineering-skills-shortage/>





Some issues we think are worth further exploration #3

Accreditation

- Readiness/Awareness of Professional bodies – How to Engage?
- Where to position a technically and practically oriented degree apprenticeship against the expectations of UK-SPEC?
- Likely behaviour of panels?
- Should the target outcomes of degree apprenticeship programmes up to and including L7 be Chartered Engineers, Incorporated Engineers, or something new?



Once you complete your Apprenticeship or training scheme, you should be eligible for professional registration. If you have undertaken an Advanced Apprenticeship, you are likely to be able to apply for EngTech or ICTTech registration; some Higher Apprenticeships can also lead to IEng and CEng status. Your institution can advise on this.

<https://www.engc.org.uk/informationfor/students-apprentices-and-graduates/apprentices/>





Some issues we think are worth further exploration #3 (Accreditation contd....)

Undergraduate students (eg BEng, integrated MEng)

If you're studying for your first degree in a STEM subject (full-time, part-time or sandwich) you can [apply online](#) or complete a [PDF application form](#) along with any other supporting documents and email it to membership@imeche.org.

[Apply for Student membership >](#)

Apprentices or those in Further Education

If you're on an apprenticeship or studying engineering at college you can [apply online](#) or you can email a completed [PDF application form](#) to membership@imeche.org.

[Apply for Apprentice membership >](#)

<http://www.imeche.org/membership-registration/become-a-member/affiliate-member>

Institution of
**MECHANICAL
ENGINEERS**

Joining as an Apprentice

Our IET Apprentice Signature package will support and guide your career development.



Aim high

Being an apprentice is just the first step in your career, so our IET Apprentice Signature package has been designed to help you work towards becoming Engineering Technician (EngTech) or ICT Technician (ICTTech).

<http://www.theiet.org/apprentices/signature/about.cfm>

ice
Institution of Civil Engineers

New entrants will gain an HNC and Associate or Technician professional status in three years, followed by a full honours degree and Incorporated or Chartered status in a further three years (providing they pass their professional examinations). It takes seven years to achieve chartered status via a traditional university degree plus work experience route.

<http://www.infrastructure-intelligence.com/article/mar-2015/chartered-status-six-years-new-degree-apprenticeships>



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<http://epc.ac.uk>

<http://epc.ac.uk/degree-apprenticeships/>



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