

International Standards for Engineering Education

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International Standards?

- **What exists at present?**
- **Who has set them?**
- **What are they for?**
- **How do they compare with UK standards?**

The Engineering Council's International Role

- **Royal Charter – “..in ...collaboration with Licensed Members act as the representative body of Our United Kingdom in relation to international recognition.....”**
- **Aims – “ ..promote a wider international understandingand thereby underwrite international recognition of UK registered engineers”**

Two key forums for agreeing standards

- **International Engineering Alliance – incorporates Washington, Sydney and Dublin Accords, and Mobility Forums**
- **European Network for Accreditation of Engineering Accreditation (ENAEE)**
- **Engineering Council is a member of both (as is Republic of Ireland)**
- **Both are driven by professional bodies (with employment as well as HE perspective)**

International Engineering Alliance

- **Umbrella body for Washington, Sydney and Dublin Accords, and for EMF and ETMF (International registers)**
- **Formalises arrangements for biennial International Engineers' Meetings; permanent secretariat provided by IPENZ**
- **Next IEM interim meeting Ottawa June 2010**
- **Further information at <http://www.ieagrements.org/>**

Educational Accords

- **Date back to 1989 (Washington Accord) – Sydney & Dublin Accords followed in 2001 & 2002**
- **WA started as means of facilitating registration through recognition of accreditation decisions, qualification equivalence a by-product**
- **Now much of world sees WA as a benchmark of academic status**
- **IEM 2003 decided that explicit benchmarks were needed – result was adoption of Graduate Attributes (for all three accords) in 2005**
- **These resemble output standards, written at different levels for the different accords – but are reference points rather than international standards**

Managing Change

- **WA originally based on Bachelors degrees**
- **Since 1997 has had to deal with individual signatories raising academic requirements for registration**
- **Those who have raised requirements have to accept applicants from other signatories who do not meet national standards**
- **But eg UK Bachelors degrees which still meet WA requirements may not be accepted by other signatories because they don't meet UK requirements**
- **Problem recognised by WA; IEM Kyoto 2009 adopted new Graduate Attribute statements with WA ones explicitly linked to higher level (M) range descriptors**

ENAAE and EURACE

- **EURACE project funded by European Commission 2003-2006 to explore system of recognition of European engineering degrees**
- **18 countries originally involved including 6 which have professional accreditation systems for engineering degrees (UK, IE, PT, FR, DE, RU)**
- **Agreed that this was not about “European accreditation” but “European recognition of national accreditation”**
- **Soon clear that only way to establish a common framework would be to define programme outcomes**

EURACE Framework

- **Framework published 2006**
- **Guidelines for accreditation procedures**
- **Programme outcome statements at first and cycle level (as defined by Dublin descriptors)**
- **Both sets of statements are UK-SPEC compatible**
- **See <http://www.enaee.eu/enaee/presentation.htm>**

How ENAEE works

- **ENAEE is a member organisation which includes the accreditation organisations**
- **It owns the EUR-ACE trademark**
- **It has a committee which grants licences to national accreditation bodies which meet its standards**
- **The licence allows the national body to award EUR-ACE labels to degrees which it accredits**
- **Engineering Council licensed to award first and second cycle labels until 2013 (five-year period)**

Global Equivalence

- **WA graduate attributes and EURACE outcomes are mutually compatible (and UK-SPEC output standards compatible with both)**
- **ENAAE and WA have agreed to work towards significant equivalence between two frameworks (level adjustment)**
- **Result should be a global definition of engineering degrees and mutually recognised systems of accreditation**

Questions which remain

- **These are not international standards but “meta-frameworks” – how robust are they?**
- **Key to everything is learning outcomes and associated levels – has sufficient been done to embed these?**
- **Is higher education sufficiently involved in these developments which are driven by professional bodies?**
- **Can solutions designed for engineering withstand pressures which may come from more general developments in HE (eg QA, credits, ranking systems)?**
- **Can universities be persuaded to adopt EURACE labels?**