

## Association of Engineering Doctorates

### Response to Consultation Questions for Qualification Characteristics Statements: Doctoral Degree Characteristics March 2015

The Association of Engineering Doctorates (AEngD) was established in 2010. Its core members are 27 EPSRC-designated Industrial Doctorate Centres (IDC) awarding EngD degrees at UK universities.

EngD Research Engineers (RE), academic leaders and members of professional services, working on delivery of EngD programmes, EngD alumni and industry sponsors (~600 UK businesses sponsor EngD) are associate members.

The Association welcomes consultation on the Qualification Characteristics Statements, and finds the timing particularly valuable given its input to Dowling Review.<sup>1</sup> The President of the Royal Academy of Engineering, Dame Ann Dowling DBE FEng FRS, has been invited by the Minister for Universities, Science and Cities, Rt Hon Greg Clark MP, to lead a review examining how Government can support the development of more effective collaborations between businesses and university researchers in the UK.

In its submission<sup>2</sup> to this review, the AEngD has highlighted that the EngD constitutes a form of academia-industry collaboration that not only generates new knowledge, but also enhances knowledge exchange between industry / business and academia. EngD programmes enhance human capital development by delivering post-graduates with leadership, management, and advanced technical skills, focused on the needs of industry.

#### 1. The Association argues that the QAA should consider:

- a) re- naming the sub-heading 'Integrated PhD' into 'Integrated Doctorate'
- b) listing the EngD under the sub-heading of Integrated Doctorate rather than under the award title of 'Professional and practice-based (or practitioner) doctorates'.

#### Rationale:

- a) Since there are at least two awards (PhD and DPhil), which are used interchangeably, it would be adequate to have more generic sub-heading to encompass options (PhD, DPhil, and as argued below - EngD) in the sub category – 'Integrated Doctorate (PhD, DPhil, EngD). The awarding HEI will be able to adjust the title accordingly: Integrated Doctorate: PhD, DPhil, or EngD.
- b) The QAA's 'professional doctorate' typology does not reflect several distinctive features of the EngD that influence the student experience and outcomes, including the following:

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<sup>1</sup> The Dowling Review of business university research collaborations launches call for evidence (23 January 2015) [http://www.raeng.org.uk/news/news-releases/2015/january-\(1\)/the-dowling-review-of-business-research-collaborat](http://www.raeng.org.uk/news/news-releases/2015/january-(1)/the-dowling-review-of-business-research-collaborat)

<sup>2</sup> See 'AEngD publishes its Dowling Review response' (23 April 2015) – submission downloadable from <http://www.aengd.org.uk/news/news-releases/aengd-publishes-response-dowling-review/>

- The candidate undertakes academic research in an industrial setting, spending 50%-75% of the study period researching a topic set by the industry partner.
- The candidate is supervised by two academic and one industrial supervisor
- A taught component of a 4 year EngD programme is typically structured and is delivered in Year 1 of doctoral studies; it has assessed taught modules and other similar characteristics as for 'Integrated PhD', rather than 'Professional doctorates'
- EngD programmes are typically co-funded, attracting contributions from industry, the university and some public funding
- Unlike professional doctorates, many of which are embarked upon by mid-career professionals, the age profile of EngD entrants is similar to that of full-time PhD entrants, with relatively few having returned to study for career development reasons. Data from an informal survey recently conducted on behalf of the AEngD, together with comparative information from a HEFCE report (2011), indicates an identical mean age profile for EngD and full-time PhD entrants of 27 years
- EngD candidates' mode of study is normally full-time, rather than part-time like many professional doctorate candidates
- The EngD candidate is referred to as a 'Research Engineer' (RE)
- The stipend received by the Research Engineer is typically of higher value than that enjoyed by students on other sponsored doctoral programmes (e.g. PhD and professional doctorates)

The AEngD proposes that the EngD, as a form of doctoral programme and qualification, fully complies with and sits more appropriately within the Integrated Doctorate characteristics, albeit that the EngD has a separate strong brand and name, recognised by industry in the UK and internationally.

**2. The Association suggests an amendment to the description of the EngD in Table 1.**

The suggestion is that the wording become:

'EngD programmes are industry focussed doctoral programmes, in which the EngD student – or Research Engineer (RE) – undertakes academic research in an industrial setting, spending 50%-75% of the study period researching a topic set by the industry partner. The qualification is for researchers who aim to lead and innovate the development of new technologies, products, processes and services in industry. REs develop academic strengths and leadership skills, both technical and managerial, while undertaking doctoral level research.'

**3. The Association suggests that reference to EngDs is made within Section 2: 'Forms of doctorate and summary of award titles', under Integrated Doctorate (PhD, DPhil, EngD)**

**EngD:** The Engineering Doctorate is the industry focused analogue of the Integrated PhD or DPhil, displaying the main characteristics of an integrated PhD listed above. The EngD is the doctoral level research programme for STEM subject graduates who aim to build and develop their career in industry.

The EngD constitutes a form of academia-industry collaboration, which not only generates new knowledge but also enhances knowledge exchange between industry/business and academia.

EngD programmes:

- provide REs with experience of rigorous, leading edge research to address real-life 'problems' in an interdisciplinary industrial setting
- equip REs for a range of roles in industry and other contexts
- facilitate collaboration between academic groups and the private sector, leading to knowledge transfer exchange between industry and academia
- produce graduates who contribute to the body of knowledge in a particular technical discipline, industrial sector or multidisciplinary theme

4. **The Association recommends that, should the preceding suggestions be accepted by QAA, reference to Engineering Doctorate is removed from the Professional and practice-based (or practitioner) doctorates sub-heading.**