Welcome

This issue reports on HE-related activity that the Engineering Council has been engaged in since the previous HE bulletin in December, as well as wider HE and engineering news that we hope will be of interest.

Please feel free to forward this to colleagues who might be interested. Comments on the HE bulletin and requests to be added to or removed from the circulation list should be emailed to Hermione Cross hcross@engc.org.uk.

The Accreditation of HE Programmes (AHEP) 3rd edition

The Accreditation of HE Programmes (AHEP) 3rd edition was launched on 20 May at an event held at the House of Commons to celebrate standards in the engineering profession. Dr. Rob Best, CEng FIChemE and Chair of the AHEP Review Group said “Based on responses to the consultations that we carried out, it was clear that the previous version of AHEP was strongly supported, so we avoided making unnecessary changes. We are confident that university and professional engineering institutions will welcome this, the third edition, and will find it easy to use as they develop the engineering degree programmes that will take us further into the 21st century.”

In keeping with the strong support for the previous edition, unnecessary changes have been avoided. There are several presentational changes and some re-ordering of information. New for this edition is the inclusion of a complete set of learning outcomes for each type of degree, where previously these were presented as relative to those for the BEng (Hons). There are modifications to some learning outcomes to reflect recent developments in engineering. The new edition of AHEP and a summary of key revisions is available on the Engineering Council’s website: http://www.engc.org.uk/ahep. A separate document which presents the learning outcomes in tabular form across all four types of degree is also available for downloading.

Taking account of the academic year, there is a transition period of two years such that all degrees taught from September 2016 should align with this edition of AHEP. Universities with any queries about this should talk to their accrediting professional engineering institution.

The Engineering Council is very grateful to all those who participated in the review and the consultations about the proposed revisions. Links were established with the Quality Assurance Agency’s (QAA) engineering subject benchmark statement review group with the aim of ensuring continued alignment between that and AHEP.
Updated Standards Documents

Following extensive profession wide reviews during 2013 the Engineering Council has recently re-issued its two key Standards Documents, the UK Standard for Professional Engineering Competence (UKSPEC) and the Information and Communications Technology Technician Standard (ICTTech). Changes to the standards have been minimal. Reviewers looked to address the reported lack of clarity between IEng and CEng standards of competence. Other changes strengthen the focus on ‘commitment’ and include topics that have come to the fore since the previous review, such as security, risk management, health and safety, and equality and diversity. More explicit cross references have been made to the CPD Code for Registrants, the CPD Policy Statement and Engineering Council guidance material, and a glossary has been provided.

A document summarising key changes is available on the [website](#).

Updated Statement of Ethical Principles

An updated Statement of Ethical Principles in Engineering Council branding replaces the previous Royal Academy of Engineering (RAEng) branded version. The principles remain the same, however we’ve worked in ‘and technicians’ after ‘engineers’ in the appropriate places.

Engineering Gateways News

New Chair

The new Chair of the Engineering Gateways Advisory Group is Professor Richard Folkson CEng FIMechE. Professor Folkson is currently RAEng Visiting Professor at the University of Hertfordshire, Deputy President IMechE and a consultant with expertise in low carbon vehicle technology. He was a Chief Engineer for Ford for more than four decades. Richard replaces Engineering Council Associate Wendy Laynton, who stepped down after six years as Chair.

EEF Engaged

EEF representation on the Engineering Gateways Advisory Group has been secured. We look forward to welcoming Tim Thomas, Head of Employment Policy at EEF, to the group.

More Engineering Gateways Success

Daniel White is the first graduate of the Staffordshire University MSc in Professional Engineering to achieve Chartered Engineer (CEng) status after studying through the Engineering Gateways flexible work-based programme.

Prof. T. Sadat-Shafai, MinstP, FIET, Professor of Physical Electronics in the Staffordshire University Faculty of Computing, Engineering and Science, says: “Family life, job commitment, transport to and from university, etc. are all reasons why people struggle to engage in Higher Education. At Staffordshire University we have long been aware of this difficulty and promoted a work-based learning strategy to overcome restrictive elements in teaching and learning.”

Daniel started his career as an apprentice, then progressed to technician and took an HNC at a local college. A Staffordshire University part-time BEng and increased work responsibility led to him achieving Incorporated Engineer (IEng) status. The Gateways model MSc programme, carefully built around Danny’s work-practice, with support from the IET, has now enabled him to become registered as CEng.

Danny said: “The Professional Engineering MSc was a perfect gateway to CEng. The flexible distance learning structure enabled me to fit my study around my work schedule and enabled me to select a final project that would deliver value to the business. As much of my study was from home the support from my tutors throughout the course was invaluable; providing feedback and guidance whenever this was required. CEng registration has been a key catalyst for my professional achievements, giving me
the engineering acumen I needed to recently become the Electrical Senior Authorised Person for South Staffordshire Water.”

Staffordshire is one of a growing number of universities in the UK now offering the flexible work-based degree programmes that allow students to earn while learning.

**Get involved with Gateways**

We are keen for more universities, employers and Professional Engineering Institutions to actively engage with Engineering Gateways, and to experience the benefits Daniel, his university and employer have seen.

For more information or to get involved please see: [http://www.engc.org.uk/education--skills/engineering-gateways](http://www.engc.org.uk/education--skills/engineering-gateways) or contact Catherine Elliott at celliott@engc.org.uk

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**Engineering Council Staff Changes**

Catherine Elliott has taken up the role of Education and Skills Senior Executive, following Caroline Sudworth’s appointment as Head of Technicians and Apprenticeships.

Catherine came to the Engineering Council from SummitSkills (the Sector Skills Council for Building Services Engineering) where she worked with the Engineering Council, Professional Institutions, universities and employers. At SummitSkills, her responsibilities included leading work with universities and Professional Engineering Institutions; development of qualifications including the 14-19 Diplomas in Engineering; and managing a range of skills related projects. Before joining SummitSkills, Catherine worked for the Construction Industry Council (CIC).

Catherine can be contacted at celliott@engc.org.uk

Hermione Cross has been appointed HE Executive, replacing Neela Lubojacky, who has moved on to combine study with a role in HE. Hermione spent 4 years at the ICE where she was a member of the Education and Learning team, and later the International team. She was responsible for academic assessments of individuals seeking registration, and for providing advice and guidance on all aspects of academic requirements for ICE Membership and Engineering Council registration eligibility.

Hermione can be contacted at hcross@engc.org.uk

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**Key Information Set (KIS) Accreditation Statements**

The Engineering Council is continuing to support universities in publishing accurate information about accredited degree programmes. Statements have been issued for use with accredited engineering degrees in relation to IEng and/or CEng registration, and for use with KIS and UNISTATS. The statements can be found on the Engineering Council website. The ‘Engineering Council accredited degree’ logo is available for downloading.

The Engineering Council has identified a number of instances where the wrong statement is used in relation to an accredited programme, or used in relation to a programme which is not currently accredited. Where such errors are identified the Professional Engineering Institution(s) named in the statement have been notified and asked to work with the university to ensure the statements are promptly corrected. Professional Engineering Institutions now check the accuracy of accreditation statements during accreditation visits. It is essential that the correct statements are published in relation to each programme otherwise potential students could make a decision based on misleading information.
Universities are reminded of the importance of making timely requests for accreditation visits (at least a year before existing accreditation is due to lapse) to enable accreditation before KIS information is provided for future intake years.

**Engineering Accreditation Board Visits**

The Engineering Accreditation Board (EAB) facilitates joint degree accreditation visits involving several Professional Engineering Institutions where there is commonality between programmes. Six EAB accreditation visits have been undertaken so far this year. A visit to the Royal School of Military Engineering is scheduled for July.

Universities seeking joint accreditation visits through the EAB should contact Hermione Cross.

**Tomorrow’s Engineers University Leaflet**

Tomorrow’s Engineers, an EngineeringUK and RAEng led programme to engage young people with engineering, has published a leaflet prompting university study in engineering, as well as a section on their website providing information about routes to becoming a professional engineer. This was developed with assistance from the Engineering Council.

**Engineering in Society eBook**

A new eBook ‘Engineering in Society’ aims to equip first year students with a wider perspective on the profession of engineering. It provides an idea of what their future career might look like and an insight into the roles and responsibilities of an engineer.

The eBook will help readers to gain a better understanding as to why a degree in engineering is not limited to the technical aspects alone, and why assessment may include report writing, group work and presentations.

Experience shows that students who have an appreciation of the wider skills required will engage more willingly in the full spectrum of the engineering curriculum. Undergraduates tend to under-estimate the importance of communication and negotiation, the amount of responsibility they are likely to have, and the extent to which they will need to use their own judgement.

Written by academics and practising engineers, Engineering in Society has been produced by the Royal Academy of Engineering and the University of Leeds’ Centre for Inter-Disciplinary Applied Ethics (IDEA), supported by the ICE, IET, IChemE, IOM3, IMechE and the Engineering Council.

The eBook is available as a free pdf download from the RAEng website: www.raeng.org.uk/enginsoc or can be purchased from Amazon.

**HEFCE Reports**

Higher Education in England: Analysis of latest shifts and trends considers trends in STEM HE applications and recruitment alongside broader trends across disciplines. It highlights that application numbers for full time STEM programmes are strong when compared to applications across all subjects. Growth in students taking STEM related A’ levels is noted as an indicator of potential for demand from English students for STEM HE to grow.

Reasons for the decline in part-time STEM students identified in the above report are likely to include factors impacting upon part-time HE participation across disciplines, as articulated in the report Pressure from all sides: Economic and policy influences on part-time higher education. Increased fees, reduced employer investment and a general tendency for part time study to decline during an economic downturn are all identified as issues.
The National Centre for Universities and Business (NCUB) explores relationships between universities and business in its *State of the Relationship Report 2014*. The report mixes articles and case studies; explores university partnerships with employers in a range of sectors and of different sizes; and suggests ways universities can better work with industry. Skills shortages in STEM are explored; as well as the potential benefits of attracting women into manufacturing, technology, engineering and computing. An industry led campaign to increase the proportion of female engineering students in UK universities, *Talent 2030* is highlighted.

NCUB has published the first of two *Student Employability Index 2014* reports. A survey of over 4000 students from 20 UK institutions found that 92% of university students across all disciplines would like access to work experience, placements, or internships. There is strong variance in access to work experience across different subject areas, with only 19% of history students participating in a placement, compared to 31% of engineering students. The importance of universities having industry/employer links is highlighted, with engineering and technology the most likely after architecture students to rate it as important. A second report will consider the extent to which employability and destination shape institution and subject choice, and student views on sectors for future employment.

A report to HEFCE considers *Career Portfolios and the Labour Market for Graduates and Postgraduates in the UK*. The report examines the difficulties of predicting demand for graduates and postgraduates; considers dependencies between disciplines and industries; and quotes some interesting statistics including that “Less than 20% of teaching professional have a STEM graduate qualification, but because education is a large sector they make up for around 7% of overall STEM employment.”

**EFF Report on Graduate Level Skills**

EFF has published a report *Improving the Quality and Quantity of Graduate Level Skills*. The report projects employment and replacement demand in UK manufacturing until 2020. It highlights that 63% of manufacturing companies have recruited an engineering graduate in the past three years and 66% intend to do so in the next three years. Key challenges that employers face when recruiting graduates are explored, with recommendations made, including those for university action.

**QAA Consultation on UK HE Frameworks**

QAA is now consulting on an updated and revised version of the UK frameworks for higher education qualifications, which are formal components of Part A: Setting and maintaining academic standards of the UK Quality Code for Higher Education (Quality Code). The document brings together the two frameworks - the framework for higher education qualifications in England, Wales and Northern Ireland (FHEQ) and the framework for qualifications of higher education institutions in Scotland (FQHEIS) - into a single publication. The deadline for the consultation is 27 June 2014.

**Engineering Professors’ Council Congress**

The Engineering Professors Council Congress this year had a focus upon engaging people, especially women, with engineering. Speakers included John Perkins, Sir John Parker and some impressive students. Issues highlighted in presentations included:

- willingness to relocate impacts upon participation in engineering education, work placements and ultimately employment. Cultural pressure to stay close to home may restrict participation and progression in engineering more for some social groups than others

- increased fees may be motivating students to focus on grades at the expense of the extra curricula activities which develop the skills employers value

- the need to recruit more engineering students generally, rather than recruiting to one discipline at the expense of others
Upcoming Events

**Big Rig Nuclear Island Challenge** for penultimate year undergraduates, 13-15 June Newlands Adventure Centre and Lakes College Cumbria, 16-20 June 2014. This event has been specifically designed to give students a flavour for the opportunities that a career at Sellafield offers. Students are tasked with the construction, commissioning and operation of an active evaporation unit.

**HEA Annual Conference**, Aston University 2-3 July. The theme of this year’s conference is ‘Preparing for learning futures: the next ten years’. Booking closes on 5 June.

**SEFI Annual Conference**, University of Birmingham, 15–19 September. This year’s conference from the European Society for Engineering Education will focus on ‘Educating Engineers for Global Competitiveness’. Deborah Seddon, Head of Policy and Standards at the Engineering Council, has submitted a paper based on the recent review of the ‘Accreditation of HE Programmes’ about accreditation criteria as enablers of programme innovation.