UKSPEC / Accreditation Suggestions for the Engineering Council

1. The Engineering Professors' Council is unanimously supportive of UKSPEC in both its content and intended purpose. We would be supportive of the UKSPEC requirements remaining unchanged.

   However, we recommend that the Engineering Council should add guidance or structure to support a more consistent approach to accreditation panel review. We also suggest that the Engineering Council should consider how elements of "New Approaches to Engineering HE: The Six Facets" could be reflected. This is a collaborative piece of work by the IET and the EPC, which highlights the importance of the following approaches in order to support necessary innovation in engineering education:

   1. Incorporating creativity into science
   2. Broaden the diversity of students
   3. A strong emphasis on project work
   4. Industry engagement in design and delivery
   5. Experience of the workplace for students
   6. Greater interdisciplinarity

   The most up-to-date version of this material can be found at:
   http://epc.ac.uk/new-approaches-to-engineering-he-the-six-facets/

2. Reorder the UKSPEC requirements to emphasise the importance of practical/experiential elements of UKSPEC requirements

   - To ensure that university executive members and academics alike, understand the importance of the practical and experiential elements of UKSPEC, we propose that these elements should be listed first in the requirements.
   - We also suggest renaming the "General" section of the requirements to a more specific title (e.g. Manufacturing Practice).

   Evidence
   Some Professional Bodies do not include the "General" requirements in the specifications under scrutiny during accreditation panel visits. Some accreditation panels add their own interpretation to these requirements (e.g. we cannot accredit a course that does not include instruction/experience of how to use a lathe).

3. Promote the importance of accreditation and chartership to the public by linking course funding to accredited programmes

Engineering undergraduate courses are currently insufficiently funded if academic departments are to deliver to UKSPEC. Medical programmes attract additional funding to subsidise the courses for students in order that the fees that they pay are within the current fee limits. In order for these programmes to secure this additional funding, the General Medical Council must approve the programme. This clear (and well publicised) link between the GMC and higher value medical courses helps to elevate the standing of these programmes, the academics and their students. This virtuous ecosystem could be mirrored for engineering in order to access greater funding for accredited engineering courses and promote the value of professional engineering. It may also be advantageous for the Engineering Council to take control of this rather than wait for the Office for Students to do so.

Evidence
With the removal of the Student Number Cap, many universities are putting significant effort into the promotion and expansion of the programmes that are most profitable or prestigious for the university. This means that some university engineering courses have been discontinued and space, finance, staff and other resources are being redirected to research priorities and low overhead courses.

4. Equality of accreditation standards between professional engineering bodies

- Engineering academic departments need the Engineering Council's support. Most universities accredit their courses with multiple accreditation bodies, which all demand that materials are submitted in their own format. This can mean that work is duplicated in order to evidence that UKSPEC standards have been met to multiple accreditation panels.

Evidence
- Joint accreditation panels do not appear to be popular with either accreditation bodies or academic departments, even though they should save significant work for academic departments and accreditor panels.
- Gaming of accreditation applications. Some universities submit their applications to those professional bodies that appear to be "softer" on the UKSPEC requirements. A newly licenced/smaller professional body may want to be more supportive of applications in order to grow their academic network.

5. Centralised system for submissions and record-keeping

- The IET has produced an online system (ADAMS) which enables academic departments to upload their materials for accreditation submission. This system does require significant work in order to populate it initially; however, in the following years, this material can simply be updated to ensure that records of any changes and student performance are kept up to date. The advantage of the use of this system is that areas of UKSPEC with low/insufficient coverage are highlighted by the system (i.e. alerting the academic team to areas where greater coverage of a particular UKSPEC requirement would strengthen their programme). This ensures meticulous accreditation submissions and enables a more detailed discussion of UKSPEC at

monitoring visits. It should be recognised that this same meticulous assessment may also be deterring departments from submitting to the IET.

The second advantage is that materials that are anonymised and uploaded annually onto the system can be retained within the General Data Protection Regulation (GDPR). While there is little support among EPC members for the ADAMS system (due to major difficulties with the user interface both for the applicant and reviewer), a system that successfully delivers the accreditation review material to any/multiple accreditation panels with a better user interface would receive overwhelming support.

Evidence

- Engineering Departments and Schools are currently facing unprecedented pressure to ensure accreditation of their programmes. With the tightening of Competition and Markets Authority law, universities need to be clear that the materials that they are advertising are correct. A centralised system that flags deadlines for resubmission and that monitors records to warn of impending issues would be helpful to senior academics.
- There are examples of departments that have passed accreditation with their professional body but these records have not been updated with the Engineering Council. These errors have had serious consequences for the reputation and sustainability of departments and the careers of individual academics. With these two systems linked, it would prevent errors from occurring.
- There are examples of universities threatening professional bodies with withdrawal from engineering if accreditation is not awarded. This centralised system would prevent this type of pressure from being exerted on individual professional bodies.

6. Clear 'badging' of accreditation status

- Engineering academics may understand their accreditation status, but this is not always clear to university executive members, the public or potential students. Many misinterpret the expiry of a period of accreditation as 'lost' accreditation, i.e. that the academic department has done something wrong in order to 'lose' accreditation. A lack of clarity around accreditation may cause serious recruitment problems for a university.
- Different levels of accreditation are also not well understood outside the academic engineering community. It would help universities to have a standard, agreed form of words that states the accreditation level achieved by a course.

7. "Open" model for accreditation of engineering programmes (Open University degree programmes, continuing professional development, apprenticeship accreditation or other flexible mechanism of engineering degree delivery)

- We would propose the 'endorsement' of individual modules against specific UKSPEC learning outcomes. A centralised system of mapping would allow the prospective student to map their UKSPEC requirements against the course modules that they wish to study.

- Many engineering companies are keen to enable their staff to achieve Chartership but they need to balance this with their need to deliver engineering projects. Engineering companies are often balancing frantic project delivery schedules against periods of low demand. This means that the ability to up-skill staff using day-release and block delivery as their workload allows is particularly desirable. In addition, many engineering companies would be keen to access 'standard' engineering modules at their local university and 'specialist' modules at the most appropriate university. This has the added advantage that not all universities would be required to maintain specialist facilities that cover all possible engineering specialisms, but instead could deliver the core engineering modules and focus energies on delivering its own specialism to the best of its abilities.
- The existence and nature of the Engineering Professors' Council supports the idea that engineering academics do not see colleagues from other universities as competition, but rather as peers and allies.

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These comments have been compiled on behalf of the EPC Board by Dr Georgina Harris as a reflection of an opinion-gathering exercise among the EPC membership. For further information, please contact Johnny Rich, Chief Executive, EPC (j.rich@epc.ac.uk).