The Route to Becoming a Professional Engineer with ICME

Chartered Engineer (C Eng)

Incorporated Engineer (I Eng)

Engineering Technician (Eng Tech)

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Introduction

The status achieved through being registered as a Professional Engineer with the Engineering Council is becoming increasingly important. An internationally recognised standard, registration is a means of demonstrating a commitment to the engineering profession, both for individuals, keen to develop their careers to the full, and for companies wishing to show the quality and on-going competence of their employees.

There are three levels to which Engineers can become registered. These are Chartered Engineer, Incorporated Engineer and Engineering Technician and there are different requirements for each of the three levels, as defined by the Engineering Council.

The Engineering Council was established by Royal Charter in 1981. Its purpose is "to advance education in, and to promote the science and practice of engineering (including relevant technology) for the public benefit and thereby promote industry and commerce in the United Kingdom". The Engineering Council is the authority for the Registration of Engineers and the Register itself is designed to maintain a current register of qualified engineers in each section, Chartered Engineer, Incorporated Engineer and Engineering Technician.

Through its policy document 'UK Standard for Professional Engineering Competence', UK-SPEC, the Engineering Council can ensure that the standards in the UK compare with the best internationally.

Those who are registered are entitled to use the designations CEng, IEng or Eng Tech after their names. In addition Chartered Engineers, if they can satisfy European requirements, can also become registered as European Engineers and be entitled to use the prefix EurIng as a title before their names.

ICME is a nominated body with the Engineering Council, and is licensed to register appropriately qualified individuals as Chartered or Incorporated Engineers or as Engineering Technicians.

Appendix 1 gives a brief explanation of the definition of role and responsibilities of Professional Engineers.

Requirements for Registration

The requirements for registration are in three stages:

Education Base

Initial Professional Development

Experience and Position of Responsibility

In addition, all candidates have to demonstrate a commitment to continuing professional development, CPD and be able to show an action plan for the future

Those who have satisfied the Education Base requirements (outlined in Figure 1) can be registered at Interim Registration (formerly Stage 1 registration). (See note on other Routes to Registration in this document for those who do not meet the academic requirements in Figure 1). Those who can additionally satisfy the requirements of the Initial Professional Development and the Experience and Position of Responsibility and are full members of the Institute (Professional Member or Fellow)* can proceed to full registration by means of the Professional Review, including a Professional Review Interview.

(* Note: individuals wishing to become registered as Chartered Engineers must be Professional Members or Fellows of the Institute. Therefore Members and Student members must upgrade their ICME membership before their applications can be considered).

There is then a small fee to pay at interim registration which is forwarded by the Institute to the Engineering Council.

Membership of ICME must be maintained in order to remain on the Register, although it is possible for members who are registered through another Institute to transfer their registration to ICME, and visa versa, providing the member is suitably qualified to be a member at the appropriate level with the other Institute.

The Application Process

Figure 1 outlines the requirements that all candidates for registration have to meet, together with the possible ways of achieving this. Note that the academic requirements for qualifications commenced after September 1999 are different to those commenced prior to this date. The steps which need to be taken will depend on the individuals' grade of membership, their academic qualifications and experience. It is therefore important to discuss the application with the Institute staff before making a formal application.

The requirements for registration to Eng Tech are similar to those for CEng or IEng, but they are less demanding. Further details of these may be obtained from the Membership Secretary.

Initially all applicants are required to provide details of their academic qualifications, current job/occupation and relevant training and experience. The ICME Membership Secretary and the ICME Membership Committee make a recommendation about the

route to registration which they consider to be most appropriate. Details of the different routes available are given later.

The Membership Secretary will then request additional documents from the applicant:

A Career Report, (QCD 43 or 44 as appropriate) and
A Report on Projects
The Career Report is a current summary of academic qualifications, career experience and relevant training.
The Report on Projects must be relevant to the applicants' own professional discipline and relate to work in which they have been personally involved. Applicants may choose one or more projects, but only those taken from actual work experience, demonstrating personal involvement. It must be written in the first person.

The documentation provided forms the basis for the Professional Review, required for all applicants. The Membership Secretary appoints two Assessors who carry out a full review of the documentation and make a recommendation to the Membership Committee who will in turn either recommend that the candidate's application proceed to Professional Review Interview, or may request further information as appropriate.

The Membership Secretary will appoint two Professional Reviewers to act as the Review Panel who will carry out the Professional Review Interview (these may or may not be the Assessors). There is a one-off fee to pay to cover the cost of the interview, payable prior to the interview taking place. Details of this Professional Review Interview and the associated fee are available on requested from ICME (QCD 23). The Reviewers make a report to the ICME Membership Committee who make the final decision regarding registration.

Once the applicant has been nominated to the Register there is a one off entry registration fee to pay and annual fees thereafter. These are collected by ICME with the normal membership fees and forwarded to the Engineering Council. Details of all the fees are available on request from ICME.

Other Routes to Registration

The route to Registration for standard cases, i.e. individuals who meet the academic requirements, is shown in Figure 1. However, there are other routes for those who do not have the necessary academic qualifications. These are:

- Technical Report Route (TRR)
- Individual Case Review (ICR)

A summary of these routes is contained in Appendix 2.

ICME would support and encourage all eligible members of the Institute to proceed to registration with the Engineering Council.

For further information please contact the Membership Secretary who will be pleased to help you if you are interested in becoming registered as a Professional Engineer.

Appendix 1
Definition of Roles and Responsibilities – taken from UK-SPEC

Chartered Engineer (CEng)
'Chartered Engineers are characterised by their ability to develop appropriate solutions to engineering problems, using new or existing technologies, through innovation, creativity and change. They might develop and apply new technologies, promote advanced designs and design methods, introduce new and more efficient production techniques, marketing and construction concepts, pioneer new engineering services and management methods. Chartered Engineers are variously engaged in technical and commercial leadership and possess effective interpersonal skills.'

Incorporated Engineer (IEng)
'Incorporated Engineers are characterised by their ability to act as exponents of today's technology through creativity and innovation. To this end, they maintain and manage applications of current and developing technology and may undertake engineering design, development, manufacture, construction and operation. Incorporated Engineers are variously engaged in technical and commercial management and possess effective interpersonal skills.'

Engineering Technician (EngTech)
'Professional Engineering Technicians are involved in applying proven techniques and procedures to the solution of practical engineering problems. They carry supervisory or technical responsibility, and are competent to exercise creative aptitudes and skills within defined fields of technology. Professional Engineering Technicians contribute to the design, development, manufacture, commissioning, operation or maintenance of products, equipment, processes or services. Professional Engineering Technicians are required to apply safe systems of work.'

Appendix 2 – Other Routes to Registration

Technical Report Option (TRO)

It is possible for a candidate who does not possess an academic qualification that is acceptable for registration to apply through the Technical Report Option. *This is not an easy option*. The candidate has to demonstrate, through the report, that they have the same technical knowledge and understanding of engineering principles as their peers who have followed the UK-SPEC exemplifying pathways (ie MEng for CEng level and BEng for IEng level). The candidate should have a career history which indicates that they have sufficient engineering experience and knowledge necessary to underpin the UK-SPEC competence standards.

The route allows a candidate to be exempted from some or all of the academic requirements through the preparation of a dissertation, which demonstrates their understanding of engineering principles supported by calculations together with an ability to make engineering decisions and judgements. The level at which the report will be pitched will be comparable to that which an average contemporary who had an academic qualification would produce.

The method of application is similar to those candidates who possess academic qualifications, by submission of the standard application form and the Career Report. ICME will set up a panel of up to three suitably qualified individuals who will act as the report assessors. A preliminary interview may be arranged to establish that the candidate is working at a level appropriate to a Chartered or an Incorporated Engineer and to assist with setting the scope and length of the Technical Report.

The candidate will then be requested to supply a title and a synopsis of the proposed thesis for approval by the Membership Committee.

The candidate, providing the title and synopsis is approved, then has two (or one for IEng) years in which to complete the thesis.

The Report will be assessed by an in-depth oral examination.

If, as result of the oral examination in conjunction with the thesis, the Assessors are satisfied that the candidate has demonstrated their competence, the candidate may proceed to Professional Review Interview as for standard case applicants.

The Technical Report Route fulfils the Engineering Council's objective that due recognition needs to be given to engineering talent, at whatever stage it can be identified as an important contribution to the profession. Also an individual who achieves a high standard of professional competence in their career should not be restricted by a lack of earlier educational opportunities.

Individual Case Review, ICR

This procedure applies where the candidate does not have the required qualifications either because the qualification is not accredited by the Engineering Council or by the ICME, or because the candidate has qualifications which require additional top up work in order to be accepted by the Institute.

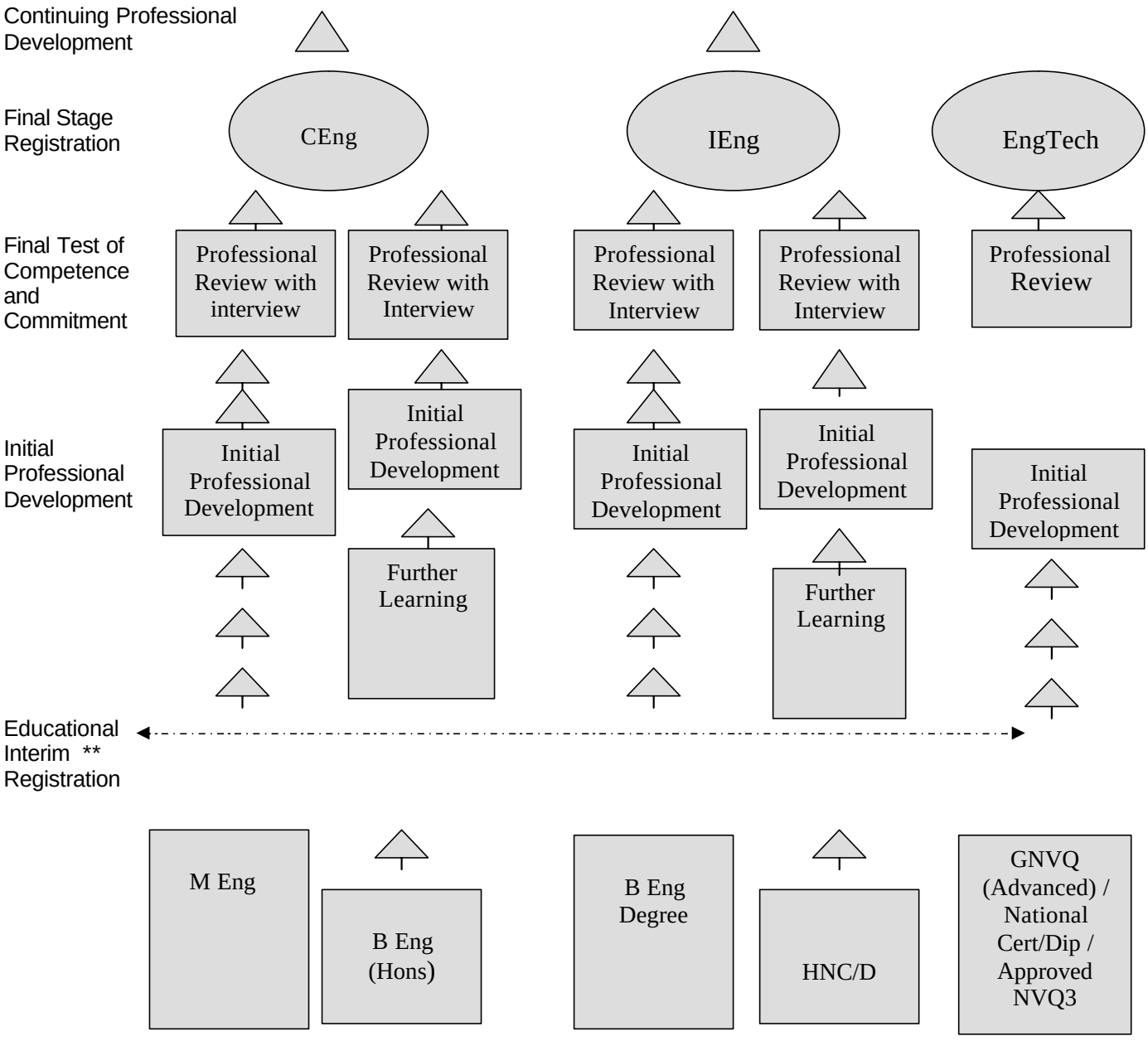
In this case the candidate is required to provide details of the course content and if possible the course syllabus which are then put before an ICME ICR Panel. If the ICR panel approves the course content then the application may proceed as for standard cases with respect to the Career Report, Report on Projects and the Professional Review. In the case that the course is not approved, then alternative routes may be suggested by the Membership Secretary.

It is possible for a candidate who possesses a degree in a science or mathematics subject for this, together with the subsequent experience, (which compensates for any deficiency in the vocational orientation of the academic course) to become registered as a Chartered Engineer. The essential element will be that sufficient mathematics have formed a significant part of the academic course. The procedure to be followed will be a variant of the Individual Case Route whereby the candidate provides evidence of the nature of the engineering that has been followed subsequent to the academic course. It is not a particularly common route to registration.

Engineering Council Exams

An applicant who has passed the EC(UK) examination Graduate Diploma and postgraduate Diploma may also be deemed to have the underpinning knowledge and understanding required by a Chartered Engineer. A pass in the postgraduate Diploma may also constitute appropriate further learning to Masters level.

Figure 1 Current Main Pathway for Candidates with Acceptable Academic Qualifications for Registration



** The Education Base requirements shown are for candidates completing qualification commenced **after** September 1999. For those with pre-existing qualifications the requirement for **CEng** was an Engineering Degree (Hons if later than 1991) and for **IEng** an HNC/HND in Engineering.

NVQs at Level 3 are now acceptable as part of the academic qualifications for Registration to **Eng Tech.**