



Guidance on Further Learning

Introduction

Further Learning is included in UK-SPEC as a way by which individuals whose initial academic qualifications do not meet in full the exemplifying requirements for Chartered Engineer (CEng) or Incorporated Engineer (IEng) may demonstrate the required knowledge and understanding.

Provision for Further Learning within the UK-SPEC descriptors for exemplifying qualifications for registration is as follows:

*Chartered Engineer – an accredited Bachelors degree with honours in engineering or technology, plus either an appropriate Masters degree accredited by a licensed professional engineering institution, **or appropriate further learning to Masters level***

*Incorporated Engineer - or a Higher National Diploma (HND) or Foundation Degree in engineering or technology, plus **appropriate further learning to degree level.***

(Regulations for Registration Para 19)

The concept of Further Learning aligns with current flexible learning approaches, and it was anticipated that a range of programmes might be developed. No attempt was made to set out rules for Further Learning when UK-SPEC was published. Rather, the intention was to let Licensed Members develop their own approaches, including on matters such as technical and non-technical broadening and deepening.

After four years of operating UK-SPEC, it is apparent that a range of practice has developed by different Licensed Members, some of whom have been innovative in defining how knowledge and understanding may be acquired in the workplace. Some general principles have emerged and Licensed Members have indicated that guidance on Further Learning would be welcome.

Aim of this Guidance Note

This Guidance Note is intended to provide guidance primarily to Licensed Members, who may then wish to use this as a basis for their own guidance to employers and to applicants seeking registration.

The information relates primarily to Further Learning for potential Standard Route applicants, although some of the principles may also apply to those who will be individual route applicants. Licensed Members are encouraged to read this note in conjunction with the following UK-SPEC guidance published by the Engineering Council <http://www.engc.org.uk/ukspec>:

- Guidance on Applicants without Exemplifying Qualifications and the Technical Report Route;
- Guidance Note on Academic Accreditation

Most of the information in this Guidance Note applies to the Further Learning of applicants seeking either IEng or CEng registration, though information specific to these categories is also included. It covers:

- The definition of Further Learning;
- Further Learning requirements for the purposes of registration;
- Clarification of how those with qualifications that partly meet the exemplifying qualification requirements may demonstrate the additional knowledge and understanding;
- Technical and non-technical content;
- Level and quantity of learning;
- Assessment issues;
- The relationship between Further Learning and Initial Professional Development;
- Time taken to complete Further Learning.

In using this guidance, Licensed Members may also find it helpful to refer to the QAA's published level descriptors for Masters and Bachelors (non-Honours and Honours) degrees <http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp>

This Guidance Note is issued by the Engineering Council's Registration Standards Committee. It will be reviewed periodically and comments are welcome.

Definition of Further Learning

Further Learning should not be confused with Initial Professional Development (IPD), although the two may often be linked.

In broad terms, Further Learning is about education, and developing knowledge and understanding, whilst IPD is about the development of competence. Further Learning is a process which takes an individual from one level to a higher level, and delivers assessed outcomes at the higher level.

Further Learning should provide the further evidence of knowledge and understanding, beyond that provided by the initial qualification, to bring an individual who holds some of the exemplifying qualifications to the full exemplifying level. It is a means for an individual to meet the academic requirements for registration. The emphasis must be on new learning that is beyond the level of an individual's initial qualification.

IPD is about acquiring competence and demonstrating the ability to apply skills. Whilst IPD and the training usually associated with IPD tends to occur in the workplace, Further Learning need not. Further Learning may comprise formally taught elements, individual private study, work-based activity or a combination of these, and may or may not lead to a formal academic award.

Who needs to do Further Learning?

The exemplifying qualification for CEng was raised to Masters level in 1999. Therefore, individuals who began studying for a degree accredited for CEng before September 1999 need not undertake Further Learning. The nature of the accreditation cycle means that some degrees accredited by some Licensed Members and which began after 1999 may be exemplifying qualifications. Information about the accreditation status of academic programmes is available on the Engineering Council academic courses accreditation database <http://www.engc.org.uk/acadsearch>.

Except as mentioned above, for those seeking CEng registration, Further Learning is required for holders of an accredited BEng (Hons) qualification.

For those seeking IEng registration, Further Learning is required for holders of HNDs and Foundation Degrees who began studying for those qualifications from September 1999 onwards.

Achieving additional knowledge and understanding

All Further Learning should be planned, recorded and independently assessed. The method of assessment will vary depending on the type of learning and the situation.

UK-SPEC purposely provides for a range of Further Learning arrangements such as work-based, self-managed and employer-managed Further Learning provision, partnership arrangements between HEIs and employers, as well as more formally taught courses or course modules.

Similarly, Further Learning requirements may be met by range of activities such as: formal academic learning, private study, workplace projects or attending courses related to work. However, whatever means is chosen, it must be subject to rigorous and valid independent assessment.

Note that an accredited Masters degree provides a CEng applicant already holding an accredited BEng (Hons) with the total exemplifying qualifications for CEng registration. The regulations covering academic accreditation apply to Masters degrees, and guidance can be found in the Engineering Council's Guidance Note on Academic Accreditation. Postgraduate Diplomas are not exemplifying qualifications under UK-SPEC, though they may be accepted on an individual basis as meeting part or all of Further Learning requirements (ref the Engineering Council's Guidance Note on Academic Accreditation).

There are various ways by which holders of BEng (Hons) degrees might demonstrate the further knowledge and understanding required for CEng registration. These might include the production of a substantive report or several shorter reports related to technical work activity, achievement demonstrated on in-house and external courses or company-approved schemes, and a report on a work-based project. Whatever means is chosen, demonstration of achievement of Masters level learning outcomes is required.

Holders of Higher National Diplomas (HNDs) and Foundation Degrees might demonstrate the further knowledge and understanding required for IEng registration in the following ways: assessing and interpreting project data, applying and using systems, impact appraisal or the application of standard packages.

In either case, the learning can be linked with an in-house training scheme so that the individual is also benefiting from training.

Questions and Answers - general

How is work-based Further Learning to be distinguished from Initial Professional Development (IPD)?

Further Learning is about acquiring new knowledge and understanding, and IPD is about developing competences. IPD may be underpinned by the knowledge and understanding that results from Further Learning. Further detail is given on page 2.

There are occasions when Further Learning and IPD take place in parallel, in integrated IPD schemes. They need not be two entirely separate phases.

Can the same workplace activity be counted towards Further Learning and also IPD?

There will be some activities that meet the requirements of both. In such cases, the achievement of learning outcomes as part of Further Learning should be recorded separately from the development of competence.

Must all Further Learning lead to a formal academic qualification?

No, in many cases it will not.

What level of learning is required?

This depends on the level of the qualifications already held by an individual and the level of professional qualification sought. The UK-SPEC learning outcomes for Bachelors and Masters levels should be referred to.

How much learning to the required level is sufficient?

Useful reference points for level of learning are the Quality Assurance Agency for Higher Education's Framework of Qualifications (<http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp>) and the Scottish Qualifications and Credit Framework (<http://www.scqf.org.uk/AbouttheFramework/Overview-of-Framework.aspx>). However, it is important to avoid being too prescriptive as, for example, the position in Scotland is slightly different, and it cannot be assumed that Further Learning can be precisely defined in terms of credit value.

Recognition of prior learning is an established procedure and should be incorporated into any Further Learning programme at an early stage.

Is there a requirement for a Licensed Member to be prescriptive about the proportion of technical and non-technical content, and the amount of 'deepening' and 'broadening' in a Further Learning programme?

UK-SPEC is not prescriptive about these. It was felt there was nothing to be gained by prescription, as the important issue is the qualitative rather than quantitative nature of the programme elements. A lack of prescription enables Licensed Members to consider a broad range of programmes. The key objective of any Further Learning programme is to develop the breadth and depth of knowledge and understanding that is equivalent to holding an exemplifying qualification.

How long will it take?

It is important not to think of Further Learning as time serving. There is no requirement for programme length, nor minimum quantum of learning time. Individuals need sufficient time to develop a proper learning plan as well as needing time to develop their knowledge and understanding. Some Licensed Members refer to indicative timescales of 2-3 years of Further

Learning for BEng (Hons) graduates. However this varies according to the individual, the opportunities in the workplace and the mode of learning – eg, if it comprises a range of short courses over a long period.

Is there a prescribed process by which Licensed Members accredit Further Learning programmes?

Licensed Members are free to devise their own systems. Note that the regulations governing accreditation also apply to the accreditation of Further Learning programmes. Engineering Council's Guidance Note on Academic Accreditation is also a useful starting point, with appropriate modifications to take account of the work environment. Licensed Members will need to assure themselves about the content and level of learning, the continuing validity of programmes, the assessment methodology including moderation, internal verification of the assessment and the level of support for the participant. It is for the Licensed Member to decide on the period of accreditation and the extent of any interim monitoring. The process should be rigorous without being administratively burdensome, avoiding unnecessary duplication, and where possible making use of existing data collection and quality assurance documentation.

What is the responsibility of the individual undertaking Further Learning?

With the support of an academic or workplace mentor, or an adviser from the appropriate Licensed Member, the individual should draw up a learning plan to meet agreed learning outcomes. This should record his or her learning and provide evidence – eg, in the form of technical reports. The individual will participate in periodic review meetings with the mentor, and update the learning plan to take account of any changes in circumstances. Licensed Members may wish to develop their own template for recording learning. It is likely, but not a requirement, that the individual will develop a portfolio of evidence and have interim reviews with the assessor.

Who may be an assessor?

Assessors may come from a range of backgrounds and in some cases (eg, SMEs) they may be external to the company. Assessors are appointed or approved by the Licensed Member.

What is the role and responsibility of the assessor of an individual's Further Learning?

The assessor makes valid and reliable judgments on the individual's evidence to assess whether the appropriate standards have been met.

The assessor must be able to identify from different types of evidence whether the individual has gained the breadth, depth and integration of knowledge that would have been acquired had he or she held the exemplifying qualification. Ways of assuring this include mapping the evidence against UK-SPEC learning outcomes, or using the frameworks mentioned above.

The assessor provides feedback to the individual and works within any agreed quality assurance system.

What sorts of skills should an assessor have?

Ideally the assessor will have experience of both academic standards and the engineering profession. As Further Learning is basically an assessment of knowledge and understanding, it can be beneficial to involve academics at a university or college in defining the quantity and level of learning as they have expertise in these areas, but an assessor does not have to be an academic. It is crucial that the assessor is fully aware of the UK-SPEC learning outcomes at the relevant level, and knows how to assess knowledge and understanding. Assessors must

therefore be trained and Licensed Members will need to put in place appropriate arrangements for this.

Licensed Members may wish to provide additional guidance about the roles and skills of those involved in supporting and assessing individuals who are intending to apply to them for registration.

Questions and Answers – Further Learning for CEng registration

Does the Further Learning have to be at Masters level?

The Further Learning takes an individual 'to' a higher level, and therefore in this case it must lead to outcomes that are tested at Masters level.

What defines the scope of Further Learning for CEng registration?

The two principal reference points for Masters degrees as stated in the Engineering Council's Guidance Note on Academic Accreditation are:

- the QAA qualification descriptor which is crucial in determining whether the knowledge, understanding and skills are at the appropriate level
<http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp> ;
- the competence statements that Licensed Members have adopted under UK-SPEC.

Note, however that the full range of competences need not be covered. Some Licensed Members focus on the development of specialist knowledge, creativity, critical thinking and applying knowledge and skills to solve complex problems not previously encountered. This may be demonstrated through work based projects.

Is there a credit value for Further Learning from an accredited Bachelors programme to Masters level?

Further Learning cannot always be precisely defined in terms of credit value, though published frameworks provide helpful reference points: the Scottish Qualifications and Credit Framework (<http://www.scqf.org.uk/AbouttheFramework/Overview-of-Framework.aspx>) and for England, Wales and N Ireland www.qaa.ac.uk/academicinfrastructure/FHEQ/CIDG08.

What is the situation regarding the PgDip?

See the section on achieving additional knowledge and understanding (page 3).

Can Licensed Members accredit an MBA as Further Learning to Masters level?

Yes, MBAs could be accredited like other Masters degrees and some are. The Engineering Council Guidance Note on Accreditation covers the issue of MBAs as an example of a broadly based Masters programme that may cover group C competences - 'provide technical and commercial leadership'.

What is the situation for an individual who holds a BEng (Hons) degree that is not accredited?

The person would be an individual route applicant and the Licensed Member would first need to make an assessment of the individual's qualification to determine what further knowledge and understanding needs to be demonstrated before they embarked on Further Learning. Guidance on this is provided in the Engineering Council document covering 'applicants without exemplifying qualifications' mentioned on page 1.

What about BSc or HND holders who wish to become CEng – do they have to do this in two stages?

Not necessarily, though in practice it probably would be a staged process. Again, these would be individual route applicants.

Questions and Answers – Further Learning for IEng registration

Does the Further Learning have to be at Bachelors level?

The Further Learning takes an individual 'to' a higher level, and therefore in this case it must lead to outcomes that are tested at Bachelors level.

What defines the scope of the Further Learning for IEng registration?

Principal reference points for Bachelors degrees are;

- the QAA qualification descriptor which is crucial in determining whether the knowledge, understanding and skills are at the appropriate level
<http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp>
- the output standards set out in *Accreditation of Higher Education Programmes* and further explained in the Engineering Council's Guidance Note on Academic Accreditation.

This level is about developing knowledge and understanding, particularly the know-how necessary to apply technology to problems and processes; designing to meet defined needs; and evaluating the appropriateness of solutions. The weighting given to different areas of learning will vary according to the nature and aims of the Further Learning programme.

Is there a credit value for Further Learning to Bachelors level?

Further Learning cannot always be precisely defined in terms of credit value, though published frameworks provide helpful reference points:

the Scottish Qualifications and Credit Framework

(<http://www.scqf.org.uk/AbouttheFramework/Overview-of-Framework.aspx>) and for England, Wales and N Ireland www.qaa.ac.uk/academicinfrastructure/FHEQ/CIDG08.

Note that in England, Wales and N Ireland, a holder of a Foundation Degree or Higher National Diploma would need to demonstrate Further Learning equivalent to only 60 credits at Bachelors degree level (ie less than a year of a full-time course) to meet the exemplifying qualification for IEng registration.

What about holders of Bachelors degrees other than BEng?

The title of the degree is not the issue; if it is accredited, it is the exemplifying qualification; if it is not accredited, an individual assessment must be made.