



# CEng Experiential Learning Guidance

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## Introduction

This document explains what Experiential Learning (EL) is and gives guidance on how to make a submission for assessment. An Experiential Learning submission enables you to use the knowledge you have gained at work to bridge the gap between the qualifications you have, and those you need to fulfil the academic base for Chartered membership with ICE. Once you have completed Experiential Learning, you can then proceed to complete your [Initial Professional Development](#), before sitting the Chartered Professional Review or taking Chartered Professional Review Progressive route.

If you have any questions or would like more information, please email us at [experiential.learning@ice.org.uk](mailto:experiential.learning@ice.org.uk).

## Further Learning Requirements

To apply for ICE membership, you need to have an accredited academic qualification(s) or have proven the equivalent level of academic knowledge. You also need appropriate experience. The academic qualifications are what we call your [educational base](#).

For ICE Member grade (MICE) and registration with the Engineering Council as a Chartered Engineer (CEng) you will need one of the following:

- Accredited integrated MEng
- Accredited BEng (Hons) or BSc (Hons) (or a qualification which is assessed to be of equivalent standard), plus further learning to top up the qualification to Masters Level

By accredited degree, we mean a programme that has been formally recognised by a UK professional engineering institution as meeting Engineering Council requirements for registration as a Chartered or Incorporated engineer (for example by the Joint Board of Moderators for civil engineering programmes), or an international programme that is recognised by Engineering Council (for example via Engineers Europe or via the International Engineering Alliance's Sydney or Washington Accords).

Further learning covers the gap between the initial accredited qualifications and the academic base needed to register as a Chartered Engineer. This might be a formal academic qualification (such as an accredited MSc or Engineering Doctorate (EngD)). All further learning options require you to meet the appropriate Masters level Learning Outcomes, as specified by the Engineering Council in the [Accreditation of Higher Education Programmes](#) (AHEP).

Note that AHEP characterises a Learning Outcome as “*a statement of achievement expected of a graduate from an accredited programme*”, with a Learning Outcome area covering the specific skills or knowledge that applicants should be able to demonstrate after completing a “*period of training or education*”.

## The Experiential Learning submission

The Experiential Learning submission allows you to record the knowledge and skills you have gained at work so that we can assess it. The [Experiential Learning assessment](#) form asks you to provide evidence that demonstrates your learning. You need to demonstrate that the knowledge you have acquired on the job meets the appropriate Learning Outcomes by answering statements A to D in the ICE Experiential Learning assessment form).

In order to make an Experiential Learning Submission, you must be an [ICE Graduate Member](#), [Associate Member](#) or a [full Member](#). Before starting your Experiential Learning submission, you should confirm that your undergraduate course is accredited, use the [ICE course search tool](#). If you have a degree or diploma that is not accredited, you can apply to have your [qualifications assessed](#) to see if they meet the minimum standard. If you can't find your course, email [experiential.learning@ice.org.uk](mailto:experiential.learning@ice.org.uk) and we will confirm whether the course is accredited or not.

The EL submission will be based one or more appropriate project(s) or activities that demonstrate your Masters level technical leadership and managerial skills in a civil or infrastructure engineering context. You will have to demonstrate your ability to integrate your prior knowledge and understanding of the discipline and engineering practice with the development of advanced level knowledge and understanding, to solve a substantial range of engineering problems, some of them complex or non-routine.

If you are working in an infrastructure role where the principal engineering fundamentals you are applying are not core civil engineering (for example process, chemical, mechanical, digital, electrical and electronics engineering), then you should indicate on your application form that you are making an EL submission as an infrastructure engineer. You will be asked to provide a short statement of up to 200 words that outlines your area of expertise to allow us to appoint appropriate assessors.

You are required to make a well-structured EL submission based on normally at least 5 years' experience in a civil or infrastructure engineering context. Supporting evidence should be provided in appendices which must be limited to 8 pages and must be clearly sign-posted to the Learning Outcome area (A, B, C or D) that its inclusion in your submission is intended to support.

Masters level experience will provide you with an opportunity to integrate your knowledge of the technical and non-technical aspects of engineering; and develop a commitment to professional and social responsibility and ethical codes. You must demonstrate through your submission that you have achieved a systematic understanding of the appropriate learning outcomes, including acquisition of coherent and detailed knowledge, most of which is at, or informed by, the forefront of defined aspects of the discipline. Some of the learning outcomes will be at enhanced and extended levels, the balance of which will vary according to the nature of your experience.



Your submission should be a personal account of your learning and experience written in the first person (using 'I undertook this', 'I learned that'...). You must give specific examples of how, through training and experience, you have gained and applied knowledge and understanding.

For example, you should reference:

- the relevant theory and principles
- the application of these principles
- the analytical methods and tools used to apply these principles
- the limits of these principles, methods, and tools
- examples of when you have used these principles, methods, and tools to solve routine or non-routine problems
- a reflective statement must be included which sets out what you have learnt from taking part in the activity, any problems you encountered, what skill/knowledge you have taken from participating in this project which you can apply elsewhere and also, what would you do differently in future

## Continuing Professional Development (CPD)

When you apply for your Experiential Learning Assessment, your assessors will be looking for evidence that you can plan and record your self-learning and development as the foundation for lifelong learning/CPD.

You do this by submitting the following:

- A development action plan (DAP) which details your objectives for the current/forthcoming year
- Your personal development record (PDR) which should describe all the formal and informal training you've undertaken over the last three years or more. As a guide, you should have at least 30 CPD hours per year. Your PDR should include current formal training related to health, safety and welfare.

You can find out more in our [CPD guidance document](#), which includes templates for your DAP and PDR.

## Plagiarism

Plagiarism is presenting the work of others as your own. This means using words or ideas, for example, without the permission of the original author or authors, or without their acknowledgement. Plagiarism should be avoided at all times, and this includes any reports, drawings and presentations that you submit.

Here are some guidelines to help avoid plagiarism:

- Don't cut and paste material from others.
- Where you've directly quoted others, or the work of others, attribute the source fully and, where appropriate, use quotation marks. As a rule of thumb, material derived from others should be considered a quote, unless it's assumed to be common knowledge – for example, standard equations that are in the public domain.

Plagiarism is taken seriously by the ICE. Should there be concerns with your submission, ICE will investigate including using plagiarism detection software. If this shows significant levels of similarity with any unattributed sources, you will be contacted by the ICE and asked to provide an explanation.

## Collusion

In the context of your submission, collusion is any agreement to conceal someone else's contribution to your piece of work. The guidance above equally applies to avoiding collusion. Plagiarism and collusion may lead to a ban on applying for membership or, for existing members, permanent expulsion as an ICE member.

If an allegation of plagiarism or collusion is made relating to your application for membership, no result will be given until an investigation has taken place.

## Support from a mentor

You must have a mentor to support and guide you through the Experiential Learning process. Your mentor can be any experienced engineer who is able – and can make the commitment – to provide guidance. If possible, they should also be a Chartered ICE Member. Your mentor should also, ideally, understand our procedures and standards so that they can work with you to identify the best projects to allow you to demonstrate Masters level learning.

It is also helpful if they are familiar with your work as they must complete the [EL Mentor Support Form](#) that asks them to confirm that the Experiential Learning submission is your own work, that your learning outcomes statements demonstrate Masters level learning and that you have gained the experience stated in your submission.

## Individual Requirements

If there are individual requirements that you would like taken into account when we assess your Experiential Learning submission you must state these when you apply – for example, if there are commercial or security restrictions on what you can discuss about a particular project you've worked on. You can find out more in [Appendix A](#).

## The steps in the Experiential Learning assessment process are:

1. Having received confirmation that you are eligible to use the Experiential Learning process (i.e. following an academic assessment, from your Graduate Member welcome letter, confirmation from ICE staff, or from your success at the Technical Report Review at IEng), you can submit an assessment form and supporting documentation.
  - a. Civil engineering candidates will need to upload the [assessment form](#) and supporting documentation to the [Experiential Learning submission portal](#).
  - b. [Infrastructure engineering candidates](#) will need to email a copy of their application and supporting documentation to [infrastructure@ice.org.uk](mailto:infrastructure@ice.org.uk).
2. Your submission will be reviewed by two members of our Experiential Learning Panel (ELP). Once they have completed their assessment, they will make a recommendation to the ELP. The recommendation will be one of the following: -
  - Your submission is acceptable, and they recommend to the ELP that you meet the educational requirements for CEng
  - Your submission needs to be amended to address the assessors' comments
  - Your submission is not acceptable, and you are asked to use the [Technical Report Route](#) option or undertake a different further learning option
3. At its next meeting, the ELP will consider the assessors' report and if approved you can then complete your [Initial Professional Development](#) and progress to making an [Professional Review](#) application
4. Please note we recommend that you consider the [key dates](#) for submission and results, and apply for Experiential Learning at the appropriate time, to ensure that you receive your result with adequate time to complete your Initial Professional Development (IPD) at CEng level before applying for Professional Review.

## What do I have to send?

Your Experiential Learning submission comprises one PDF of no more than 10mb containing:

- An [Experiential Learning assessment form](#)\*
- An extended CV (see below)
- Appendices – no more than 8 sides of A4\*\*
- CPD records:
  - 3 years of previous PDR records\*\*\*
  - 1 year of current DAP records \*\*\*
- A [non-refundable fee](#)

Your mentor must submit the [EL Mentor Support Form](#) directly to [experiential.learning@ice.org.uk](mailto:experiential.learning@ice.org.uk)

**\*If your knowledge of engineering fundamentals relates to the area of infrastructure engineering, you will be asked to provide a 200-word statement outlining your area of expertise to allow us to appoint appropriate assessors**

**\*\*You may include up to three sides of A3 pages - however, please note that one side of A3 is equal to two sides of A4; for example, if you include two sides of A3, you will then have four sides of A4 remaining**

**\*\*\*Your PDR and DAP records do not count towards the appendices page limit**

## **Word Count**

2000 words maximum. We recommend you use approximately 500 words for each learning outcome statement (including the reflective statements). At the end of each learning outcome and reflective statement we will ask you to confirm the word count.

## **Appendices**

Candidates are recommended to make use of the appendices. There is no restriction on what kind of document you can include as an appendix, be it correspondence, an analysis report, design drawings and so on. The appendices are there to help you remain within the word count when producing your learning outcome statements; you should refer to them as needed, to make sure you do not use up your word limit unnecessarily.

## **Extended CV**

Your extended CV should be up to four A4 sides long. It should outline your employment history and the main projects that you have worked on. It should focus on the roles you have had; the experience you have gained and demonstrate how you have developed through your career.

## **Fee**

You need to pay online a non-refundable fee before you send your documents. You can find details of the fee on the [fees page](#) of our website.

## **Assessment and result**

Experiential Learning submissions are assessed on a regular basis. Please view the [key dates](#) page of our website for the submission deadline dates and also an indication of when you should receive your result.

## **If your submission is approved**

If the assessors agree that your submission is acceptable, we will email you to confirm your academic ability has been recorded at CEng level.



## If you are asked for more information - resubmission

If the assessors decide that you have not given enough evidence to achieve all of the Learning Outcomes you will be asked to provide more information. Your resubmission will be re-assessed at no extra cost.

You will need to resubmit your **whole** submission with the **changes you have made clearly indicated**. Additional information should only be provided if it has been requested by the assessors. You will need to reword your responses to ensure that you stay within the word limit.

Please note the resubmission deadlines and indicative timescale for your result on the [key dates](#) page of our website.

If you do not resubmit your EL submission considering the assessor feedback within six months, a future application will be treated as a new application. However, you will not need to pay a new fee.

## More information and support

Our Membership Support Team (MST) can give you advice.

Please email [membership@ice.org.uk](mailto:membership@ice.org.uk) or call +44 (0)121 227 5948 for help.



# Appendix A – Individual Requirements

## Individual requirements

ICE is committed to making reasonable adjustments to our Experiential Learning process to accommodate specific individual requirements.

Individual requirements may include disabilities, specific learning difficulties (such as dyslexia), temporary conditions, and security clearance. You need to tell us about these requirements in the space provided in your Experiential Learning application form.

## Security-mindedness and security clearance

You should consider whether information in your Experiential Learning submission should be omitted or reduced in its level of detail due to security reasons. However, there's no reason why this should detract from the quality of your report.

If your submission is affected by security issues, you should consider the following suggestions:

1. Make your report non-site specific – for example don't state that the facility was on the Sellafield site or on the Hinkley site or that the asset serves a critical function to the site or country, or is or was vulnerable to various threats
2. Don't state building numbers or names – it's sufficient to say 'nuclear facility' or 'nuclear store'
3. Remove site and building names from drawings or snapshots of models
4. Don't include photographs or other images which reveal the location of buildings and facilities
5. Avoid stating, or showing in drawings or extracts from models, technical details (such as wall thickness) which may reveal security-sensitive information. If you work on a security-sensitive project, we recommend that your organisation's information security manager (and also the asset owner's/client's) reads your Experiential Learning submission and approves the content before submission.

Familiarise yourself with the Engineering Council's guidance note on Security (published May 2016).

You should also let us know if you believe your assessors need security clearance.



## Appendix B - Experiential Learning Route Statements

The four statements below are designed to allow candidates to demonstrate they have achieved the required Learning Outcomes. When providing answers, it is important to note that a key difference between the IEng and CEng academic base requirements is the ability to address **complex** as well as **broadly defined**<sup>1</sup> problems, and for candidates to **evaluate** the impact of their work and the way they communicate. In addition, when providing evidence related to '**engineering principles**,' candidates should provide examples that demonstrate their understanding of the underpinning mathematics, statistics, and science. When evaluating the environmental and societal impact of their work, they should explain it in the context of the **whole project life cycle** and show how they sought to **minimise adverse impacts**.

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<sup>1</sup> Broadly-defined problems involve a variety of factors which may impose conflicting constraints but can be solved by the application of engineering science and well-proven analysis techniques. Complex problems have no obvious solution and may involve wide-ranging or conflicting technical issues and/or user needs that can be addressed through creativity and the resourceful application of engineering science.

## EXPERIENTIAL LEARNING ROUTE FOR CHARTERED ENGINEERS

### LEARNING OUTCOMES FOR ALL CANDIDATES FOR CENG WITH ACCREDITED BACHELORS DEGREES OR EQUIVALENT

#### A Science and Mathematics, Engineering Analysis and Practice

Demonstrate your comprehensive knowledge, understanding and application of **engineering theory and principles, technologies and processes in a project or activity you have been involved in** and how **you analysed and solved complex problems**.

Give examples from the project where data may be uncertain or incomplete and discuss the **limitations** of the techniques employed.

#### B Design and Innovation, Health & Safety, and Commercial

Demonstrate your knowledge of the design process relating to construction and maintenance in a project or activity you were involved in and how you used an integrated and systems-based approach for applying your knowledge of **legal, health & safety, and commercial matters**.

Give examples of **new developments** or original and innovative thinking with reference to **research and technical literature**.

#### C Management, Leadership, Teamwork and Communications

Give examples of how you have applied knowledge of **project and quality management, demonstrated leadership and team working** and **communicated complex engineering matters** with technical and non-technical audiences.

#### D Engineer in Society

Give examples of how you have applied **ethical and societal values** in your work particularly when balancing risk in the areas of **sustainability, environmental, security<sup>2</sup> and inclusivity**.

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<sup>2</sup> The Engineering Council defines security as 'the state of relative freedom from threat or harm caused by deliberate, unwanted, hostile or malicious acts. It operates on a number of levels ranging from national security issues to countering crime'.

## Our vision

Civil engineers at the heart of society, delivering sustainable development through knowledge, skills and professional expertise.

## Core purpose

- To develop and qualify professionals engaged in civil engineering
- To exchange knowledge and best practice for the creation of a sustainable and built environment
- To promote our contribution to society worldwide

## Diversity statement

As a membership organisation and an employer, we value diversity and inclusion - a foundation for great engineering achievement

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