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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 sit the Chartered Professional Review or Chartered Professional Review Progressive route. There are two types of submission:

- **Managerial** - for those who hold a bachelor degree that partially satisfies the educational base for a chartered engineer (CEng) (typically a BEng (Hons)) or equivalent
- **Technical** - for those who hold a bachelor degree that satisfies the educational base for an incorporated engineer (IEng) (typically a BSc (Hons) or BSc or BEng) or equivalent.

If you have any questions or would like more information, please email us at 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.

An accredited degree is a programme that has been formally assessed by ICE or the JBM as meeting or contributing towards the required academic standards for registration as a chartered or incorporated engineer. The ICE’s accreditation process complies with the UK Standard for Professional Engineering Competence (UK-SPEC) outcomes-based approach and also has some civil engineering specific requirements which must be met (these are set out in the Guidelines for Developing Degree Programmes).

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)) or suitably assessed on the job learning. The JBM website lists accredited further learning programmes.
All further learning options require you to meet the appropriate Master’s level Learning Outcomes. Learning outcomes are defined by the Engineering Council in UK-SPEC and Accreditation of Higher Education Programmes (AHEP) as "a statement of achievement expected of a graduate from an accredited programme". A Learning Outcome area covers the specific skills or knowledge that applicants should be able to demonstrate after completing a "period of training or education".

Masters level learning equates to the study in greater depth of particular aspects or applications of a broader discipline in which you hold an Honours degree at Bachelor’s level.

**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 (numbers 1 to 6 in the assessment form).

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 and we will confirm whether the course is accredited or not.

**If you hold an accredited IEng qualification or a qualification assessed by ICE as being at a similar level, you will be asked to submit an Experiential Learning technical submission.**

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

**The weighting given to the six broad areas of learning outcomes 1 – 6 will vary according to the nature of your experience.**

**If you hold an accredited BEng (Hons) degree which already meets part of the CEng academic base or a qualification deemed to be at a similar level by ICE you will be asked to submit an Experiential Learning managerial submission.**
The EL managerial submission will be based on one or more appropriate project(s) or activities that demonstrate your Masters level technical leadership and managerial skills in a civil 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.

The weighting given to the four broad areas of learning outcomes 3 – 6 will vary according to the nature of your experience.

You are required to make a well-structured technical or managerial submission based on normally at least 5 years’ experience in a civil engineering context. Supporting evidence should be provided in appendices which must be limited to 8 pages.

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.
**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 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**

It is a good idea to 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 will need to send a letter or email of support confirming that the Experiential Learning submission is your own work and that you have gained the experience stated in your submission.
The steps in the Experiential Learning assessment process are:

1. Having received confirmation of the type of submission you need (either managerial or technical) following an academic assessment or from your Graduate Member welcome letter, you submit an assessment form and supporting documentation.

2. Your submission will be reviewed by two members of our Experiential Learning Panel (ELP). The assessors will decide whether or not to carry out an EL interview. 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 a Professional Review application.

4. Please note if you wish to apply for the Chartered Professional Review (CPR), it is advised that you apply for Experiential Learning at least three - four months before the CPR application closing date. This is to ensure that you receive your result in a timely manner and have adequate time to complete your IPD at CEng level.

5. If you became IEng MICE via the Technical Report Route, you may be eligible for a Technical Experiential Learning Assessment. However, your eligibility for this option will need to be formally discussed by the Panel. If you are interested in this pathway, please send an up-to-date CV with a summary of your Technical Report synopsis to experiential.learning@ice.org.uk.

What do I have to send?

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

- An Experiential Learning assessment form (your supporting statements must be a maximum of 500 words per learning outcome area)
  - For a Technical Experiential Learning submission you must provide evidence covering Learning Outcome areas 1 – 6.
  - For a Managerial Experiential Learning submission you will need to provide evidence relating to Learning Outcome areas 3 - 6
- An extended CV (see below)
- Appendices (not more than 8 A4 sides – this **also** includes 3 sides of A3 pages.)
- 3 years of previous PDR records
- 1 year of current DAP records.
- A **non-refundable fee**
- A letter or email from your mentor confirming that your experiential learning submission is your own work and that you have gained the experience stated in your submission

**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. After you have paid the fee, you will be emailed an eight-digit reference number, which you must include in your application form. 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 acceptable**

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’re 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. Any extra information you submit will be re-assessed (at no additional cost). If you are asked to resubmit your application, please
highlight the changes you have created and only included the additional information that your assessors have asked for.
You will need to clearly list the changes and additional information that has been sent or show it in the margins of your revised documents. Please note that you will receive your result within 6 weeks of submitting your additional information.

**More information and support**
Our Membership Support Team (MST) can give you advice.

If you are based in the UK, please email membershipsupport@ice.org.uk or call +44 (0)121 227 5948 for help.

If you are based in Hong Kong, please email membership@icehk.org.hk for help.

If you are based anywhere else please email iceinternational@ice.org.uk or call (+44) 0207 665 2006 for help.
### Learning Outcomes

**Technical submission only**

1. **Demonstrate your knowledge and understanding of relevant specialist engineering concepts, using advanced scientific and mathematical principles and the application of appropriate critical evaluations including new insights or solutions for current problems.**

#### Examples of activities

This is about the technical practice of engineering. The key is being able to critically evaluate technical concepts and information and apply the output to produce an engineering solution.

Examples of concepts: serviceability as distinct from ultimate collapse, how forces ‘flow’ through a structure, models (mathematical, physical, conceptual) as simplifications of real situations to facilitate problem solving, margins of safety (and ways they can be achieved), stability, traffic flow and congestion, water flow principles, contrast of dynamic loading to static loading, sustainable design, ‘whole of life’ thinking (including end of life - e.g. demolition / replacement / upgrading), ductility, resilience, designing for uncertainty, climate change, ground settlement as distinct from strength, how fire propagation occurs, non-linear stress-strain behaviour, driver behaviour, traffic ‘rat-runs’, soil consolidation over time, creep in materials, success, failure, inter-relationship of capital and operational costs of infrastructure/equipment, public interest/consultation, consideration of wider stakeholders.

Examples of activities include:
- Leading edge analysis, design or construction
- Developing failure mechanisms for unusual structures taking into account the possible forces and geometry
- Retrofitting existing infrastructure
- Critical appraisal of potential for extension of the operation of structures or infrastructure beyond their original design life and/or parameters, and measures that could enable that
- Application of numerical methods with discernment
- Design thinking and analysis for unusual or complex temporary works
- Design for soil structure interaction problems
- Evaluation of scientific data from multiple sources
- Design for high-hazard circumstances
- Involvement in formal planning process and gaining consents to carry out works.

#### Examples of evidence

(The evidence must show your masters level learning on this topic)

- Design reports on advanced, complex, or unusual structures, or temporary works
- Feasibility study report
- Options report for extending the operational life or range of structures or infrastructure
- Reports on numerical studies and associated checks
- Project risk assessment and associated mitigating measures, including technical aspects of engineering
- Report on serviceability
- Foundation design report
- Design options report e.g. for: retaining walls, bridge/culvert structures, drainage including sustainable drainage measures, traffic relief of a village, junction improvement, road pavement remedial measures, structure retrofit.

Examples of a reflective statements:

“I learned that use of the Kinematic Wave Theory to calculate Time of Entry was appropriate for this type of analysis, and provides a common calculation for different types of catchment (buildings and roads). I established that the Time of Flow (when comparing near and far catchments) has a greater effect on the total Time of Concentration and, therefore, the ability of the by-pass separator to treat ‘first flush’ run off from the whole site. I learned that this type of analysis is valid for large sites (particularly long, linear highway catchments) but is limited with regard to the assessment and measurement of concentration of pollutants within run off”.

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Technical submission only

2. Demonstrate your knowledge and understanding of methods for analysing and solving complex problems incorporating new and emerging technologies and using new data in tackling unfamiliar problems, such as those with uncertain or incomplete data or specifications, by adopting appropriate innovation.

**Examples of activities**

Much of engineering is about modelling reality to produce solutions to known hazards. Hence it often includes making assumptions, choosing appropriate models, assembling data and undertaking option analyses.

Examples of activities include:
- Appreciating the limitations of design methods
- Undertaking design of unusual or non-standard highways or structures, or in unusual/complex situations
- Numerical modelling with discernment
- Planning and operating a test or monitoring programme to verify design assumptions and/or to check actual performance with design/predicted performance and appraise reasons for observed difference.
- Design using the observational method (e.g. propped retaining walls) including trigger levels for interventions during implementation
- Sensitivity analyses and ‘sense/reality’ checks
- Scenario analyses
- Outline designs and designs at funding or tender stage which have more limitations than full detailed designs

Note: “Complex: implies engineering problems, artefacts or systems that involve dealing simultaneously with a sizeable number of factors that interact and require deep understanding, including knowledge at the forefront of the discipline, to analyse or deal with.” (Engineering Council [2014], AHEP 3rd Ed)

**Examples of evidence**

The evidence must show your masters level learning on this topic

Evidence will typically include a report or commentary to focus assessors’ attention on the participant’s learning. It may well include selected extracts from design/analysis work to illustrate that learning, but simply providing a mass of design/analysis output or a design report is very unlikely to suffice.

Some examples of potential topics for providing evidence:
- Design reports for temporary or permanent works showing assumptions made, options compared, and how uncertainty and limitations have been dealt with
- Validation checks of numerical analyses e.g. against ‘standard’ cases.
- Review of software output for a complex problem against ‘hand’ calculations
- Critical appraisal of the validity of assumptions in design thinking and in the associated analysis, including those embedded in analysis tools e.g. charts or software
- Brainstorming exercises and associated critical comparison of engineering options
- Reports on the example activities adjacent
- Design of complex temporary works including appraisal of uncertainty and limitations
- Design of interim solutions as temporary measures for……..

Example of reflective learning statement:

“From this project I learnt that in certain scenarios - such as retro-fitting solutions to existing systems - design standards cannot always be applied exactly or entirely in the usual way. It can be appropriate to use methods in a different way (i.e. appropriately rearranging equations to consider a different element). I learnt that it can be appropriate, and sometimes necessary, to apply a range of different methods (based on the same or similar principles/theories) to test and compare outcomes where there is a degree of uncertainty regarding the results”.

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Experiential Learning Guidance
Version 2 Revision 2 – 04 July 2019

Institution of Civil Engineers is a Registered Charity in England & Wales (no 210252) and Scotland (SC038629)
A professional engineer has to have ability to research into new ideas in order to enhance their work, deal with increasingly complex challenges, and take advantage of new opportunities and ways of working. That would include an ability to critically evaluate the technology and make sound, risk based judgements about its use in practice.

Examples of activities include:

- Application of new materials, products and processes
- Review of the state of the art materials, products and processes
- Innovative approaches to design or planning of implementation
- Use of emerging features or tools linked to BIM for design, construction or asset management
- Innovative approaches to construction
- Use of new surveying or monitoring instrumentation, or use of it in a new situation
- Development of low carbon solutions
- Critical appraisal of the potential impact/benefit and risks that could arise from implementation of such technologies.
- Application of new software tools or surveying
- Investigating such technology could include, for example, searches of literature, web forums, reviews, use of the principles in other contexts / disciplines, competitor manufacturer/supplier information.

Note: This can be ‘new or emerging’ in other companies or countries or disciplines, rather than new and emerging in society as a whole.

Reports on designs strongly influenced by external constraints e.g. for a basement adjacent to highly sensitive off-site structures or design of significant road improvement works involving very complex traffic management. The evidence is likely to include **reflective critical evaluation** of the potential benefits / opportunities / risks of the technologies, using some fundamental knowledge, or thinking from first principles, and taking account of limitations.

Some examples of potential topics for providing evidence:

- Incorporating interim monitoring or checks on a new technology to confirm the pre-use appraisal of it.
- Undertaking pilot studies of an emerging technology with detailed observation and appraisal of its performance prior to higher risk situations
- Use of laser scanning tools to facilitate investigation or design or construction of an extension to an existing building.
- Use of robot sensors to gather information more cost-effectively or in a hazardous environment.
- Planning or implementation of BIM in emerging or enhanced ways
- New tools for 3D designs that support improved construction efficiency
- Use of satellite based technology for improved automation or feedback or quality control of construction
- Use of tablets such as iPad to enhance some aspect of quality
- Contributions to research reports or technical papers or to discussion at Institution meetings
- Technical presentations on leading edge technology or software tools to colleagues
- **Reflective consideration** of how a new or emerging technology could have helped a project (or not), even if that technology is not actually being used on it.

Example of reflective learning statement:

“Through my knowledge and understanding of the equations, and how they are used within the model, I could recognize their limitations and use a modified our approach to achieve a better design. I also recognised that in modifying an approach to design and modelling, and where there was some uncertainty in the data used, that the limitations of such an approach (and my knowledge) should be mitigated by sensitivity testing, reference to data from similar design, appropriate factors of safety and peer review.”
### Experiential Learning Guidance

**Version 2 Revision 2 – 04 July 2019**

Both Technical and Managerial submissions

3. Demonstrate that you have the knowledge and comprehensive understanding of design processes and methodologies and the ability to adapt them to unfamiliar situations and in innovative ways. You should also demonstrate your understanding and skills to work with information that may be incomplete or uncertain, quantify the effect of this on the design and, where appropriate, use theory or experimental research to mitigate deficiencies.

<table>
<thead>
<tr>
<th>Examples of activities</th>
<th>Examples of evidence</th>
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</thead>
<tbody>
<tr>
<td>Activities could include:</td>
<td>The evidence must show your masters level learning on this topic</td>
</tr>
<tr>
<td>- Temporary or permanent works design (that incorporates this Learning Outcomes characteristics)</td>
<td>- Reports on the activity examples</td>
</tr>
<tr>
<td>- An innovative approach to an alternative design e.g. that enables major temporary works to also serve as permanent works</td>
<td>- Design calculations that involve innovative solutions</td>
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<td>- Emergency planning</td>
<td>- Innovative use of existing equipment or processes</td>
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<td>- Retrofit solutions</td>
<td>- Use of materials in new situations</td>
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<tr>
<td>- Designing improvements to a construction process</td>
<td>- Innovative temporary works design</td>
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<tr>
<td>- Innovative use of offsite construction</td>
<td>- Design approach for retrofit solutions</td>
</tr>
<tr>
<td>- Using information modelling for design of a process in an innovative way</td>
<td>Examples of reflective learning statements:</td>
</tr>
</tbody>
</table>

**Examples of activities**

- Temporary or permanent works design (that incorporates this Learning Outcomes characteristics)
- An innovative approach to an alternative design e.g. that enables major temporary works to also serve as permanent works
- Emergency planning
- Retrofit solutions
- Designing improvements to a construction process
- Innovative use of offsite construction
- Using information modelling for design of a process in an innovative way

**Examples of evidence**

The evidence must show your masters level learning on this topic

- Reports on the activity examples
- Design calculations that involve innovative solutions
- Innovative use of existing equipment or processes
- Use of materials in new situations
- Innovative temporary works design
- Design approach for retrofit solutions

Examples of reflective learning statements:

"I learnt the considerations of the construction period and its conditions, such as tidal working limits and scour, were critical to the selection of materials and its incorporation in the permanent works design."

"I learnt that the knowledge of my previous experience, with gabion basket construction and its application in a new environment, correctly identified the limitations of the method and reduced the associated risk in the design stage. My modular concept was carried forward into the works design shown in Figure x."

"I learnt about the use of marine plant on the River Thames. I used flat bottom barges and 'spud leg' barges to work effectively in intertidal areas to deliver the works. Additionally I also have an appreciation for fixed anchorages for marine vessels and the suitable tide conditions for the use of 'tug' boats to move 'unpropelled' or 'dead' barges."

"I reviewed the existing design in light of the new constraints and carried out my own research to develop an innovative alternative design. I resolved my knowledge gaps by seeking advice from specialist consultants and reading guidance notes and British Standards as appropriate. I managed to improve construction processes through use of alternative materials, resulting in reduced health risks and shorter installation time."
### Both Technical and Managerial submissions

4. Demonstrate that you have acquired the knowledge and skills to lead projects where safety, commercial, legal and social contexts have been evident and include the underpinning of ethical and sustainable principles in a multidisciplinary team framework.

<table>
<thead>
<tr>
<th>Examples of activities</th>
<th>Examples of evidence</th>
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**Activities could include:**
- Study of / training in, relevant legislation such CDM regulations
- Health and Safety risk assessments and mitigations
- Design risk assessment and mitigation
- Development of safe systems of work
- HAZOP, HAZID studies and mitigation
- Environmental risk assessment
- Commercial risk assessment
- Risk pricing
- Programme Risk assessment
- Study and evaluation of methods of risk quantification and evaluation

**The evidence must show your masters level learning on this topic**
- Record of discussion with assessor of risk evaluation and mitigation
- Presentation to colleagues on risk evaluation and mitigation
- Managing risk issues
- Completed risk registers
- Calculations for commercial or programme risk using techniques such as Monte Carlo analysis
- Output from studies
- Method statements detailing risk mitigation

**Examples of reflective learning statements:**

"From my experience I have learnt that the future of hand mining could encounter the following challenges:
- Potential skills shortage makes finding skilled labour for difficult and competitive projects a challenge which can also lead to increased market labour rates.
- There is an aging existing workforce on current projects where, in my experience, a large proportion of the workforce is over 45 years old.
- There is a national shortage of suppliers and machining facilities for SGI segments and often a lack of a consistent production orders. This can make ‘one off’ orders more expensive for projects and be a root cause of limited investment in new production facilities.
- There are inconsistent periods of hand mining projects nationally which limits opportunities for training and investment for the ‘next generation’ to gain skills and qualifications”.

"I learnt a number of valuable lessons about the bid stage of a project. These include; understanding of the technical requirements is important, which must include an appropriate allowance for multi-disciplinary design liaison (and inevitable design change); commercial context and contractual arrangement within which the design will be undertaken is very important, which should be reflected in the fee proposal (for example, pricing to allow for ‘design development’ or ‘design iteration’). This became evident during the design phase.”
### Both Technical and Managerial submissions

5. Demonstrate that you have acquired the knowledge and skills to communicate widely, lead and take responsibility for decisions.

#### Examples of activities

- Annual performance reviews with line manager
- Career appraisal and development reviews with line manager
- Seeking feedback from colleagues to measure performance
- Reflection on career objectives and required skills
- Career planning
- Public consultations
- Public exhibitions
- Chair of ….
- Drawings/Calculations/Sketches
- Presentations
- Reports
- Tool Box Talks
- Environmental Impact Analysis

#### Examples of evidence

- **The evidence must show your masters level learning on this topic**
  - Record of discussion with assessor and identified actions
  - Feedback from colleagues
  - Record of courses undertaking and key learning points
  - Discussion of journal articles with assessor

#### Examples of reflective learning statements:

**Case one**

- My technical and non-technical interaction with professionals from other disciplines, clients, colleagues and supply chain, especially in the case of the xx project.
- By supporting the learning and development of others as highlighted during the formwork research, and receiving positive feedback to highlight the effectiveness
- During my works on the large excavation, I was able to present to our subsidiary company, xxx, to assist in the development of their new Ground Shoring components.
- By identifying areas of development in my region to implement the correct training. The effectiveness of my methods has been demonstrated by the increased diligence from sites in ensuring all TW items are sufficiently checked and managed.
- By sharing research with the industry on the behaviour of sustainable concrete mixes in a fluid state.

**Case two**

“In my role as Unit Manager, I adopt a style of ‘Situational Leadership’ and adapt based on the circumstances and individuals that I am working with by directing, coaching, supporting or delegating as appropriate. I adopt various techniques and attempt to empower staff by delegating responsibility for delivery of certain tasks where possible. I adopt various engagement techniques with staff such as one-to-one meetings, team meetings and Unit meetings. I believe that providing opportunities for individuals to ‘grow’ and develop is vitally important to developing a successful team be it opportunities to take responsibility or training opportunities. I regularly hold performance reviews / staff appraisal / training needs analysis with staff to review the effectiveness of their training and development programmes.”
### Both Technical and Managerial submissions
6. Demonstrate that you have acquired the knowledge and skills to plan, adapt and carry out CPD activity at master's level.

#### Examples of activities
- Preparation of Development Action Plans
- Preparation of Further Learning Plan to deliver the Learning Outcomes
- Attendance at Formal and Informal Training Events
- Attendance at High Level Conferences
- Achievement of competence in Specialist Areas, e.g. Design, CDM, BIM
- Private study using Master's level Textbooks and IT access (Intranets)
- Reading professional journals and publications
- Completing Professional Development Report (PDR)

#### Examples of evidence

**The evidence must show your masters level learning on this topic**

- Formal reports associated with undertaking activity e.g. DAP, PDR
- Record of courses and events undertaken, certificates and short summary review of key learning points
- Lists of references bibliography relevant to your current experience
- Discussion of journal articles with colleagues, sponsors and mentors

Note: To assist the assessor’s judgement of your technical and managerial knowledge and skills at Masters level that have been gained alongside work experience it is recommended that a summary of not more than 500 words should be provided to explain how the higher level knowledge was gained. For example, this might highlight how someone now carrying out advanced reinforced concrete design in a consultancy or implementing quality systems on site such as inspection and test plans has ensure that the procedures that they are following comply with ISO 9001:2015 or how they have applied CDM2015 to what they do.

An exemplar summary from a candidate’s submission is:

“In order to assist in identifying my own strengths and weaknesses, my performance is reviewed by the Head of XXX and I also seek 360 degree appraisals on my own performance from my manager (Head of XXX), staff, peers and clients. I regularly undertake a training needs analysis, considering any CPD or further qualifications that would be of benefit to me and my employer. This would consider career objectives and required skills. Whilst participating in XXX leadership programme, I have progressed from initially gaining the ILM Level 3 First Line Management qualification which gave me a good understanding of leadership theory and its application in the workplace, to more specific training in subjects such as coaching, motivation and change management. Whilst participating in this programme I have also undertaken Myers-Briggs Type Indicator (MBTI) and ‘Insights’ in order to understand myself, my behaviours and interaction with others (see extract in Appendix 2). My Development Action plan (DAP) is updated to incorporate the outputs of these processes. undertaken in my Personal Development Record (PDR) and review the outcomes against my DAP. Planning and adapting my CPD activity has led to me gaining IEng MICE (2007), Chartered Project Management Surveyor (2013) and Accredited NEC3 Project Manager (2015) status. Other examples of training undertaken include CDM2015, IOSH Managing Safely and Prince 2 along with various technical training, reading professional journals such as NCE magazine and attending ICE events.”
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