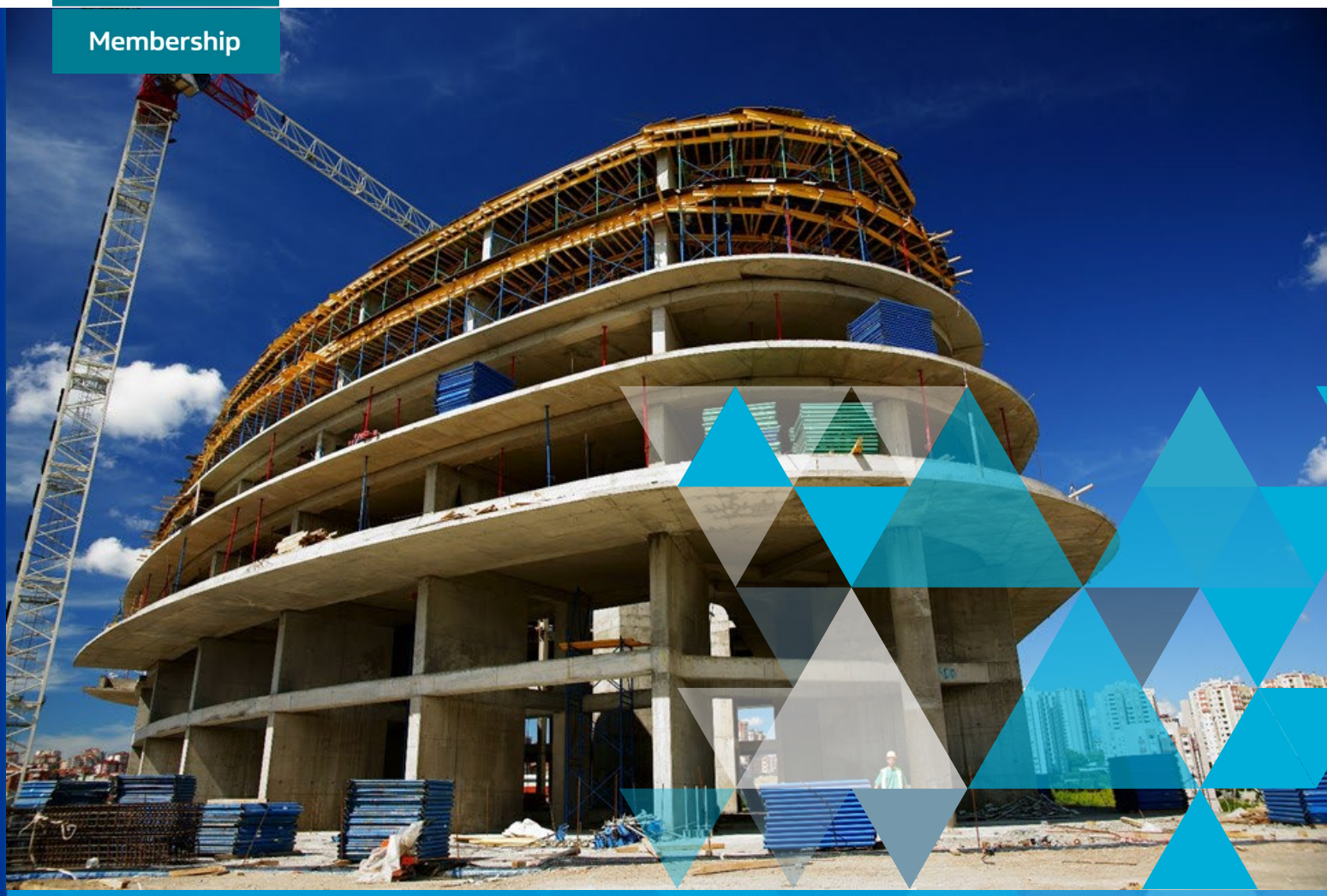
Institution of Civil Engineers

Membership



Civil Engineer (non-integrated) Degree Apprenticeship Level 6

End Point Assessment guidance

Contents

Gateway

- Completion and award of an accredited BSc (Hons) or BEng (Hons) civil engineering degree
- Level 2 qualifications in maths and English have been achieved (or equivalent)
- Completion of formal training plan with employer (ICE IPD for IEng MICE applications)
- Completed all aspects of the apprenticeship, including Knowledge, Skills and Behaviours, including CPD records
- Employer confirms application for end-point assessment

Written Report

- Apprentice completes a report of between 4500 - 5000 words plus appendices, which shows that they have achieved the relevant competence in the knowledge, skills and behaviours
- The report must be verified by a professionally qualified engineer (IEng or CEng)

Submission

- Apprentice submits the report and associated appendices. This is submitted together with a two page CV and CPD records to support the content of the report
- Completed statement of support from your sponsors for ICE membership and professional registration as an Incorporated Engineer (if applied for)

Review of Report

- Two trained and qualified assessors review the report and appendices and assess it against all of the knowledge, skills and behaviours listed in the apprenticeship standard. The assessors record their findings on the Assessment Form against the relevant knowledge, skill and/or behaviours; and agree areas that need to be explored further as part of the interview.

Presentation and Interview

- Apprentice gives a 12-15 minute presentation to the assessors expanding on one or more topics from their report
- This is followed by a 40-50 minute interview which allows the assessors to confirm that the apprentice has acquired and can utilise all the knowledge, skills and behaviours needed to be a competent Civil Engineer

Written Exam

- The apprentice must answer three questions set by the assessors in a two hour timeframe under examination conditions
- These questions are related to their experience and to industry-related knowledge that is relevant to the apprenticeship standard

Decision

- The assessors then submit the completed Assessment Form to ICE, along with a recommendation as to whether or not the apprentice has successfully passed the end-point assessment, and satisfied the requirements for membership and professional registration as an Incorporated Engineer (if applied for)

Introduction

This document provides detailed guidance for the End Point Assessment (EPA) for version 1.0 of the level 6 Civil Engineer (non-integrated) degree Apprenticeship (ST0417).

This document also explains in Appendix E what to submit if you wish to apply for qualified membership of ICE and professional registration as an Incorporated Engineer (IEng MICE) at the same time as your EPA.

If you have any questions, please contact the EPA team on +44 (0)20 7665 2344 or email epa@ice.org.uk.

EPA Gateway

Before you can apply for your End Point Assessment (EPA), you (the apprentice) must have successfully completed all aspects of the gateway, as outlined in the apprenticeship assessment plan. You must have:

- Achieved level 2 Maths and English (or equivalent)
- Completed the formal training plan agreed with your employer[1]
- Completed an accredited BSc(Hons) or BEng(Hons) civil engineering degree[2]
- Sufficient evidence to demonstrate competence in all knowledge, skills and behaviours as described in Appendix A, including your Continuing Professional Development (CPD) records

The decision as to when you are ready to undertake the EPA will be made by your employer, in conjunction with your training provider, who must sign the statement on your EPA application form confirming that you are EPA ready.

If you are also applying for qualified membership of ICE and professional registration as an Incorporated Engineer (IEng MICE) you will need to provide additional evidence and documents with your application. Please see Appendix E for more information.

Applying for your End Point Assessment

It is your responsibility to check that your EPA date falls before the registered end date (RED) of your apprenticeship, and you are advised to check this with your employer and training provider. If it does not fall before your RED, you could be withdrawn from your apprenticeship.

Application deadlines and EPA dates

Please visit the key dates page here for application deadlines and EPA dates.

Applications for End Point Assessment can be submitted via the EPA portal until **31 May 2024**.

From **1 June 2024** ICE will **no longer** accept applications using the portal, all applications for End Point Assessment must be submitted by your Training Provider using the ACE360 portal. We recommend that you contact your Training Provider directly to discuss submitting your application for End Point Assessment.

[1] If you intend to apply for IEng MICE with your EPA, you must complete an ICE training agreement with your employer to submit your formal training plan via ICE's IPD online system. Use of ICE's IPD online system to record your formal training plan is optional if you intend to apply for EPA only. Please refer to appendix E for more information.
[2] You must have been awarded a BSc(Hons) or BEng(Hons) degree in civil engineering which is accredited for IEng registration. Degrees accredited for IEng registration are listed in ICE's online accredited course search. If you cannot find your degree in the course search, please contact us at epa@ice.org.uk with your course details before proceeding.

In-person End Point Assessment

ICE runs both online and in-person EPAs: online offers greater flexibility and supports carbon savings.

You will be able to indicate your preference when applying, but we may need to allocate you to the other interview format depending on the assessors you are matched with.

We recognise some candidates will have specific individual requirements and we will of course do our best to meet any such needs. Please see Appendix C if that applies to you.

Please note that, as part of ICE's commitment to minimising its carbon footprint, our default position is that we will not accept requests from apprentices who need to fly to attend an in-person EPA session.

Membership Number or non-member account

Before you apply, you will need an ICE membership number. If you don't already have one, please create a non-member account by registering with MyICE. This will enable you to make payments online and access information on our website tailored to your particular interests. You will find your membership or account number within the "My Profile" section in your MyICE account.

EPA application

The EPA process comprises the following steps:

- An EPA application
- A written report
- EPA day
  - Presentation
  - Structured interview
  - Written Examination

Application content

You (the apprentice) will need to send us the following:

- A completed EPA application form signed by your employer. This person does not have to be an ICE member
- A verified copy of your certificate, course transcript or letter from the University confirming successful completion of an accredited BSc (Hons) or BEng (Hons) civil engineering degree[3] including confirmation that you have completed all aspects of the apprenticeship, including Knowledge, Skills and Behaviours,
- Evidence of completion of a formal training plan with your employer[4]. If you have not used ICE's IPD online system for your formal training plan, this evidence must be in the form of a 2-page summary outlining the formal training plan with signed confirmation from your employer that the plan has been completed
- Evidence of achievement of Maths and English at Level 2 (or equivalent)

If you are applying for IEng MICE with your EPA, please refer to Appendix E for details of the additional information you need to provide with your EPA application.

[3]You must have been awarded a BSc(Hons) or BEng(Hons) degree in civil engineering which is accredited for IEng registration. Degrees accredited for IEng registration are listed in ICE's online accredited course search. If you cannot find your degree in the course search, please contact us at epa@ice.org.uk with your course details before proceeding.

[4] If you intend to apply for IEng MICE with your EPA, you must complete an ICE training agreement with your employer to submit your formal training plan via ICE's IPD online system. Use of ICE's IPD online system to record your formal training plan is optional if you intend to apply for EPA only. Please refer to Appendix E for more information.

Submitting your application

If you are submitting your application for your End Point Assessment before **31st of May 2024** you must submit your documents through the EPA application portal as a single PDF file of no more than 5mb. You must make sure that all items on the application checklist are included in your application before you upload it. If applying for professional registration, you must confirm your sponsors have submitted their statements of support.

After your application is submitted, you will receive an automated response on screen confirming your application was uploaded. If you experience issues with the portal, please call us on +44 (0)20 7665 2344 or email epa@ice.org.uk.

From **1 June 2024** ICE will no longer accept applications using the portal, all applications for End Point Assessment must be submitted by your Training Provider using the ACE360 portal. We recommend that you contact your Training Provider directly to discuss submitting your application for End Point Assessment.

ICE will check your application for completeness and contact you and your employer to acknowledge receipt and, if necessary, request any missing documents. You will have 2 working days to provide the missing information. We will not be able to continue processing your application until the information has been received. To avoid delays, please ensure that all the items on the application checklist are included with your application.

Payment

ICE will request payment for your EPA directly from the training provider, payment must be received before your EPA day. If payment is not received, we may still allow your EPA to take place, but no result will be issued until payment has been made. We will notify you of any delays in payment.

Individual requirements

If there are individual requirements that you would like taken into account at your EPA you must state these when you apply – for example, if you have a disability or sensory impairment, if there are commercial or security restrictions on what you can discuss about a particular project you have worked on, or if you are unable to attend your EPA on a certain date or time. You can find out more in Appendix C.

If you wish to speak to a member of staff in confidence regarding your requirements, please email epa@ice.org.uk and we will arrange a time to speak to you.

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, and without acknowledgement of the original author. Plagiarism should be avoided at all stages of your EPA, including reports, drawings, presentations, and the written examination.

Plagiarism is taken seriously by the ICE and samples of both the report and the written examination response will be selected from each assessment centre and put through the plagiarism detection software.

In addition, should the invigilator have concerns with your behaviour during the written examination, or your assessors raise concerns with the content of your written examination, your response will automatically be put through the 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. Your assessors will be provided with a copy of the plagiarism report and your response. Your assessor may use this information in the assessment of your written examination and the knowledge, skills, and behaviours of the End Point Assessment.

Here are some guidelines to help avoid plagiarism:

- Do not cut and paste material from others
- Where you have 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 is assumed to be common knowledge – for example, standard equations that are in the public domain

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

Collusion

In the context of the EPA, 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 the EPA, no result will be given until an investigation has taken place.

Malpractice and Maladministration

In the event of concerns raised by the Assessors of any malpractice of maladministration during the EPA, these will be reported to the ICE and an investigation undertaken, no result will be given until the investigation has been undertaken.

Diversity Data

ICE is fully committed to valuing and representing the diversity of our members and applicants. As part of your application, you will be asked a few questions about your background to help us achieve this. We recommend that you submit this data directly online within "My Profile" of your MyICE account.

The information you provide will only be used in an aggregated form and you will never be individually identifiable. You can opt to decline to answer each or any of the questions if you wish. Find out more about ICE's equality and diversity policy.

The Assessment Methods

Keeping to the assessment timeline

The EPA assessment plan sets clear milestones, and it is important that you adhere to those timings – both for the integrity of the assessment and out of respect for your assessors who will be preparing carefully for your EPA.

Please note that you will fail the EPA if you do not submit your report / presentation on time, or if you do not attend the EPA day (i.e. the presentation / interview / written examination), without submitting a reasonable and timely request to defer the EPA.

Deferrals

ICE may agree to defer the EPA (i.e. to reschedule it) if exceptional circumstances prevent you from submitting your presentation / report on time or from attending the EPA day.

We recognise the following three criteria as grounds for requesting a deferral, subject to supporting evidence being provided:

i. Medical
ii. Bereavement
iii. Local Emergency

ICE may also consider situations which fall outside of these criteria if you can provide evidence to show that failure to attend your EPA or submit your report / presentation was due to circumstances beyond your control.

If you need to defer your application after receiving confirmation of the date of your EPA, you must inform ICE immediately on +44 (0)20 7665 2344 or at epa@ice.org.uk. You should notify your training provider, employer and lead sponsor (if applicable) as well.

After notifying ICE, you will be given 10 working days to supply your evidence for deferral, although in most circumstances we would expect that evidence to be submitted directly. If you do not submit the evidence within 10 working days, a deferral will not be granted, and your EPA will be recorded as a fail.

Once submitted, ICE will review your deferral request and supporting evidence and consider whether the request is reasonable – both in terms of the grounds for no longer meeting the assessment schedule and in terms of whether you have notified ICE promptly. ICE will then advise whether a deferral will be granted or whether the EPA will be recorded as a fail. ICE will inform both your training provider and employer of its decision.

You may use the ICE appeals process if you wish to challenge that decision.

Setting the EPA interview date

Subject to satisfying all gateway checks, after we receive your EPA application, supporting documents and payment, we will email you with the names of your two assessors, as well as the time and date of your EPA.

The email will include the deadline for you to submit your written report which will be at least **four weeks** before your EPA day.

Under no circumstances should you contact your assessors.

Unless you have opted for an in-person EPA, your EPA will be held online via MS Teams. For more details see our online guidance.

Conflict of interest

Your assessors should not be connected to either you or your employer. If you know one of your assessors or feel there may be a conflict of interest, you should let us know immediately on +44 (0)20 7665 2344 or at epa@ice.org.uk.

Your assessors will also have been given the opportunity to identify any conflicts prior to you being notified of who they are.

Written Report

The report should be written in your own words and must include:

- A cover page/contents
- Your report, including –
  - A two-page CV
  - Appendices
- Continuing Professional Development (CPD) records
- A photograph of you

Your report must be between 4500-5000 words long (not including Appendices, CV or CPD records) and should be presented in an ordered manner. It will demonstrate how you have achieved the relevant knowledge, skills and behaviours during your apprenticeship as set out in Appendix B.

It is essential that you emphasise your responsibilities and experience, addressing the knowledge, skills and behaviours in accordance with the grading criteria (see Appendix A).

You should expand on the decisions you made; the problems you met; and the occasions when you gained unusual or extensive experience and learned valuable lessons.

The report should focus on one or two projects in which you played a significant role, and you must clearly indicate your role in any relevant aspects of the projects you have worked on. You must give the background to the important decisions that you were responsible for, or made a significant contribution to, and demonstrate where you have exercised independent judgement as an engineer and a practising professional.

Your employer must verify that the work described in the written report has been carried out by you (the apprentice).

CV

Your report should include a brief, two-page CV, which gives an indication of the size and financial value of projects undertaken and your role and responsibilities in each project. This will not be included within the word limit of your report.

Appendices

Numerical analyses, cost data, drawings or other relevant additional documentation should be included as appendices to support the content of your report. These will not be included in the word count of your report.

Your appendices should include no more than:

- Three A3 drawings
- Twelve A4 sides of additional information, including any relevant calculations

Please note: Exceeding this may result in your assessors declining your report.

Photograph

You should include a recent passport photograph with your report (PDF or JPEG).

Continuing Professional Development (CPD) records

Your CPD records show us the training and development activities you have done and the objectives you have set to continue working as a skilled and competent engineer.

You need to submit the following CPD records with your report:

- Development action plan (DAP) – This will detail your personal development objectives for the current/forthcoming year. For example, completing your apprenticeship and learning a new skill
- Personal development record (PDR) – This should include a minimum of 30 hours of effective learning per year for a minimum of three years. It should describe all the training you have undertaken. For example, courses, briefings, toolbox talks and further reading

These records must include current formal training related to health safety and welfare. For more information on how best to plan and record your CPD, please read our CPD guidance which includes a template for you to use.

Submitting your report

Your report, CV, appendices and CPD records, must be uploaded in a single PDF file to the EPA portal at **least four weeks** before the date of your EPA day. The document must be –

- One self-contained PDF file
- A4-sized (A3 is suitable for drawings if required)
- No larger than 15mb

    - The filename must include your ICE membership number[5], surname, initials, Report
- Your report cover page must include –
    - A recent photo of you
    - Your signature and membership number
    - The signature of the person who has verified your report and the date of signing, together with their professional title/s
- Include hyperlinks to link data in the appendices with the relevant text in your report
- Use colour where necessary – for example, images and drawings
- Where possible, convert individual documents to PDF electronically, rather than scan them
- Ensure the file can be viewed on a laptop screen and is also printable in the correct format, and can be read in black and white

Initial assessment

Your report will be reviewed by your assessors against the knowledge, skills and behaviours listed in Appendix A and they will agree on the areas that need to be explored further in the interview.

However, if your assessors agree your report is not of a satisfactory standard, your EPA will be deferred. Details of why it is not satisfactory and what you must do next will be provided by ICE's EPA team. Once you have addressed the assessors' comments, your EPA will be rearranged.

The End Point Assessment

The EPA comprises of:

- A presentation
- A structured interview
- A written examination

To be successful your assessors must both be satisfied that you have met all the knowledge, skills and behaviours listed in Appendix B.

Presentation

Your EPA will begin with a 12-15 minute presentation to your assessors based on one or more topics of your choosing, covered in your written report. You should provide an in-depth description of what you have done, highlighting your involvement.

You are encouraged to use visual aids to illustrate your presentation. You will be able to present these onscreen via MS Teams as per the EPA online guidance. If your EPA is in-person, you will deliver your presentation seated across a table with visual aids no larger than A3 and you are permitted to use a laptop computer but note that an external power supply will **not** be provided.

Where specialist presentation or technical software is needed by to enable you to deliver your presentation, for example, CAD or BIM, it is your (the apprentice's) responsibility to ensure that your chosen equipment and resources are in place for the presentation.

Structured interview

Your presentation will be followed by an interview, lasting between 40-50 minutes, which will seek to confirm that you have achieved the required level of competence as set out in Appendix A. Your assessors will ask at least one question on each of the following topics which will be contextualised to your individual experience:

- Knowledge and understanding of engineering principles – questions about engineering principles such as structural and ground responses, the properties of material and their behaviour as part of integrated systems, civil engineering design and mathematical modelling

[5] You can find this within "My Profile" in your MyICE account – please register with MyICE as a non-member if you do not already have an account.

- Technical and practical application of engineering – questions about the use and validation of digital solutions and data gathering tools such as building information modelling, site investigation and construction techniques, provision of integrated solutions
- Management and leadership – questions about planning for effective project implementation, planning, budgeting, and organisation, managing teams and developing staff, best practice methods of quality management and continuous improvement
- Commercial ability – questions about managing the balance between quality, cost and time, client and end user needs, budgeting, procurement, contract management, commercial and financial risks, satisfying legal and statutory obligations
- Health, safety, and welfare – questions about safe systems of work, assessing and controlling risk, health safety and welfare legislation and best practice
- Sustainability and environment – questions about the impact of civil engineering infrastructure in its construction, management and use and the tools used to assess sustainability and environmental impact
- Interpersonal skills and communication – questions exploring examples of technical and non-technical presentations, reports, working as part of a team, presenting, and discussing proposals
- Professional commitment – questions about client confidentiality, codes of conduct, continuing professional development

You will not know the outcome of the presentation and interview ahead of taking the written examination.

All mobile devices must be switched off prior to the start of the End Point Assessment, and the recording of the presentation and interview is prohibited.

Written examination

The written examination will take place after your interview, and you will be informed of the timing of this in your EPA notification letter. You will be set three questions by your assessors, and you will have two hours to answer all three.

The questions will be on:

- Management
- Health and Safety
- Sustainability and Environment

These will be based on your experience as outlined in your CV and written report, and industry-related knowledge relevant to the standard (see Appendix A).

You will complete the written examination under exam conditions, supervised by an invigilator. You will only be allowed to 2 sides of A4 as reference material. For more information on this please see Appendix D.

You will be given instruction on the day on how to upload your response as a PDF or Word document to a secure site. The upload must be completed within 15 minutes of the end time of your written examination. There will be an ICE staff invigilator present in case of any technical issues. If you are sitting an online EPA and chose to do a handwritten response, you will need to have facilities ready to quickly scan this for upload. If you are sitting an in-person EPA, ICE staff will be available to assist with this.

Results

To be successful at the EPA you must demonstrate achievement of all the grading criteria and pass both the structured interview and written examination. See Appendix A for further information.

We will let you know the result no later than 6 weeks after your EPA. If you are unsuccessful, your letter will include the assessors' comments explaining why, which will help you to discuss your

result with your employer.

Please note that the outcome of your EPA will be shared with your employer and training provider.

Re-sitting

If you are unsuccessful, you must apply to re-sit within 12 months of your original EPA, and you must retake the whole EPA to complete the apprenticeship.

When you re-sit, you have to demonstrate all the knowledge, skills, and behaviours not just those that you were unsuccessful in. In preparing for your re-sit, you and your employer should take into account assessor feedback on areas where you did not demonstrate competence, as detailed in your result letter.

If you are applying for IEng MICE, your sponsors must fill out a new statement of support. If your original sponsors are unable to support your application again, you'll need to find new sponsors.

When preparing another application, you are advised to consult with your employer or, if you are also applying for IEng MICE, please contact our membership support team at membership@ice.org.uk for advice.

Appeals

You have the right to appeal where you feel there was an error in the process, or in cases of unforeseen events. Appeals must be received within two months of the date of your result letter. Appeals after this date will not be considered.

If you are considering an appeal, you are advised to consult with your employer or, if you applied for professional registration with ICE, contact our membership support team at membership@ice.org.uk or +44 (0)121 227 5948.

If you wish to appeal, please read the appeals guidance.

Appendix A – EPA grading

End-point assessment method	Pass criteria	Fail Criteria
Structured interview supported by the written report, CV, CPD records and presentation	Provides evidence of knowledge, skills and behaviours required in Appendix B to: ▪ Maintain and extend a theoretical approach to the application of technology and engineering practice (K1, K2, S3) ▪ Use an evidence-based approach to problem solving and be able to contribute to continuous improvement (K4, S5) ▪ Identify, review and select techniques, procedures and methods to undertake engineering tasks (K1, S4) ▪ Contribute to the design and development of engineering solutions (K3, S4) ▪ Implement or construct design solutions and contribute to their evaluation (K1, S1) ▪ Plan for effective project implementation (K8, S8) ▪ Manage the planning and organization of tasks, people and resources (K6, S8) ▪ Manage teams and develop staff to meet changing technical and managerial needs (K7, S9) ▪ Manage quality processes (K5, S8) ▪ Identify the limits of personal knowledge and skills (B7) ▪ Exercise independent engineering judgment and take responsibility (S1, S9) ▪ Prepare and control budgets (K6, S8) ▪ Use knowledge of statutory and commercial frameworks within own area of responsibility and have an appreciation of other commercial arrangements (K8, S6, S8) ▪ Maintain a knowledge of legislation, hazards and safe systems of work (K5, S2, S6) ▪ Manage risks (K6, S7) ▪ Manage health, safety and welfare within own area of responsibility (S7, B5) ▪ Maintain a knowledge of sustainable development best practice (K1, S2) ▪ Manage engineering activities that contribute to sustainable development	Fails to provide evidence to meet all the knowledge, skill and behaviour requirements as required in Appendix B for this assessment method

	(S1, S2) ▪ Communicate well with others at all levels including use of English orally and in writing. (K8, S10, B4) ▪ Discuss ideas and plans competently and with confidence (K8, S10) ▪ Maintain personal and social skills (S9, B3, B4) ▪ Manage diversity issues (S9, B1) ▪ Understand and comply with the Professional Engineering Institution's code of conduct (K9, B6) ▪ Plan, carry out and record Continuing Professional Development and encourage others (S11, B8) ▪ Engage with the Professional Engineering Institution's activities (K9, S11) ▪ Demonstrate appropriate professional standards, recognizing obligations to society, the profession, and the environment (K9, B1, B2, B6) ▪ Exercise responsibilities in an ethical manner (K9, B6) To pass you must demonstrate achievement of all these grading criteria.	
Written examination	Provides evidence of knowledge, skills and behaviours required in Appendix B to: ▪ Communicate well with others at all levels including use of English orally and in writing (K8, S10) ▪ Discuss ideas and plans competently and with confidence (K8, S10) ▪ Plan for effective project implementation (K8, S8) ▪ Manage the planning and organization of tasks, people and resources (K6, S8) ▪ Manage teams and develop staff to meet changing technical and managerial needs (K7, S9) ▪ Prepare and control budgets (K6, S8) ▪ Use knowledge of statutory and commercial frameworks within own area of responsibility and have an appreciation of other commercial arrangements (K8, S6, S8) ▪ Maintain a knowledge of legislation, hazards and safe systems of work (K5, S2, S6) ▪ Manage risks (K6, S7) ▪ Manage health, safety and welfare	Fails to provide evidence to meet knowledge, skills and behaviours as required in Appendix B for this assessment method

	within own area of responsibility (S7, B5) ▪ Maintain a knowledge of sustainable development best practice (K1, S1, S2) To pass you must demonstrate achievement of all these grading criteria.	

Appendix B – Mapping of EPA methodology to the civil engineer non-integrated degree apprenticeship standard

Mapping Grid

Ref	Core knowledge to be assessed	Interview	Written Exam
K1	The principles and techniques used to evaluate the impact of civil engineering infrastructure on society and the environment taking account of business, client and end user needs in its construction, management, and use. This includes the importance of the tools used to measure welfare, health, safety and sustainability. Examples include: knowledge and understanding of environmental impact assessment, building information modelling taking into account the context of sustainability, CEEQUAL (a sustainability assessment tool used for the assessment of all types of civil engineering, infrastructure, coastal protection works, coastal landslides, sewerage and drainage systems, and public realm projects and contracts) the environmental impact of materials, integrated transport systems, water quality and supply as well as urban drainage systems for a sustainable built environment.	✓	✓
K2	The mathematical, scientific, and engineering principles, methods and modelling that underpin the design and construction of civil engineering infrastructure. This will include understanding structural and ground responses, properties of materials and their predicted behaviour as part of integrated systems. Examples include, knowledge of the design and construction of buildings, transportation systems, water and wastewater networks, foundations and temporary works, coastal protection, understanding slope stability, retaining walls, ground water movement, elastic/plastic and failure behaviour of materials such as concrete, steel, asphalt and timber, behaviour of structural elements such as beams, land surveying and formulating applicable mathematical solutions through suitable software.	✓	

K3	The use and validation of digital solutions and data gathering tools to model, evaluate, design, test, build and manage civil engineering infrastructure, refining as required and applied to integrated solutions Examples include: knowledge of software packages including building information modelling, structural engineering design and analysis, computational fluid dynamics and finite element modelling software.	✓	
K4	A range of research techniques used to develop innovative solutions to civil engineering problems and the use of current and emerging technologies and products. Examples include: knowledge of site investigation techniques, flood risk management, materials testing, physical and numerical modelling, transport analysis, road traffic flow, growth, traffic management and safety.	✓	
K5	The design and quality standards, codes of practice, legal and regulatory frameworks, such as those of asset owners and regulatory bodies, that govern the life cycle of civil engineering infrastructure. Examples include: British Standards, Construction (Design and Management) policies, building regulations, Eurocodes, Network Rail, and nuclear industry standards.	✓	✓
K6	The principles and techniques of effective project management including resources, cost management and risk assessment. Examples include: knowledge of project and contract management in terms of cost, quality, performance and continuous improvement; procedures and processes involved in procuring projects, producing tenders and estimates and factors that affect profitability; management structures and relationships involved in project delivery; commercial and financial risks; project management systems and procedures for forecasting, planning, allocating and controlling human, material and financial resources; continuous quality improvement strategy.	✓	✓
K7	How to manage teams and develop staff to meet changing technical and managerial needs. Examples include: knowing how to build teams, effective team working, time management, reviewing and appraising performance in relation to delivery of civil and infrastructure engineering projects and related wider operations. Using change-management techniques to address client changes and impacts on civil engineering	✓	✓

	design and delivery.		
K8	How to communicate effectively and provide guidance to others through design models, calculations, reports, drawings, specifications, presentations, digital media and discussions with those both inside and outside the industry.	✓	✓
K9	The professional and ethical codes of conduct and associated responsibilities as set out by the relevant professional engineering institution.	✓	

Ref	Core skills to be assessed	Interview	Written Exam
S1	Evaluate the impact of civil engineering infrastructure on society and the environment taking account of business, client and end user needs in its construction, management and use. Examples include: the ability to use the CEEQUAL toolkit, carry out environmental impact assessments, designing and constructing the built infrastructure to ensure that it is safe, usable, appropriate and cost effective.	✓	✓
S2	Proactively consider welfare, health, safety, and sustainability in the life cycle of civil engineering infrastructure using tools such as CEEQUAL and environmental impact assessments.	✓	✓
S3	Apply mathematical, scientific and engineering principles, methods and modelling to the design and construction of civil engineering infrastructure. Examples include: the design, construction and maintenance of buildings, transportation systems, water and wastewater networks, foundations and temporary works, understanding slope stability, retaining walls, ground water movement, coastal works, elastic/plastic and failure behaviour of materials such as concrete, steel, asphalt and timber, behaviour of structural elements such as beams, land surveying.	✓	

S4	Use and validate digital solutions and data gathering tools to model, evaluate, design, test, build and manage civil engineering infrastructure. Examples include: ability to use building information modelling, structural engineering design and analysis, computational fluid dynamics and geospatial information systems software.	✓	
S5	Develop innovative solutions to civil engineering problems through the use of research techniques, market intelligence and best practice. Examples include: ability to use of range of research methods to collect and analyses data to draw well-founded practical conclusions for implementation, applicable research strategy and methodology, literature searches.	✓	
S6	Interpret and apply design and quality standards including codes of practice, legal and regulatory frameworks, in the development of civil engineering solutions, the determination of construction methods and the technical aspects of site activities. Examples include: planning, designing, construction and maintenance of buildings and infrastructure in compliance with current codes, standards and legislation, industry regulations, the use of Risk Assessment Method Statements.	✓	
S7	Manage and apply safe systems of work including taking responsibility for own obligations for health, safety, and welfare issues, assessing and controlling risk, working with health, safety and welfare legislation and best practice. Examples include: recognise the health and safety aspects of civil and infrastructural projects as well as assess associated risks and identify appropriate safety measures in site work and for undertaking construction works. Apply the principles of civil engineering and construction business risk management.	✓	✓
S8	Manage the planning, budgeting and organisation of tasks, people and resources through the use of appropriate management systems, working to agreed quality standards, project programme and budget, within legal contractual and statutory requirements.	✓	✓
S9	Manage teams and develop staff to meet changing technical and managerial needs.	✓	

S10	Communicate effectively and provide guidance to others through design models, calculations reports, drawings, specifications, presentations, digital media, and discussions with those both inside and outside the industry.	✓	✓
S11	Carry out and record the continuing professional development necessary to maintain and enhance knowledge and competence as a civil engineer.	✓	

Ref	Core behaviours to be assessed	Interview	Written Exam
B1	Be aware of the needs and concerns of others, especially in relation to diversity and equality.	✓	
B2	Demonstrate reliability, integrity, and respect for confidentiality.	✓	
B3	Demonstrate confidence and flexibility in dealing with new and changing interpersonal situations.	✓	
B4	Be conscious of the need to create, maintain and enhance productive working relationships.	✓	
B5	Demonstrate a strong commitment to health, safety and welfare.	✓	
B6	Demonstrate a personal commitment to professional and ethical standards, recognising your obligations to society, the profession and the environment.	✓	✓
B7	Demonstrate self-awareness of knowledge and skills and only undertake work that you are competent to do.	✓	
B8	Reflect on their personal development needs and place a strong emphasis on addressing them.	✓	

Appendix C – Individual requirements

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

Individual requirements may include disabilities, specific learning difficulties (such as dyslexia), temporary conditions, and security clearance, or you are unable to attend EPA on a certain date or time, or to travel for an in-person EPA.

Each application will be considered on a case-by-case basis in light of the applicant's needs. However, you need to tell us about your requirements in the space provided in your EPA application form. We will also need to see any evidence, e.g., certified documents or statements, which should be submitted at time of making your application.

Disability or sensory impairment

In line with the Equality Act 2010, we will make whatever 'reasonable adjustments' are required for apprentices with a disability, such as dyslexia, speech impairment or sensory loss, for example. Our Equality and Diversity Policy ensures everyone receives the same opportunities during the EPA process.

Listed below are some examples of reasonable adjustments made:

- Giving extra time at the different elements of the EPA (up to 25%)
- Providing a scribe
- Providing a private room

However, this is just an example and ICE staff will contact you and discuss your own individual requirements prior to your EPA day, adjustment will:

- Not give the apprentice an unfair advantage
- Reflect the apprentice's normal way of working and
- Be based on the individual needs of the apprentice

You can speak to a member of staff in confidence regarding your requirements, please email epa@ice.org.uk and we will arrange a time to speak to you.

Security-mindedness and security clearance

You should consider whether information in your EPA submission should be omitted or reduced in its level of detail due to security reasons. However, there is 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:

- Make your report non-site specific – for example do not 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
- Do not state building numbers or names – it is sufficient to say 'nuclear facility' or 'nuclear store'
- Remove site and building names from drawings or snapshots of models

Do not include photographs or other images which reveal the location of buildings and facilities

- 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 that of the asset owner/client) reads your EPA submission and approves the content before submitting.

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 D – Written examination advice

This is a two-hour test of your knowledge, skills and behaviours to work competently as a Civil Engineer. Your assessors will draft three questions and you must answer all of them.

The questions will be unique to you, based on your areas of experience, and appropriate to your level of work-based knowledge and responsibility. However, you will still need an appreciation of broad industry and society-related topics, which you should try to gain through your experience at work, general reading, CPD study and discussions with colleagues.

You are expected to show you can develop ideas and support them with reasoning. Your answer should follow a logical structure, either as an essay or report. It does not have to be a polished article, but consistent with a 'first draft.'

You are advised to prepare a plan for your written examination although this will not be marked. A plan will help you formulate a coherent argument and can help your assessors to see your thought process.

You will only be allowed to refer to 2 sides of A4 (either soft or hard copy) as reference material, you will not be allowed to use any other reference material or access any other information. Copy and pasting from your reference material is not permitted, it is to be used to refer to only. The font size should be what is used in your working day and should be easily readable if printed.

Written Examination Assessment

Please refer to the grading criteria in Appendix A.

Use of laptop computers

If you are completing your written examination online, then you can use your own laptop or computer to do so. You will need a stable internet connection capable of running the video call using MS Teams.

If your EPA is in-person then you need to bring your own laptop computer to complete the written test, unless advised otherwise by ICE.

We won't be able to help if you experience technical problems with your own equipment. If there's a problem, speak to the ICE staff member present, if in person; or if online contact your assigned ICE staff member immediately. Depending on the severity of the technical problems you'll be given extra time to complete the written test. In exceptional circumstances, you can submit work that has been partly hand-written and partly done on computer.

The use of the internet, artificial intelligent (AI) software tools, search engines, contacting another person or accessing other devices is not permitted during the EPA/written examination, except to access the MS Teams meetings.

If your Assessors or invigilator notice that you are using unauthorised materials, they will ask you to stop, and a note will be recorded.

Appendix E - Applying for Membership of ICE and Professional Registration as an Incorporated Engineer (IEng MICE)

If you wish to become a Member of ICE and register as IEng with the Engineering Council when you pass your EPA, you must complete and sign section 3 of the EPA application form, and meet the following additional requirements:

- Demonstrate additional IEng attributes in your EPA interview
- Complete your formal training plan using IPD Online
- Provide statements of support from two sponsors
- Notify ICE of any unspent convictions

After receipt of your application, your name will be published on the ICE website for a minimum of 28 days in accordance with Admission Procedure 3 for ICE Membership.

If you have given permission in your application form, your name will also be published on ICE's website when you pass your EPA.

Please note that if you pass your EPA, you will be made a Member of ICE and registered as IEng with the Engineering Council, subject to payment of the relevant Engineering Council entry fee and subsequent annual registration fee, as well as an annual ICE Member subscription fee.

You will be notified in your result letter of when you can use the designatory letters of IEng MICE.

Additional IEng attributes

To achieve IEng MICE you will need to demonstrate in your EPA interview these aspects of the IEng Member attributes which are not specifically addressed in the current apprenticeship standard:

- Evaluate the effectiveness of engineering solutions in the context of the whole project life cycle (within attribute 1)
- Contribute to quality improvements (within attribute 2)
- Contribute to improvements in Health, Safety and Welfare (within attribute 4)
- Contribute to sustainable development and the United Nations Sustainable Development Goals (UNSDGs) (within attribute 5)

Completion of Formal Training Plan using IPD online

To be eligible for IEng MICE your formal training plan must be completed using ICE's IPD online system. To use IPD online you will need to join ICE as either a Student or a Graduate member and sign up to an ICE Training Agreement or mentor-supported training with the approval and support of your employer.

Please speak to your employer and contact membership@ice.org.uk to speak to an ICE Membership Development Officer for individual advice on how to do this as part of your apprenticeship.

Sponsors

Your application must be supported by two sponsors who can confirm your suitability for membership. You must ask them to complete a statement of support and upload it to the sponsors portal one week before you submit your application - see here for the deadlines. You must check that they have done this before submitting your application.

It is important that you read the statement of support form before you select your sponsors as it provides guidance on who is eligible to sponsor your application, and what they are required to do.

You need to select one sponsor to be your 'lead sponsor' and they must be an ICE Member or Fellow registered at IEng or CEng level. Your other sponsor does not have to be an ICE Member or Fellow but must be a registered member of a Professional Engineering Institution at IEng or CEng level.

Your lead sponsor:

- Has a duty to act as a mentor during your application process
- Should be familiar with the current ICE requirements for membership and registration with Engineering Council. Your lead sponsor could, for example, provide constructive criticism of your report, advice on the presentation and arrange practice interviews
- We recommend that your lead sponsor is someone who has been involved in your IPD– your supervising civil engineer for example, but this is not mandatory

Unspent convictions

No person with an unspent conviction relating to a Serious Criminal Offence[6] will be admitted to any grade of membership unless there are special circumstances that show beyond reasonable doubt that the person is a fit and proper person to be admitted to membership of the Institution.

If you have an unspent conviction relating to a serious criminal offence, please complete this form and have it signed by your sponsors, and submit with your completed application. A member of staff will contact you directly and in confidence.

[6] "Serious Criminal Offence" means an offence involving dishonesty or deception or any offence punishable by a Court of competent jurisdiction by a term of imprisonment of 12 months or more (whether or not any custodial sentence is in fact imposed).

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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