



INSTITUTE OF  
HIGHWAY  
ENGINEERS

# Guidance Notes

## EngTech Professional Registration

The first step to completing your Professional Review  
with the Institute of Highway Engineers

Guidance notes for:

### **Engineering Technician**

(Recognised Qualification Route and Individual  
Assessment Route)

Professional Registration

## About this booklet

This set of guidance notes is your first step in gaining Engineering Technician professional registration through the Institute of Highway Engineers. This booklet is essential for both Recognised Qualification Route and Individual Assessment Route EngTech professional review applications. It provides you with information and guidance to ensure the relevant paperwork is completed to the required standard as quickly and easily as possible. Please read this booklet in conjunction with the EngTech application form as the two are designed to go hand in hand.

## Before you begin

In order to obtain EngTech registration you will need to be an existing IHE member, or a member of one of our Professional Affiliate Partners (currently the Association of Cost Engineers (ACostE) and the Institute of Traffic Accident Investigators (ITAI). Please refer to our website at [www.theihe.org/membership](http://www.theihe.org/membership) if you need to apply for IHE membership.

To gain Engineering Council registration, engineers and technicians prove their competence and commitment in a professional review of their portfolio submission to the IHE. Anyone who meets the competence and responsibility standards can become an EngTech – there's a route to suit all competent technicians.

Many will have a BTEC Level 3 (or equivalent) or SCQF Level 6 equivalent qualification. Others will have gained the necessary skills, knowledge and experience through a non-academic route because of their practical experience in the highways industry.

There are many benefits of EngTech registration, these include:

- Tangible evidence to your employer and potential employers of your proven competence as a professional technician.
- Recognition by the worldwide engineering community.
- Ongoing career progression, as you establish your professional credentials within the industry.
- The use of the EngTech MIHE post-nominals after your name.
- Gives you an advantage over those who have no professional registration.
- An important stepping stone in the process to becoming IEng or CEng.

As a professional member of the Institute you'll have the same access to information and networking opportunities as Incorporated and Chartered Engineers and can progress to Fellow EngTech when you have been an EngTech for 5 years and meet the IHE Fellow requirements.

This booklet provides guidance and clarification of the five requirements of EngTech standard contained within the UK-SPEC of UK Standard for Professional Engineering Competence laid down by the Engineering Council. These are:

- A.** Use engineering knowledge and understanding to apply technical and practical skills.
- B.** Contribute to the design, development, manufacture, construction, commissioning, decommissioning, operation or maintenance of products, equipment, processes, systems or services.
- C.** Accept and exercise personal responsibility.
- D.** Use effective communication and interpersonal skills.
- E.** Demonstrate commitment to an appropriate code of professional conduct, recognising obligations to society, the profession and the environment.

## Completing the application form

To keep your application as clear as possible, we would request the following:

- If completing the application form by hand, please write in BLOCK CAPITALS and in black ink.
- Please complete only the relevant fields - we have included guidance as to which sections should be left blank if they are not relevant.
- You should aim to complete the application form with as much detail as possible. This will reduce the instances where we need to ask you for more information at a later date.
- Remember to include any additional documentation with your application where you see this symbol. Please tick the relevant box on the check list at the back of the application form if you are including additional evidence.



Please post your completed application form, along with your submission to:

**Membership, Institute of Highway Engineers, Floor 4, Euston House, 24 Eversholt Street, London, NW1 1DB**

**Important:** ITAI and ACostE members should send your application as described above, to the following address.

ACostE members should send your application directly to The Association of Cost Engineers:  
ACostE Administration Office, Lea House, 5 Middlewich Road, Sandbach, Cheshire CW11 1XL

ITAI members should send your application directly to the Institute of Accident Traffic Investigators at:  
ITAI, PO Box 16057, Solihull, West Midlands, B93 3GL

## And finally

We hope you find the pathway to Engineering Technician application a simple process. The Institute of Highway Engineers is committed to helping you achieve the career benefits that professional registration can bring. Please contact us on: 020 3874 3066 or email us at [professionalreviews@theihe.org](mailto:professionalreviews@theihe.org) if we can provide any assistance or guidance at any stage of your EngTech application.

## Section A

In this section we give some general guidance and background to assist you in submitting your EngTech application with the IHE.

### 1. Entry routes and requirements

Before you start compiling your EngTech submission, you will need to establish which route of application you're going to take. Two routes are available to Engineering Technicians, 'Recognised Qualifications Route' and 'Individual Assessment Route'. Choosing which one is applicable for you will depend on the training and qualifications you have undertaken so far in your career. Both routes will require you to demonstrate your competency in applying proven techniques to solve problems and supervise works or people.

#### **RECOGNISED QUALIFICATIONS ROUTE**

If you have a Regulated Qualifications Framework Level 3 qualification (such as a NVQ3) or a HNC or HND in engineering, and are working at the right level, you should use this route to apply for your EngTech with the IHE. This pathway recognises your previous qualifications and the competency you have demonstrated in achieving these.

Typical qualifications which are also acceptable include:

- HNC or HND in engineering or construction
- An accredited Foundation Degree in engineering or construction
- A level 3 Diploma in Construction or Engineering with additional maths
- Bath Highways Open Tech Professional Development Diploma (5 units including a project)

The IHE considers qualifications at RQF level 3 (or above) these subject areas to be acceptable:

- Transport Technical Support
- Construction Site Supervision
- Built Environment Design
- Laboratory Systems
- Plant Supervision
- Site Inspection
- Road Safety (Engineering Pathway)
- Transportation (NTQ)
- Technical Design
- Design & Drafting
- Site Technical Support
- Highway Maintenance
- Specialist Operations
- Contracting Construction Operations

Applicants don't usually get called to interview, however, the IHE reserves the right to interview applicants to maintain the integrity of the Professional Review process.

#### **INDIVIDUAL ASSESSMENT ROUTE**

If you have other qualifications which do not fulfil the Recognised Qualifications Route criteria, or none at all, but can demonstrate competence and commitment to the appropriate depth and level through your work experience, then you can be individually assessed. You will need to provide similar documentation as for the Recognised Qualifications Route but you will need to explain more about your work and demonstrate your engineering knowledge.



Typically, applicants for this route have:

- Work experience at supervisory level but few or no qualifications
- Level 2 Entry Level qualification in an appropriate engineering discipline
- NC or ND in building

Applicants don't usually get called to interview, however, the IHE reserves the right to interview applicants to maintain the integrity of the Professional Review process.

You will need to indicate in the left-hand column next to each assessment question where you have met the Engineering Council Learning Outcomes for Engineering Technicians.

## 2. Getting started

### Help and support – Mentors

Getting the right help and support is crucial to ensuring you are successful in achieving EngTech registration.

You are responsible for your own development and pathway to producing your EngTech submission, but support from a colleague or mentor enables you to try out ideas and keep a focus on objectives. Good mentors will try to ensure that the engineers they work with gain confidence and independence as a result of their one-to-one relationship, and are empowered to take full and effective responsibility for themselves.

The Institute of Highway Engineers has produced a short booklet explaining the roles and responsibilities of both mentors and applicants. Please refer to our website at <https://members.theihe.org/page/formsandguidance> (log in required) for more information.

### Creating your folder

All submissions must be presented in a single ring binder or lever arch folder. You should use file dividers to enable us to easily identify the relevant parts of your evidence folder and cross reference these with the section headings in the EngTech application form.

The coversheet provided in section 1 of the application form must be affixed to the front of your folder.

**Please note:** Submissions presented in any other style of folder or binding, or without the coversheet affixed will be returned to you.

## 3. IHE EngTech workshops

If you would like more help, support and guidance in making your EngTech submission, the IHE offer EngTech workshops throughout the country. These specially tailored workshops comprise two parts and offer one to one mentoring by our experienced team of senior reviewers. Each workshop will guide you through the application process so that by the conclusion of the second workshop you should have not only completed your application in full but also submitted your paperwork for review.

To attend these workshops, you will need to commit to 2 full days away from the office, complete a few simple forms about yourself prior to workshop 1, undertake an hour or so preparation activity prior to workshop 2 and carry out assembly of evidence during the 4-week period between the workshop sessions.

Further detail can be found on the main IHE website.

## Section B

In this section we will guide you through completing the IHE EngTech application form. The application form pulls together your personal details, aims to assess some of your skills and knowledge, as well as providing a checklist for your additional documents.

Guidance on all sections of the application form is detailed below.

### 1. The coversheet

Please complete the coversheet in section 1 at the front of the application form. This *must* be affixed to the front of your folder.

All submissions must be presented in a single ring binder or lever arch folder. You should use file dividers to enable us to easily identify the relevant parts of your evidence folder. These should cross reference with the relevant sections of this form.

**Please note:** *Submissions presented in any other style of folder or binding, or without the coversheet attached will be returned to you.*

### 2. Your details

Please complete all fields in this section.

### 3. Current employment details

Please complete all fields in this section.

### 4. Area of specialism

Please tick one of the listed categories of highway specialism that best describes the specialist area of your EngTech submission. This information is essential for us to identify reviewers in your field that can assess your submission.

### 5. Route of application

Use this section to indicate whether you hold the necessary qualifications to apply via the Recognised Qualifications Route or if you will be applying via the Individual Assessment Route.

### 6. Your CV

We require an up-to-date copy of your CV covering your employment, academic and training history. This CV should be no more than two pages in length.

## 7. Higher and further education

Please complete this section in chronological order as per the instructions on the application form.

## 8. Your qualifications

We require copies of your certificates for the further and higher education courses you have listed in section 7. These should be authenticated (signed and dated) by either your Line Manager, Proposer or Secunder who can confirm that these are true copies of your original certificates. Do not send us original certificates as these will not be returned to you.

## 9. Career history

Please complete this section in chronological order as per the instructions on the application form.

## 10. Your current job

We require a copy of your current Job Description to be attached with your application. Self-employed applicants should produce a one page document describing your direct clients.

## 11. Mapping your organisation

You should supply the IHE with a clear organisation chart that identifies the structure of your organisation. This organigram should be of a hierarchical design and you should clearly highlight your own position on it. Self employed applicants do not need to complete this section.

## 12. Continuing Professional Development

Continuing Professional Development is the systematic maintaining, improving and broadening of your knowledge and skills and the development of personal qualities necessary for the execution of professional duties throughout your working life. Most employers require you to keep a personal CPD record and you can submit this as evidence in your folder. If your employer does not require this, a blank CPD record form can be downloaded from the members area of our website at <https://members.theihe.org/page/cpdhub> (log in required)

The IHE recommends you record your CPD using the Engineering Council Mycareerpath tool. If you use this, please export your CPD record and print it out. It can then be included in your evidence folder.

Please ensure you submit evidence of Continuing Professional Development and demonstrate how you intend to meet your obligations to CPD in the future by submitting a forward plan.

More information on CPD can be found in the members area of our website at <https://members.theihe.org/page/cpdhub> (log in required).

*This should be essential reading before making your professional review submission.*

## 13. Assessment questions

Competence is the ability to carry out a task to the required standards. To achieve this, you will need to demonstrate that you have the level of knowledge and skills required to achieve EngTech registration. Competence is developed by a combination of formal and informal learning, training and experience.

Engineering Technicians apply proven techniques and procedures to the solution of practical engineering problems.

Engineering Technicians shall demonstrate:

- Engineering knowledge and understanding to apply technical and practical skills.
- Evidence of their contribution to the design, development, manufacture, commissioning, decommissioning, operation or maintenance of products, equipment, processes or services.
- Supervisory or technical responsibility.
- Effective interpersonal skills in communicating technical matters.
- The ability to operate in accordance with safe systems of work and to demonstrate appropriate understanding of the principles of sustainability.
- Commitment to professional engineering values.

To assess this and ensure the individual being registered is a competent engineer, the Engineering Council expect professional registrants to be competent in five broad areas:

The Engineering Council expect professional registrants to be competent in five broad areas:

- A** Knowledge and understanding
- B** Design, development and solving engineering problems
- C** Responsibility, management and leadership
- D** Communication and interpersonal skills
- E** Personal and professional commitment

The three assessment questions are designed to provide you with an opportunity to demonstrate the Engineering Council statement of competence as detailed in the grid we have provided in this booklet. Please read the statements and guidance carefully and bear this in mind as you answer each of the assessment questions. Where you feel you have met an area of the Engineering Council statement of competence in your answer please indicate this in the right-hand margin provided.

Your answers to the three assessment questions in the EngTech application form depend on the route you will be applying through.

### **RECOGNISED QUALIFICATIONS ROUTE (Approved Level 3 qualifications or above)**

Your formal educational qualifications demonstrate the necessary knowledge that underpins each of the five competences. Therefore, you should aim to complete each question using approximately 500 words per question. Sufficient evidence should be submitted to demonstrate achievement of the competency statements. Not more than half a dozen small evidential documents per question are required.

You will also need to annotate your response to the assessment questions in the right-hand margin where you feel you have demonstrated one of the Engineering Council Statements of Competence and Commitment.



## **INDIVIDUAL ASSESSMENT ROUTE (without exemplifying qualifications)**

Applicants without exemplifying qualifications applying via the Individual Assessment Route should complete the three questions and demonstrate the use and understanding of engineering principles. Each question should be completed using approximately 750-1000 words. No more than half a dozen small evidential documents per question are required.

You will need to annotate your response to the assessment questions in the right-hand margin where you feel you have demonstrated one of the Engineering Council Statements of Competence and Commitment.

You will also need to annotate your response to the assessment questions in the left-hand margin where you feel you have demonstrated one of the Engineering Council EngTech Learning Outcomes. As an Individual Assessment Route candidate, you will need to demonstrate the educational Learning Outcomes in your submission that Recognised Qualification Route applicants have achieved by having an exemplifying qualification. These Learning Outcomes are five areas of engineering learning you will need to demonstrate through the three assessment questions and are as follows:

### **1. Science and mathematics**

The study of engineering requires a substantial grounding in engineering principles, science and mathematics commensurate with the level of study.

Engineering Technicians will need:

**1.1** Apply knowledge of mathematics, statistics, natural science and engineering principles to well-defined problems.

### **2. Engineering analysis**

Engineering analysis involves the application of engineering concepts and tools to analyse, model and solve problems.

Engineering Technicians will need:

**2.1** Analyse well-defined problems reaching substantiated conclusions.

**2.2** Use appropriate computational and analytical techniques to solve well-defined problems.

**2.3** Select and use technical literature and other sources of information to address well-defined problems.

### **3. Design and innovation**

Design is the creation and development of an economically viable product, process or system to meet a defined need. It involves significant technical and intellectual challenges commensurate with the level of registration.

Engineering Technicians will need:

**3.1** Contribute to design solutions for well defined technical problems and assist with the design of systems, components or processes to meet business, customer or user needs as appropriate. This will involve consideration of applicable health and safety, diversity, inclusion, cultural, societal and environmental matters, codes of practice and industry standards.

**3.2** Apply a systematic approach to the solution of well-defined problems.

#### **4. The Engineer and Society**

Engineering activity can have a significant societal impact and engineers must operate in a responsible and ethical manner, recognise the importance of diversity, and help ensure that the benefits of innovation and progress are shared equitably and do not compromise the natural environment or deplete natural resources to the detriment of future generations.

Engineering Technicians will need to:

- 4.1** Evaluate the environmental and societal impact of solutions to well-defined problems.
- 4.2** Apply ethical principles and recognise the need for engineers to exercise their responsibilities in an ethical manner and in line with professional codes of conduct.
- 4.3** Identify, evaluate and mitigate risks (the effects of uncertainty) specific to their field of activity.
- 4.4** Adopt a holistic and proportionate approach to the mitigation of security risks.
- 4.5** Recognise the importance of equality, diversity and inclusion in the workplace.

#### **5. Engineering practice**

The practical application of engineering concepts and tools, engineering and project management, teamwork and communication skills. Engineers also require a sound grasp of the commercial context of their work, specifically the ways an organisation creates, delivers and captures value in economic, social, cultural or other contexts.

Engineering Technicians will need to:

- 5.1** Use practical laboratory and workshop skills to investigate well-defined problems.
- 5.2** Select and apply appropriate materials, equipment, engineering technologies and processes to plan and undertake well-defined programmes of work.
- 5.3** Recognise the need for quality management systems and continuous improvement in the context of well-defined problems.
- 5.4** Demonstrate awareness of engineering management principles, commercial context and project management.
- 5.5** Function effectively as an individual and as a member of a team.
- 5.6** Communicate effectively with technical and non-technical audiences.
- 5.7** Plan and record self-learning and improve performance, as the foundation for lifelong learning/CPD.

## Statement of Competence and Commitment

In your responses to the three assessment questions you will need to reference all the Statements of Competence and Commitment defined in the Engineering Council UK-SPEC. Over the course of answering the three assessment questions, you should be able to address all fifteen competencies at least once.

The following grid sets out the Engineering Council's Statements of Competence and Commitment with IHE guidance alongside and suggests typical documents you could select to illustrate your experience.

If you are a member of our Professional Affiliate partners (the Institute of Accident Traffic Investigators, ITAI, or The Association of Cost Engineers, ACostE) you should contact these Institutes directly for specific guidance to assist you with your application. Your Institute will be best placed to supply you with specific guidance in your area of engineering expertise.

| A. Knowledge and understanding. Engineering Technicians shall use engineering knowledge and understanding to apply technical and practical skills |  |  |
|---|--|--|
| Engineering Council Statement of Competence   | IHE Guidance   | Examples of evidence   |
| A1. Review and select appropriate techniques, procedures and methods to undertake tasks.  | <p>This competence is about having knowledge of the technologies, standards and practices relevant to the applicant's area of work and having evidence of maintaining and applying this knowledge.</p> <p>The reviewers will be looking for evidence that you have the know-how to do the job and were able to go beyond the immediate requirements and to use your initiative and your experience to solve a problem or improve a process. You should be familiar with the techniques, procedures and methods relevant to your work, and be able to show you can use basic engineering principles appropriately.</p>  | <ul style="list-style-type: none"> <li>• Evidence of evaluating potential methods of carrying out an engineering task and selecting the most appropriate solution.</li> <li>• Knowledge of design/construction manuals.</li> <li>• Knowledge of methods of measurement.</li> <li>• Knowledge of specifications.</li> <li>• Knowledge of asset management techniques and maintaining asset registers.</li> <li>• Preparing drawings using traditional or contemporary techniques.</li> <li>• Knowledge of modelling packages and applications.</li> <li>• Understanding of the principles of data collection and validation.</li> <li>• Knowledge of relevant guidance, policy, legislation and Codes of Practice.</li> </ul> |
| A2. Use appropriate scientific, technical or engineering principles.  | <p>In your submission, show you:</p> <ul style="list-style-type: none"> <li>• Know which procedures to apply to each task.</li> <li>• Use your knowledge to give technical advice.</li> <li>• Identify problems or improvements and can identify possible options, explaining why you picked the 'right one'. You could describe a task or scheme which did not quite work and explain why along with the choices you made and the outcome.</li> <li>• You could refer in your submission to the TAs, TDs, NRSWA, Traffic Sign Regs, IANs, Codes of Practice, Highways Act and other relevant legislation, Conditions of Contract, standard computer programmes etc. relevant to your work.</li> </ul> |  |

B. Design, development and solving engineering problems. Engineering Technicians shall contribute to the design, development, manufacture, construction, commissioning, decommissioning, operation or maintenance of products, equipment, processes, systems or services.

| Engineering Council Statement of Competence  | IHE Guidance   | Examples of evidence  |
|--|--|---|
| B1. Identify problems and apply appropriate methods to identify causes and achieve satisfactory solutions.   | Engineering Technicians shall contribute to the design, development, manufacture, construction, commissioning, decommissioning, operation or maintenance of products, equipment, processes, systems or services. This competence is about the ability to apply engineering knowledge effectively and efficiently to the individual tasks which need to be undertaken in your role.   | <ul style="list-style-type: none"> <li>• Engineering drawings.</li> <li>• Desk top studies.</li> <li>• Model runs.</li> <li>• Specifications.</li> <li>• Risk method statements.</li> <li>• Spreadsheets.</li> <li>• Work instructions.</li> <li>• Procurement documents.</li> <li>• Technical calculations.</li> <li>• Road safety audit reports.</li> <li>• Waste Plans, Environmental Impact Studies</li> <li>• Lessons Learned report</li> <li>• Meeting notes</li> <li>• Project management tools and spreadsheets.</li> <li>• Procurement documents.</li> </ul> |
| B2. Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact. | <p>In your submission, show you:</p> <ul style="list-style-type: none"> <li>• Have applied your technical expertise at an appropriate level to identify the source of a problem and decided how best to solve it.</li> <li>• Assist in identifying client, user and community requirements.</li> <li>• Carry out surveys.</li> <li>• Exercise technical judgement and give guidance.</li> <li>• Select appropriate diagnostic tools and methods.</li> <li>• Considered what information, components, people and plant to use.</li> <li>• Manage small schemes and areas of work.</li> <li>• Identify what materials and resources to use.</li> <li>• How to introduce a new method of working.</li> <li>• What precautions you took.</li> <li>• Describe how you have contributed to best practice methods to continuous improvements</li> <li>• Eg: ISO9000.</li> </ul> |   |

C. Responsibility, management and leadership. Engineering Technicians shall accept and exercise personal responsibility.

| Engineering Council Statement of Competence  | IHE Guidance  | Examples of evidence   |
|--|---|--|
| C1. Work reliably and effectively without close supervision, to the appropriate codes of practice. | <p>This competence is about the ability to plan and manage your own work effectively and efficiently. It is also about the ability to consider and identify improvements to maintain quality in your work.</p> <p>The reviewers will be looking for evidence of your personal accountability level, and how you personally identified and agreed what had to be done and to what standard on a typical project. They also want to establish how you allocated work, reviewed, progressed and followed up.</p> | <ul style="list-style-type: none"> <li>• Minutes of meetings.</li> <li>• Site notes and instructions including sketches.</li> <li>• Site surveys.</li> <li>• Compliance with quality management systems.</li> <li>• Variation orders.</li> <li>• Programmes of work/ programming works.</li> <li>• Understanding of, and working to, time and budget constraints.</li> <li>• Awareness of CDM and safe systems of work.</li> <li>• Understanding of, and working to, project briefs.</li> <li>• Specifications, drawings and reports.</li> <li>• Appraisals undertaken by your employer.</li> <li>• Written feedback from clients or members.</li> </ul> |
| C2. Accept responsibility for the work of themselves or others.                                    | <p>In your submission, show you:</p> <ul style="list-style-type: none"> <li>• Work efficiently under minimum supervision.</li> <li>• Contribute to planning tasks by identifying and agreeing what had to be done and to what standards on a typical project.</li> </ul>  |  |
| C3. Accept, allocate and supervise technical and other tasks.                                      | <ul style="list-style-type: none"> <li>• Comply with relevant regulatory and practice requirements.</li> <li>• Make technical decisions and give advice within capabilities.</li> <li>• Take responsibility for your actions within your capabilities, assist, supervise and advise others.</li> <li>• Accept responsibility for completing tasks to time, resources and costs and to quality standards.</li> <li>• Manage yourself.</li> </ul>   |  |

D. Communication and interpersonal skills. Engineering Technicians shall use effective communication and interpersonal skills.

| Engineering Council Statement of Competence   | IHE Guidance   | Examples of evidence   |
|---|--|--|
| D1. Communicate effectively with others, at all levels, in English.                         | <p>This competence outlines the need to have the ability to work with others constructively, to explain ideas and proposals clearly and to discuss issues objectively and constructively. In your submission, you should show that you:</p> <p>In your submission, show you:</p> <ul style="list-style-type: none"> <li>• Select appropriate ways of communicating eg diagrams, sketches, plans, photographs, internet, audiovisuals, reports.</li> <li>• Communicate fluently verbally and in writing.</li> <li>• Respond effectively and efficiently to received communications.</li> <li>• Advise and inform others on technical procedures.</li> <li>• Establish and maintain effective working relationships with colleagues, clients and others.</li> <li>• Give clear and accurate instructions.</li> <li>• Take an active part in team meetings.</li> <li>• Meet commitments in an efficient and timely manner.</li> </ul> | <ul style="list-style-type: none"> <li>• Use of correct engineering terminology.</li> <li>• Understanding of delegated responsibilities.</li> <li>• Awareness of contractual obligations.</li> <li>• Use of various media to convey ideas.</li> <li>• Letters, reports, meeting minutes, emails.</li> <li>• Drawings, spreadsheets.</li> <li>• Responses to public enquiries.</li> <li>• Work instructions.</li> <li>• Presentation material prepared by you.</li> <li>• Appraisals undertaken by your employer.</li> <li>• Conducting / contributing to public consultations.</li> <li>• Contributing to team / technical meetings.</li> <li>• Correspondence with suppliers.</li> <li>• Attendance at industry events.</li> <li>• Mentoring activity.</li> </ul> |
| D2. Work effectively with colleagues, clients, suppliers or the public.                     |  |  |
| D3. Demonstrate personal and social skills and awareness of diversity and inclusion issues. |  |  |

E. Personal and professional commitment. Engineering Technicians shall demonstrate commitment to an appropriate code of professional conduct, recognising obligations to society, the profession and the environment.

| Engineering Council Statement of Competence               | IHE Guidance  | Examples of evidence   |
|---|---|--|
| E1. Understand and comply with relevant codes of conduct. | <p>You are required to demonstrate commitment to an appropriate code of professional conduct, recognising obligations to society, the profession and the environment.</p> <p>This competence is about ensuring that the you are acting in a professional manner in your work and in your dealings with others. An Engineering Technician should set a standard and example to others with regard to professionalism.</p> <p>In your submission, show you:</p> <ul style="list-style-type: none"> <li>• Know your organisation's goals and ethos.</li> <li>• Demonstrate your discussion or position on typical ethical challenges.</li> <li>• Behave appropriately and professionally.</li> <li>• Demonstrate integrity.</li> <li>• Base opinions or statements on adequate knowledge and are objective and truthful.</li> <li>• Know the purpose of professional institutions.</li> <li>• Know the duty of an engineer under EC and IHE Codes and Rules of Conduct.</li> </ul> | <ul style="list-style-type: none"> <li>• Knowledge of IHE's Code of Conduct.</li> <li>• Awareness of legal obligations (duty of care).</li> <li>• Awareness of organisation Service Level Agreements.</li> <li>• Awareness of environmental management systems.</li> <li>• Understanding and application of current safety requirements relevant to your own work (e.g. Health &amp; Safety at Work Act 1974, ISO 45001, COSHH, CDM, CSCS card, New Roads &amp; Street Works Act 1991, Permits to Dig, Working in Confined Spaces).</li> </ul> |



|   |   |  |
|---|---|--|
|   | <ul style="list-style-type: none"> <li>Participate in institution activities particularly supporting your local branch by attending meetings, provide careers/school advice, read journals.</li> <li>Refer to your company's standing orders, equal opportunities and conduct statements (but do not include them.)</li> </ul>  | <ul style="list-style-type: none"> <li>Understanding and application of risk assessment methods and actions taken to minimise risk to health, safety, society or the environment.</li> </ul> |
| <p>E2. Understand the safety implications of their role and apply safe systems of work.</p>   | <ul style="list-style-type: none"> <li>Design or plan safe systems.</li> <li>Provide evidence of applying current safety requirements.</li> <li>Select appropriate equipment.</li> <li>Carrying out risk assessments to identify potential hazards and plan how to deal with them.</li> <li>Provide examples of good practice.</li> <li>Work safely and ethically.</li> </ul>   | <ul style="list-style-type: none"> <li>Environmental awareness.</li> <li>Active engagement with IHE at a local level such as attendance at local branch events.</li> </ul>                   |
| <p>E3. Understand the principles of sustainable development and apply them in their work.</p>   | <ul style="list-style-type: none"> <li>Accept responsibility for your own and other's safety.</li> <li>Are aware of emergency measures.</li> <li>Show that you have received formal safety instructions relating to your place of work (such as a CSCS safety test in the UK) or an update on safety regulations. An example would be COSHH.</li> <li>Company safety policy, relevant legislation, codes of practice, transport and road safety good practice.</li> <li>Assess and control risk to health, safety, society and the environment.</li> </ul>  | <ul style="list-style-type: none"> <li>CPD records, including reflection on learning.</li> <li>Appraisals or career review information.</li> </ul>   |
| <p>E4. Carry out and record the Continuing Professional Development (CPD) necessary to maintain and enhance competence in their own area of practice.</p> | <ul style="list-style-type: none"> <li>Undertake methodical assessment of risk in specific projects.</li> <li>Take actions to minimise risk to society or the environments.</li> <li>Comply with environmental regulations.</li> <li>Are aware of and adopt, where possible, sustainable practices.</li> <li>Actively seek to keep up to date by studying new standards or techniques.</li> <li>Made use of magazines or attended lectures by IHE.</li> <li>Networking in order to keep abreast of change.</li> <li>Prepare and maintain a personal action plan.</li> <li>Keep CPD records of your training and professional development activities.</li> </ul> | <ul style="list-style-type: none"> <li>Mentoring or training others with their own CPD.</li> <li>Evidence of guiding others such as mentoring.</li> </ul>                                    |
| <p>E5. Understand the ethical issues that may arise in their role and carry out their responsibilities in an ethical manner.</p>                          | <ul style="list-style-type: none"> <li>Give an example of where you have applied ethical principles.</li> <li>Respect for life, law and the public good.</li> <li>Responsible leadership.</li> <li>Listening and informing.</li> </ul>  |  |

## 14. Document matrix

Please map how your evidence documents meet the Competency Standards in a document matrix. An example of this would be:

| Doc No. | Doc Name                         | Question Number | A1 | A2 | B1 | B2 |
|---------|----------------------------------|-----------------|----|----|----|----|
| 1       | Drawing of a roundabout design   | 1               | ✓  |    |    | ✓  |
| 2       | CAD drawing of approach junction | 2               |    | ✓  | ✓  |    |

## 15. Statement by applicant

You must sign and date the declaration in section 16. *We will not accept any application without this declaration signed.*

## 16. Completing your submission

Please follow the guidance in the application form regarding our required format for EngTech submissions.

All submissions must be presented in a single ring binder or lever arch folder. Any other style of folder or binding, or without the coversheet affixed will be returned to you.

Please send your complete submission and this form to:

**Membership, Institute of Highway Engineers, Floor 4, Euston House, 24 Eversholt Street, London NW1 1DB**

**Please note:** We reserve the right to reject and return any submission that does not include all of the documents and attachments marked on the checklist at the back of this form, or with sections of this application form incomplete or left blank unless not required.

**Important:** ITAI and ACostE members should send your application as described above, to the following address.

ACostE members should send your application directly to The Association of Cost Engineers: ACostE Administration Office, Lea House, 5 Middlewich Road, Sandbach, Cheshire, CW11 1XL

ITAI members should send your application directly to the Institute of Accident Traffic Investigators at: ITAI, PO Box 16057, Solihull, West Midlands, B93 3GL.

## 17. Electronic copy of your submission

Please follow the guidance in the application form and supply us with a digital copy of your CEng folder and any documents you have submitted on a writeable CD or USB memory stick.

## 18. Employer proposal statement

Section 18 details the employer proposal information we require from you. We cannot pass your submission to a reviewer without an employer proposal statement. Self-employed applicants should ask a recent Client to complete this section.

## 19. Proposer and seconder

Please ask your proposer and seconder to complete all fields in this section.

## 20. Payment form

The fee required as part of paying for your EngTech application comprises of (2021 rates):

1. IHE EngTech professional review fee: £85.00
2. Engineering Council EngTech registration entry fee (collected on their behalf by the IHE) £18.40

Please check our website for up-to-date fee information.

An additional upgrade to your membership fee might also be required. If you are currently a Student, Apprentice or Associate member, you will be required to pay the difference between your current annual membership fee and the annual fee for IHE Member grade of £131.00.

If you are a member of the Institute of Traffic Accident Investigators or The Association of Cost Engineers, an additional £65.00 administration fee is required to process your application.

**Please note:** ACostE and ITAI applicants should contact the appropriate Institute directly to arrange payment of your application fee. The IHE will receive your payment directly from ACostE or ITAI.

## 21. Checklist

This section provides you with an opportunity to ensure you have included all the applicable documents and paperwork we have asked for. It also helps us to ensure we have received all of your submission when we process your application.

## Section C

In this section we have provided some useful additional documents that will assist you in answering the three assessment questions.

### 1. Code of Conduct

IHE members make a professional commitment to act responsibly with regard to safety and the environment, to act ethically, to maintain and develop their competence and to support new and prospective entrants. All members agree to abide by the IHE Code of Conduct which requires:

“Every Corporate Member of the institute at all times to so order his or her conduct as to uphold the dignity and reputation of the profession and to maintain his or her technical and professional competence and to safeguard the public in matters of safety, health and otherwise pertaining to the work of the Institute”.

The Memorandum and Articles provide for disciplinary action if a member is found to have breached the Code. However, the expectation is that members abide by the code because they recognise the duty they owe society and themselves to uphold the standing of their chosen profession.

Copies of IHE's disciplinary procedures and Equal Opportunities policy are available from the office or the website.

The IHE Code is based on Engineering Council (UK) guidance.

- You are obliged as an IHE member to maintain and record **Continuing Professional Development**. Your CPD should be guided by, and recorded in, a Personal Development Plan. More information on CPD and the IHE's guide to planning your development, can be found in the member's area of our website. IHE is required to monitor members' compliance with this obligation by the Engineering Council (UK). Every Professionally Registered member, except those who have declared they are no longer professionally active in the profession, is required to submit a record of their CPD when requested by the Institute as part of an annual sample. Any member who persistently fails to engage with this process will automatically lose their IHE membership.
- IHE is committed to **equality of opportunity** for everyone applying for membership and for the Professional Review and to removing any barriers to applicants and members achieving their full potential. In turn we expect members not to discriminate and to promote equal opportunities.

#### Your Professional Ethics

Council has adopted the following statement of rules elaborating on the Code of Conduct. The statement is binding on all members.

#### Members are expected to:

1. Hold paramount the safety, health and welfare of the public and the protection of the environment in the practice of their profession.
2. Maintain and improve their competence:
  - Demonstrate commitment to maintaining professional competence through self managed CPD
  - Take responsibility for and manage their CPD
  - Support the learning and development of others:
  - Be prepared to act as a mentor
  - Encourage employers to support professional development
  - Share professional expertise and knowledge
  - Provide support for the learning of others
  - Contribute to the activities of their professional body

3. Undertake technological tasks for others if qualified by training or expertise and after full disclosure of any pertinent limitations.
4. Accept responsibility for work carried out under their supervision, treat subordinates fairly and without bias and advance their learning and competence.
5. Avoid real or perceived conflicts of interest where possible and disclose them to affected parties when they do exist.
6. Avoid disclosing confidential information acquired in the course of work, without the consent of the parties concerned or unless disclosure is clearly in the public interest, for instance under the Public Interest Disclosure Act.
7. Provide objective and truthful information when giving advice or criticism, making public statements or advertising/publicising services; advice should include clear statements of the impact and consequences of engineering decisions and projects.
8. Reject bribery in all its forms.
9. Be aware of the IHE's Whistleblowing Policy and abide by it at all times.
10. Make systematic assessments of environmental, health and safety risks related to their work and their individual legal liability and inform clients whether or not professional indemnity insurance is held.
11. Report any violations of this code by another member to IHE.
12. Notify the IHE of any convictions of a criminal offence (other than minor Road Traffic Offences) and, any adjudicated bankruptcy e.g. if a Director's Disqualification Order is made against them or if they enter into an Individual Voluntary Arrangement with creditors.
13. Respond promptly to any request from the Institute for comments or information on or documents relating to any disciplinary matter being investigated by a panel appointed by IHE whether in relation to themselves or to another member.

Any member convicted by a court or other competent tribunal of a criminal offence (see 11 above) that, in the opinion of a Disciplinary Panel or Council, renders him unfit to be a member shall be guilty of improper conduct.

The Institute's remit extends to competence, conduct and professionalism, but not to contractual disputes or similar.



## Exemplars

Below are some sample responses to the three assessment questions in section 13 of the EngTech application form. These are exemplars and are not exhaustive, but give you a guide of the response required.

### Question One

Give an example of a project or task where you solved a technical problem, explaining your role and how you selected the appropriate techniques, procedures and methods used. Tell us about any scientific, technical or engineering principles you used and how you reported or made recommendations on what you did for your employer or other people involved such as clients or suppliers. Include anything you did to prevent harm to people, equipment or data.

| Engineering Council Learning Outcome Ref. Individual Route ONLY | Your Answer  | Engineering Council statement of competence Ref.                |
|---|--|---|
|   | <p>When designing and managing a surface dressing section I have to use a range of scientific techniques, procedures and methods drawing on technical and engineering principles. When I do my initial design work I use a combination of my design experience and knowledge (including an understanding of the local climate and its characteristics) and the Road Note 39 design guide.</p> <p>The design process involves understanding the existing scientific characteristics of the road including its existing condition in terms of existing surface hardness and condition. The type and volume of traffic that uses it, the gradient, the amount of shade and the maintenance hierarchy of the road all have an effect on the type of surface dressing specified. Another key indicator that helps to assess the hardness of the existing road is the use of probe tests as discussed in Road Note 39. This includes the use of a road hardness probe and a road surface temperature monitor which when used with Table 7.2.1 in RN39 can help to identify the hardness of the existing surface. The road hardness probe measures the depth that a 4mm semi spherical head penetrates the surface after a load of 340N is applied for 10 seconds. Ten readings from the inside wheel track of the carriageway are taken and the mean of these measurements is used. A surface temperature probe is also used to record the surface temperature as road hardness testing should only be undertaken when surface temperatures are between 15 and 35 C. Ten temperature readings are also taken and the mean calculated, the two readings then enable the designer to use Figure 7.2.2 in Road Note 39 to assess the road hardness category depending on the geographical location of the site within the UK.</p> <p>When I first became involved with this process in my current position it became apparent that there was no structure or procedures in place to assist in the design process. I therefore decided to design and implement some standard forms, documents and procedures.</p> <p>These forms were designed to capture all the information needed whilst on site to enable the job instruction tickets to be created. This not only made the recording of the information quicker and easier but it helped to ensure there was continuity throughout the area with the information being recorded. Since creating these forms I have updated them several times to improve them by making the information clearer and more concise and therefore easier to use.</p> | <p>A2<br/>C1</p> <p>A2</p> <p>A2<br/>C1</p> <p>A1</p> <p>A1</p> |
|   | Description of your supporting documents   |   |
|   | <p>EV1 Surface Dressing Specification Sheet<br/>EV2 Road Note 39 Probe Test Record Sheet</p>   |   |

## Question Two

Give an example of how you have identified, planned, and organised the resources needed to effectively complete a project, explaining how you took into consideration cost, quality, safety and any environmental impact. Remember to think about what equipment was used, how data was gathered and analysed and how you initiated the project to produce the desired outcome.

| Engineering Council Learning Outcome Ref. Individual Route ONLY | Your Answer   | Engineering Council statement of competence Ref.  |
|---|---|---|
|   | <p>Within my current role I am tasked with designing, organising and supervising the delivery of local road resurfacing. I have previously explained the full design procedure, which is carried out prior to any works taking place on the ground however, I am also responsible for the delivery of the scheme. Part of my role is to identify any potential hazards and I am also responsible for maintaining the Construction Phase Health &amp; Safety Plan.</p> <p>My role is focused on delivering the programme as a whole which means I take responsibility for allocating the correct amount of resources to the programme, ensuring that materials and labour are organised and ready for the beginning of the works and completing tasks on time.</p> <p>I am given an estimate/target cost/budget and am required to keep costs within that specified value and identify any variations which are likely to occur at the earliest opportunity. My role also requires me to ensure that the correct amount of plant, making sure the correct quantities of equipment are ordered minimising the time plant is sat idle. Supporting documents show the bill of quantities I have produced when ordering plant and equipment.</p> <p>I am also responsible for the quality of the work delivered by the gang/team and am required to make decisions on a day-to-day basis as and when problems are identified to ensure that works are completed within timescale, cost and quality. I keep a constant check on the gang's work as each section is completed to ensure the work is up to an acceptable standard.</p> <p>Problems do occur for example, adverse weather particularly affects the delivery of the programme and I have to be aware that the circumstances may exist that will prevent the work from being undertaken. This may necessitate adjusting the length of the working day, timescale etc. I am also aware that any delays may affect future works which are time critical and therefore require a more comprehensive review.</p> <p>If the work has not been up to specification I am responsible for ascertaining why this has occurred. This might involve checking records such as temperature of material, rates of spread etc to determine where the problem may have arisen. I would seek to carry out remedial work as soon as possible.</p> <p>At the end of the works I am responsible for ensuring that all plant and equipment are removed from the site and that the area is left clean and tidy. I undertake an end of scheme final survey to ensure that the work has been undertaken correctly.</p> <p>At the end of the project I organise a meeting with the gang/team where we discuss what went well, what didn't, what we could improve and what action plans need developing for the next job.</p> <p>The supporting documents show some of the work I have done with local businesses around engagement and consultation when implementing a resurfacing programme. I try to deal with any complaint or query within the first 24 hours as this gives the customer a good first impression and shows that we are committed to providing a good level of service.</p> | <p>E2</p> <p>C3</p> <p>C2<br/>D2<br/>C3</p> <p>B2</p> <p>E2</p> <p>D1<br/>D2<br/>C3</p> |
|   | Description of your supporting documents  |   |
|   | <p>EV3 Surface Dressing Hazard Identification Sheet<br/>           EV4 Surface Dressing Construction Phase Health &amp; Safety Plan<br/>           EV5 High Street Banbury resurfacing correspondence</p>   |   |

### Question Three

Give an example of how you have complied with the Institute of Highway Engineer's Code of Conduct (as found in Section C of the accompanying guidance booklet) and how you keep in touch with developments in your technical area and how you have continued to develop your knowledge and skills?

| Engineering Council Learning Outcome Ref. Individual Route ONLY | Your Answer  | Engineering Council statement of competence Ref. |
|---|--|--|
|   | <p>I have spent time reading and understanding the IHE Code of Conduct to ensure that I understand the responsibilities involved with becoming a professionally recognised engineer and ensure that I comply with these within my role as a Highway Engineer. For example, my current job involves dealing with members of the public on a regular basis and, whilst meeting members of the public, it is extremely important that I remain objective and truthful. I always ensure that any statements I make are accurate in order to ensure that the public are fully aware of and understand what we are doing, how we are doing it and why we are doing it. I always endeavour to conduct myself in an ethical manner and behave in line with the Code of Conduct.</p> <p>I have an annual appraisal with my line manager, which is where we discuss my training and development requirements as well as setting my objectives for the year; I am then measured against these objectives. One of my objectives this year is to ensure that my knowledge and skills are kept up to date by attending regular training courses, reading current engineering literature and researching topics relevant to my field. I therefore receive regular emails and newsletters from IHE and have undertaken multiple training courses. I also maintain a Professional Development Plan, which will assist me in seeking professional registration as an Engineering Technician.</p> <p>Sustainability is something I am always trying to promote and encourage within my organisation. I have therefore been working on sustainability audits when undertaking resurfacing work, particularly with respect to the sourcing of material.</p> <p>In my efforts to help promote the industry I attended my local IHE branch meeting and have been instrumental in organising IHE branch awards. I also use my IHE engagement to support my Continuing Professional Development plan. This is maintained each year to ensure I constantly have targets and goals to reach and ensure my PDP is ongoing.</p> | <p>E1</p> <p>E5</p> <p>E3</p> <p>E5<br/>E4</p>   |
|   | Description of your supporting documents   |  |
|   | <p>EV6 Sustainability Audit for Pool Green resurfacing scheme<br/>           EV7 Professional Development Plan<br/>           EV8 CPD folder<br/>           EV9 IHE Branch minutes</p>   |  |