

GUIDANCE NOTES

IHE PROFESSIONAL CERTIFICATE

Recognising your specialist expertise and competence.

Guidance notes for:
IHE Professional Certificate



About this booklet

This set of guidance notes is your first step in gaining an IHE Professional Certificate in a specialist area of highway engineering. 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 Professional Certificate application form as the two are designed to go hand in hand.

Before you begin

IHE Professional Certificates are one of the cornerstones of our exciting new virtual Highway Engineering Academy. The IHE is alarmed by the skills shortage within the highways sector and we're taking action to address it by establishing a one-stop-shop to provide highway engineers with a unique professional development facility. The aim of the Highway Engineering Academy is to train a dedicated workforce with the specialist skills and expertise the industry needs to build the UK's road network. The Government's National Infrastructure Plan for Skills published in September 2015 highlighted the scale of the UK's projected skills gap in engineering, according to the report, the total projected expenditure in roads from 2015/16 to 2020/21 is forecast at £30 billion. With investment rising to nearly £6 billion per annum by the end of the decade, this equates to a workforce of over 60,000 people.

How do I achieve a Professional Certificate?

Course Route – A structured training programme is available for all the Professional Certificates offered by the IHE. Through a rigorous academic training course, delivered by industry professionals, you will learn the skills and information required for achievement of an IHE Professional Certificate. You will need to attend the dedicated Professional Certificate training course, more detail of which can be found on the IHE website at www.theihe.org or in the Highway Engineering Academy brochure. All courses are delivered throughout the year in the clean, contemporary setting of our Birmingham office space and meeting rooms. This centrally located venue in Birmingham Brindleyplace gives excellent connectivity across the UK. Courses are also run at our main London office, regionally and as an in-house option.

You will receive a Certificate of Attendance with CPD just for attending the course. If you wish to apply for the Professional Certificate you will need to successfully complete all assignments and assessments. In addition, courses have an additional day set aside to make an application for EngTech Professional Registration for delegates who have successfully passed their Professional Certificate assignments and assessments to the required standard.

Knowledge Based Route – To achieve the Professional Certificate in your chosen discipline you will need to demonstrate you have sufficient skills, training and experience through submitting a Professional Certificate Assessment Portfolio and application form.

Professional Registration – Engineering Technician

IHE Professional Certificates can form the basis for Engineering Council registration at Engineering Technician (EngTech) level. The two processes are designed to build upon each other and applying for EngTech alongside your Professional Certificate is easy. Section C of the Professional Certificate application form is designed for applicants who would like to apply for the optional EngTech Professional Review submission as well as the Professional Certificate.

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.

In order to obtain EngTech registration you will need to be an existing IHE member. Please refer to our website at <http://www.theihe.org/membership/> if you need to apply for IHE membership.

Completing the application form

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

- If completing this 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 this 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 required documentation with your application when you see this symbol – Please tick the relevant box on the checklist at the back of the application form.



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

Membership, Institute of Highway Engineers, Floor 32–34, 286 Euston Road, London, NW1 3DP

And finally

We hope you find the pathway to recognising your specialist competence through an IHE Professional Certificate a simple process. The Institute of Highway Engineers is committed to helping you achieve the career benefits that professional development can bring. Please contact us on: 0203 551 5681 or email us at professionalreviews@theihe.org if we can provide any assistance or guidance at any stage of your application.

Section A

In this section we give some general guidance and background to making your Professional Certificate submission with the IHE.

Getting started

Getting the right help and support is crucial to ensuring you are successful in achieving your Professional Certificate.

Help and support – IHE Courses

All the Professional Diplomas offered by the IHE have an accompanying course available. Courses are held throughout the country and normally require attendance over 4–5 days and offer professional, high quality tuition on each module. On completion of the course you will receive a Certificate of Attendance (meriting 30 hours CPD). Guided tuition is also available to assist with the completion of each assessment.

All of our Professional Certificates (and Professional Diplomas) can be offered in-house at your company premises or any other convenient location.

For more information on the IHE Professional Certificate (and Professional Diploma) courses please see our website or the IHE Highway Engineering Academy brochure.

Help and support – Mentors

You are responsible for your own development and pathway to producing your Professional Certificate 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.

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 Professional Certificate 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.

Section B

In this section we will guide you through completing the IHE Professional Certificate 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. Professional Certificate specialism

Please tick which IHE Professional Certificate you are applying for.

5. 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.

6. Higher and further education

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

7. Career history

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

8. 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.

9. 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 our own position on it. Self employed applicants do not need to complete this section.

10. 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://theihe.site-ym.com/login.aspx> (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://theihe.site-ym.com/login.aspx> (log in required)

This should be essential reading if you intend to make an EngTech submission alongside your Professional Certificate portfolio.

11. Assessment Portfolio

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 the relevant Professional Certificate by completing assignments for the required modules and presenting these in an Assessment Portfolio. Competence is developed by a combination of formal and informal learning, training and experience.

For each Professional Certificate you are required to submit a portfolio of evidence demonstrating your knowledge and experience across the identified competencies in each of the modules. Each module is designed to provide you with an opportunity to demonstrate the competences 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 write your answer and draw together your evidence.

Your Professional Certificate Assessment Portfolio will, for each module, contain a written narrative of your recent work in approximately 800–1200 words to cover the competencies listed in the module grid. To support and underpin this text you should cross reference where required, with sufficient evidence using at least two schemes from your work experience to show that you have met the required competencies. No more than half a dozen small evidential documents per module are required and excess evidence is likely to be rejected.

Your Assessment Portfolio will need to contain:

1. A written text for each of the *core* modules in turn. To support your written answers, you will need to select and cross reference to the specific evidence documents you have included.
2. A written text for each of the *optional* modules required. To support your written answers, you will need to select and cross reference to the specific evidence documents you have included.

The required number of *core* and *optional* modules is specific to each Professional Certificate. Please read each Professional Certificate grid carefully to ensure you have answered the required number of modules.

Describe clearly the schemes, projects or tasks and *your* personal input and responsibilities. Indicate the size and complexity of policy aspects of the schemes and your experience to date, commenting particularly on recent activities where you have exercised greater responsibility. Explain what you did and why by reference to national and local design principles, policy and good practice. We want to know what you did and why – therefore use “I” not “we”.

Assessment criteria

Your assignments for each module will be marked against the following assessment criteria:

- 0 – No evidence of knowledge, understanding, awareness and ability.
- 1 – Some but weak evidence of knowledge, understanding, awareness and ability.
- 2 – Some evidence of knowledge, understanding, awareness and ability but not to the required standard.
- 3 – Practice standard of evidence of knowledge, understanding, awareness and ability.
- 4 – Strong and above practice standard evidence of knowledge, understanding, awareness and ability

To gain the Professional Diploma you must obtain a minimum mark of two or above for each core module. In addition, you must also achieve an overall score of greater than 70% across the required number of modules to successfully achieve the Professional Diploma

Professional Certificate in Asset Management

To obtain the Professional Professional in Asset Management, you must successfully demonstrate your competence within all **TWELVE** of the following twelve modules.

	Module	Competency Content
1. (Core)	Highway law, ownership and legal obligations.	Candidates will demonstrate an appropriate knowledge of how they have taken account of the legal requirements relating to Asset Management as part of their day to day work as an asset manager.
2. (Core)	The Risk Based approach.	Candidates will demonstrate an appropriate knowledge of how a Local Authority would use the guidance in the Code of Practice to manage its risks and the value of an effective performance management system.
3. (Core)	Governance & strategy.	Candidates will demonstrate an appropriate knowledge of how LHAs may use their asset management policy and strategy to communicate and direct the implementation of asset management activities within the Authority. In addition, candidates will provide evidence of being able to select relevant policies and strategies developed by LHAs.
4. (Core)	Information and data.	Candidates will demonstrate an appropriate practical knowledge of what data they use in relation to Asset Management. This must include how measures utilised by the business ensure that the data is consistent and high quality. In addition, candidates will show how data is managed and analysed and how the outputs could influence business decisions.
5. (Core)	Inspections and national KPIs.	Candidates will demonstrate an appropriate knowledge of the different highway infrastructure inspection / survey types (e.g. SCANNER, SCRIM, Section 58, NRSWA etc.) that are used and understand how the indicative cost, use, benefits and innovation impact on the selection of each survey type. Candidates will demonstrate an appropriate practical knowledge of what inspection/ survey types are used within their own organisation and complete a brief analysis of each.
6. (Core)	Network prioritisation, risk management and resilience.	Candidates will explain in detail the different network hierarchies and the difference between the winter service routes and the resilient network.

	Module	Competency Content
7. (Core)	Funding and lifecycle planning.	Candidates will demonstrate an appropriate knowledge of the production of a LCP and be able to explain the results and provide recommendations regarding funding levels or investment.
8. (Core)	Customers and communications.	Candidates will demonstrate an appropriate knowledge of the production of an asset management communication strategy/plan and critically analyse whether plans meet their objectives and be able to suggest areas for improvement.
9. (Core)	Sustainability and asset preservation.	Candidates will demonstrate an appropriate knowledge of where sustainability was one of the key considerations in how a maintenance project or service was delivered. This will include key issues including relevant guidance/legislation, how these issues can be overcome and how lessons learnt may be applied to the delivery of future projects/services.
10. (Core)	Performance monitoring.	Candidates will demonstrate an appropriate practical knowledge of a Highway Authorities performance management framework. Candidates will demonstrate an appropriate knowledge of the difference between strategic, tactical and operational performance monitors and discuss how each of the selected monitors links to and assist in achieving the authorities' corporate objectives.
11. (Core)	Operational performance and procurement.	Candidates will demonstrate an appropriate knowledge of the key steps a Local Authority will undertake when procuring a highway services contract including the key decisions they must make, the possible options and the benefits and drawbacks of each.
12. (Core)	New and Emerging Technology.	Candidates will demonstrate an appropriate knowledge of how to select new or emerging technology and how this will influence a brief or business case for additional funding to deal with the impact of new technology on the network or, for the organisation to purchase and utilise the technology. Candidates will highlight the benefits and challenges, costs, resources and value for money.

Professional Certificate in Cycling Infrastructure – Planning & Design

To obtain the Professional Certificate in Cycling Infrastructure, you must successfully demonstrate your competence within the **FIVE** core modules.

	Module	Competency Content
1. (Core)	Cycling policy – understanding, formulation and implementation.	Candidates will demonstrate an appropriate knowledge of national and local cycling policies and design guides. In addition, candidates will provide evidence to show how they have contributed to the formulation of cycling policy, developed programmes and projects designed to meet policy objectives and outcomes and identified new opportunities by drawing on industry best practice.
2. (Core)	Cycle network/ route planning.	Candidates will demonstrate an appropriate knowledge of development of network planning or cyclists across an area or route-based initiatives. In addition, candidates will provide evidence demonstrating route continuity, consistency of provision and improving gaps in provision.
3. (Core)	Cyclists at intersections and traffic signals.	Candidates will demonstrate an appropriate knowledge of provision for cyclists at junctions including those with signal control, including methods of control and design at signal-controlled junctions, road crossings and use of intelligent transport systems.
4. (Core)	Cyclists at roundabouts.	Candidates will demonstrate an appropriate knowledge of key factors and provision for cyclists at different roundabout types and an understanding of the interaction with other modes.
5. (Core)	Cycling on links – cycle lanes.	Candidates will demonstrate an appropriate knowledge of designing for cyclists on links, different cycle lane types and the delivery of successful cycle lane schemes. Candidates will demonstrate an appropriate knowledge of maintenance regimes of cycle schemes and impact on use.

Professional Certificate in Development Management

To obtain the Professional Certificate in Development Management, you must successfully demonstrate your competence within at least **EIGHT** of the following thirteen modules. This is made up of **SIX** core modules and **TWO** of the seven optional modules.

	Module	Competency Content
1. (Core)	Planning process.	Candidates will demonstrate an appropriate knowledge of the law and policy framework governing planning in England.
2. (Core)	Planning procedure.	Candidates will demonstrate an appropriate knowledge of the planning process including local development frameworks, LTPs, adoption of highways, section 38 Agreements, TROs, planning obligations (106 agreements), Manual for Streets.
3. (Core)	The appeals process.	Candidates will demonstrate an appropriate knowledge of the grounds for refusal and the appeals process.

	Module	Competency Content
4. (Core)	Policy	Candidates will demonstrate an appropriate knowledge of the issues to be considered when dealing with a development application, the tools available and their use and limitations, including policy frameworks (PPSs and PPGs), Local Development Frameworks and LTPs.
5. (Core)	Highway design, construction and management issues.	Candidates will demonstrate an appropriate knowledge of the relevant technical design standards and advice and be able to understand the reports, standards and know how to commission and use reports. These include, vehicle access (visibility splays), the role and scope of safety assessments and audits in DC including an understanding of vulnerable road user and mobility reviews and audits in DC. Candidates will demonstrate an appropriate knowledge of mobility access, maintainability, buildability, drainage and Network capacity models and their limitations.
6. (Core)	Network capacity.	Candidates will demonstrate an appropriate knowledge of relevant technical models and their limitations. Candidates will demonstrate an appropriate knowledge of junction analysis, junction design (PICADY), roundabouts (ARCADY), traffic signals (OSCADY, LINSIG, TRANSYT) and know how to validate the data provided and how to interpret and apply the results.
7.	Transport assessments.	Candidates will demonstrate an appropriate knowledge of how to evaluate an assessment. Candidates will demonstrate an appropriate knowledge of trip generation and distribution (TRICS) and travel demand assessment.
8.	Ownership.	Candidates will demonstrate an appropriate knowledge of what to check in order to protect the interests of the highway and where they would obtain this information.
9.	Design and master planning.	Candidates will demonstrate an appropriate knowledge of local regional and national guidance and know how to translate this guidance into a layout which is appropriate to the local context and is fit for purpose. Candidates will demonstrate an appropriate knowledge of what constitutes quality public realm and will have an appropriate knowledge of design guides and safety by design for housing layouts.
10.	Sustainability.	Candidates will demonstrate an appropriate knowledge of sustainability policies and know how to assess proposals for all forms of travel. Candidates will demonstrate an appropriate knowledge of the requirements for parking provision and how to use the walking isochrome.

	Module	Competency Content
11.	Travel plans.	Candidates will demonstrate an appropriate knowledge of the aims and legality of Travel Plans and the policy context of these. Candidates will demonstrate an appropriate knowledge of routing agreements, appropriate sources of guidance and enforcement practices.
12.	Responding to consultations and preparing conditions.	Candidates will demonstrate an appropriate knowledge of the roles of the conditions, the types of conditions and the reason behind the recommendation and the need to formulate these carefully.
13.	Post-planning consent issues.	Candidates will demonstrate an appropriate knowledge of how to prepare S38 and S278 Agreements, and be aware of NRSWA, road possession, programming etc

Professional Certificate in Highway Maintenance

To obtain the Professional Certificate in Highway Maintenance, you must successfully demonstrate your competence within at least **NINE** of the following fourteen modules. This is made up of **THREE** core modules and **SIX** of the eleven optional modules.

	Module	Competency Content
1. (Core)	Asset Management systems & principles.	Candidates will demonstrate an appropriate knowledge of the principles behind managing highway assets including 'worst first' and 'whole-life cost' scenarios. Candidates will demonstrate an appropriate knowledge of practical examples of planning, managing and delivering programmes of work linked to asset management principles.
2. (Core)	Health & Safety regulations and responsibilities including Temporary Traffic Management considerations.	Candidates will demonstrate an appropriate knowledge of the requirements of Safety at Street Works and Road Works – Code of Practice together with knowledge of responsibilities, risk assessments and safe systems of work relating to highway maintenance activities.
3. (Core)	Highway maintenance specifications and Codes of Practice.	Candidates will demonstrate an appropriate knowledge of a range of relevant specifications for highway works, maintenance and serviceability, including relevant highway maintenance specifications, safety standards and codes of practice.
4.	Structural maintenance materials, techniques and considerations.	Candidates will demonstrate an appropriate knowledge of the construction materials, depths and thicknesses involved in structural maintenance or reconstruction of both rigid, composite and flexible roads and footways. Candidates will demonstrate an appropriate knowledge of substrate characteristics, traffic and CBR relationship in relation to materials chosen.

	Module	Competency Content
5.	Highway law, legal duties and powers relating to highway maintenance and management.	<p>Candidates will demonstrate an appropriate knowledge of the definition of highways, highway adoption and dedication.</p> <p>Candidates will demonstrate an appropriate knowledge of the duties and enforcement powers of highway authorities set out within the Highways Act 1980 including Section 41 and defence under Section 58. Supervision of others working on the highway under New Roads and Street Works Act 1991.</p>
6.	Highway inspections – Types and reasons for conducting inspections of the highway.	<p>Candidates will demonstrate an appropriate knowledge of specific inspections together with an understanding of and the reasons and techniques employed in highway inspections, surveys and frequencies.</p> <p>Candidates will demonstrate an appropriate knowledge of accurate record keeping and legal process.</p>
7.	Reactive and planned maintenance techniques.	<p>Candidates will demonstrate an appropriate knowledge of the relationship between reactive and planned maintenance.</p> <p>Candidates will demonstrate an appropriate knowledge of costings, performance life, workmanship requirements and end user perception along with an appreciation of emerging technologies and developments in the highway maintenance sector.</p> <p>Candidates will demonstrate an appropriate knowledge of safety implications, environmental impacts and sustainability relating to maintenance techniques.</p>
8.	Bituminous materials use and considerations.	<p>Candidates will demonstrate an appropriate knowledge of bituminous surfacing materials, thicknesses and characteristics of different surface course materials used in both roads and footways</p> <p>Candidates will demonstrate an appropriate knowledge of relative costs, durability and safety characteristics of surface course materials.</p>
9.	Surface dressing, surfacing and slurry sealing design and application.	<p>Candidates will demonstrate an appropriate knowledge of the use, application and limitation of thin surfacing, surface dressing and slurry seal systems, including appreciation of the factors contributing to design, use and service life of surface treatment systems.</p>
10.	Failure identification and remedial treatments.	<p>Candidates will demonstrate an appropriate knowledge of types and reasons for a range of highway failure characteristics, including the ability to identify causes and corrective actions to remedy defects and apply preventative measures.</p>
11.	Maintenance contract management, quality surveying and administration.	<p>Candidates will demonstrate an appropriate knowledge of the components of contracts, specification, BoQs and methods of measurement including principles of estimating and costing of works.</p>

	Module	Competency Content
12.	Drainage, flood risk and environmental and landscape maintenance.	<p>Candidates will demonstrate an appropriate knowledge of highway drainage principles, responsibilities for highway drainage and factors relating to flood risk.</p> <p>Candidates will demonstrate an appropriate knowledge of SuDS and environmental maintenance regimes including forestry, gullies, sweeping, grass etc.</p>
13.	Sustainable and innovative highway maintenance techniques.	Candidates will demonstrate an appropriate knowledge of a range of innovative highway repair and maintenance techniques, providing evidence which may include trials and evaluation of repairs, testing, cost reduction strategies and recycling initiatives applied to highway maintenance.
14.	Soil and materials sampling, performance and testing practice.	<p>Candidates will demonstrate an appropriate knowledge of a range of testing principles and techniques used across various highway maintenance materials.</p> <p>Candidates will demonstrate an appropriate knowledge of factors relating to the performance of different soils and substrates for highway construction.</p>

Professional Certificate in Temporary Traffic Management

To obtain the Professional Certificate in Temporary Traffic Management, you must successfully demonstrate your competence within at least **EIGHT** of the following fifteen modules.

	Module	Competency Content that is required to be demonstrated.
1.	General legislation.	<p>Candidates will demonstrate an appropriate knowledge of Health and Safety law as it applies to the Engineer / Designer including:</p> <ul style="list-style-type: none"> • Knowledge of the requirements of CDM 2015. • Knowledge of the statutory roles within CDM 2015. <p>Candidates will demonstrate an appropriate knowledge of practical examples of design and planning for safety, managing and controlling risk and coordination or communication of risk at the design stage.</p>
2.	Highway management legislation.	<p>Candidates will demonstrate an appropriate knowledge of the requirements of the legislation provided in connection with permitting and coordination of Temporary Traffic Management Systems.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have coordinated the implementation of and obtained approval for Temporary Traffic Management Systems.</p> <p>Candidates will demonstrate an appropriate knowledge of how to assess the requirements of the relevant legislation and the requirements of the parties involved in highway permitting and coordination.</p>

3.	Regulation of highways.	<p>Candidates will demonstrate an appropriate knowledge of the requirements of the relevant legislation in connection with the regulation of traffic.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have handled existing highway signs or regulation and experience of implementing temporary regulation so as to allow the implementation and operation of effective Temporary Traffic Management Systems.</p>
4.	Existing highway engineering.	<p>Candidates will demonstrate an appropriate knowledge of the existing highway design alignment features and engineering measures.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have recognised existing highway features and demonstrate experience of managing the risk or effect in temporary traffic management systems.</p>
5.	Traffic data in the design and engineering process.	<p>Candidates will demonstrate an appropriate knowledge of the types of traffic data available to the Temporary Traffic Management Engineer.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have obtained or used data on exiting traffic flow to assess network impact and capacity in temporary traffic management systems.</p>
6.	Traffic sign face design diversion on rural and urban roads.	<p>Candidates will demonstrate an appropriate knowledge of the guidance provided by Traffic Signs Manual Chapter 7 when preparing designs for non-prescribed signs on rural and urban roads.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have interpreted the requirements of the Traffic Signs Manual Chapter 7 to prepare designs and manufacturing details for non-prescribed signs used in connection with:</p> <ul style="list-style-type: none"> • Diversion routes • Rural and urban road <p>Temporary Traffic Management Systems.</p>
7.	Traffic sign face design.	<p>Candidates will demonstrate an appropriate knowledge of the guidance provided by Traffic Signs Manual Chapter 8 and Chapter 7 when preparing sign face designs for narrow lane and contraflow 'Standard' systems on High Speed Dual Carriageway roads.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have interpreted the requirements of the Traffic Signs Manual Chapter 7 and Chapter 8 and experience of preparing manufacturing details for signs used in connection with lane restrictions at Narrow Lane or Contraflow systems on High Speed Dual Carriageway roads.</p>

	Module	Competency Content that is required to be demonstrated.
8.	Traffic management systems on rural and urban roads subject to relaxations.	<p>Candidates will demonstrate an appropriate knowledge of the guidance provided by Traffic Signs Manual Chapter 8 and Safety at Street Works and Road Works – ACOP in engineering Temporary Traffic Systems subject to relaxations on Rural and Urban Roads.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have interpreted the requirements of the Traffic Signs Manual Chapter 8 and ACOP together with experience of engineering traffic management systems, subject to relaxations, used in connection with temporary traffic situations on Rural and Urban Roads.</p> <p>Candidates will demonstrate an appropriate knowledge of Traffic Signs Manual Chapter 8 and ACOP for Highway Inspections, surveys, emergencies, works of short duration and moving works.</p>
9.	Traffic management systems on rural and urban roads.	<p>Candidates will demonstrate an appropriate knowledge of the guidance provided by Traffic Signs Manual Chapter 8 and Safety at Street Works and Road Works – ACOP in engineering Temporary Traffic Systems on Rural and Urban Roads.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have interpreted the requirements of the Traffic Signs Manual Chapter 8 and ACOP together with experience of engineering traffic management systems used in connection with long term temporary traffic situations on rural and urban Roads.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have interpreted the requirements of the Traffic Signs Manual Chapter 8 and ACOP at temporary situations for:</p> <ul style="list-style-type: none"> • Non-motorised users • Vulnerable persons • Permanent signalised junctions and crossings • Diversions of traffic • Temporary side road junctions for access to Construction sites or works

	Module	Competency Content
10.	Traffic management systems on high speed dual carriageway roads subject to relaxations.	<p>Candidates will demonstrate an appropriate knowledge of the guidance provided by Traffic Signs Manual Chapter 8 and other related industry documents in engineering Temporary Traffic Systems subject to relaxations on High Speed Dual Carriageway Roads.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have interpreted the requirements of the Traffic Signs Manual Chapter 8 and other related industry documents together with experience of engineering traffic management systems, subject to relaxations, used in connection with temporary traffic situations on High Speed Dual Carriageways.</p> <p>Candidates will demonstrate an appropriate knowledge of Traffic Signs Manual Chapter 8 and other related industry documents for Highway Inspections, surveys, emergencies, works of short duration and mobile works on High Speed Dual Carriageways.</p>
11.	Traffic management systems on high speed dual carriageway roads.	<p>Candidates will demonstrate an appropriate knowledge of the guidance provided by Traffic Signs Manual Chapter 8 and other related industry documents in engineering Temporary Traffic Systems on High Speed Dual Carriageway Roads.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have interpreted the requirements of the Traffic Signs Manual Chapter 8 and other related industry documents together with experience of engineering and managing the risk to the operation of traffic management systems, used in connection with temporary traffic situations on High Speed Dual Carriageways.</p>
12.	Temporary barrier systems.	<p>Candidates will demonstrate an appropriate knowledge of the application of Temporary Vehicle Restraint System guidance available to the Temporary Traffic Management Engineer.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have interpreted and applied the requirements of the TD19 and other relevant industry guidance in connection with the provision of Temporary Vehicle Restraint Systems in temporary traffic management systems on Rural and Urban Roads and High Speed Dual Carriageways.</p>

	Module	Competency Content
13.	Road markings.	<p>Candidates will demonstrate an appropriate knowledge of the application of Road Marking guidance available to the Temporary Traffic Management Engineer.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have interpreted and applied the requirements of the Traffic Signs Manual Chapters 5 and 8 and other relevant guidance, including the positioning of upright signs, in connection with the provision of road markings at Temporary Traffic Systems that involve:</p> <ul style="list-style-type: none"> • Temporary Junctions • Lane destinations • Changeovers • Narrow lanes or Contraflows
14.	Technology.	<p>Candidates will demonstrate an appropriate knowledge of the application of ITS systems available to the Temporary Traffic Management Engineer.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples where they have interpreted and applied the requirements of the Traffic Signs Manual Chapter 8 and other industry guidance to use approved ITS equipment at temporary situations to monitor or communicate with users or control risk.</p>
15.	Informing and communicating with road user stakeholders.	<p>Candidates will demonstrate an appropriate knowledge of managing internal and external stakeholders in connection with Temporary Traffic Management situations.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples of the use of electronic and roadside methods to interpret and apply the requirements of Traffic Signs Manual Chapter 8 and other industry Acts or guidance, to inform and communicate effectively with internal and external stakeholders at temporary traffic situations.</p>

Professional Certificate in Road Safety Engineering

To obtain the Professional Certificate in Road Safety Engineering, you must successfully demonstrate your competence within at least **FIVE** of the following twelve modules. This is made up of **FOUR** core modules and **ONE** of the eight optional modules.

	Module	Competency Content
1. (Core)	Road safety engineering principles.	<p>Candidates will demonstrate an appropriate knowledge of the principles behind the design and implementation of highway improvement schemes intended to reduce the number and severity of collisions.</p> <p>Candidates will demonstrate an appropriate knowledge of practical examples of how road safety engineering proposals address the collision issues identified. In addition candidates will provide evidence of recent developments in Road Safety Engineering.</p>
2. (Core)	Health & Safety and CDM.	<p>Candidates will demonstrate an appropriate knowledge of Health & Safety with regards to site visits, safe systems of working and an understanding of implications of road safety engineering recommendations on those constructing, operating or maintaining the highway.</p> <p>Candidates will demonstrate an appropriate knowledge of the CDM regulations how Road safety measures may have been influenced by these issues.</p>
3. (Core)	Collision data, analysis and scheme identification.	<p>Candidates will demonstrate an appropriate knowledge of collision investigation techniques using STATS 19 data or the detailed investigation of single incidents. Candidates will demonstrate an appropriate knowledge of any development in collision trends and other sources of data such as conflict studies, damage only incidents and Police records and analyse this data against the appropriate control data, such as national or local average statistics or control sites.</p> <p>Candidates will demonstrate an appropriate knowledge of statistical analysis.</p> <p>Candidates will demonstrate an appropriate knowledge of evidence led identification of scheme options and remedial measures. In addition, candidates will provide evidence of the assessment of single sites, route treatments or mass action plans.</p>
4. (Core)	Highway design and traffic engineering.	<p>Candidates will demonstrate an appropriate knowledge of how highway design can affect road safety and how sound design principals can reduce collision risk. In addition, candidates will provide evidence of factors such as visibility, road alignment, surface finished and road side features.</p>

	Module	Competency Content
5.	Monitoring / post opening performance evaluation.	<p>Candidates will demonstrate an appropriate knowledge of the monitoring of recently constructed highway improvement schemes. In addition, candidates will provide evidence of a comparison of pre and post collision data and evaluation against control data. Example formats could be Stage 4 Road Safety Audits or Post Opening Project Evaluation (POPE). This could include monitoring of collisions against wider local and national targets.</p> <p>Candidates will demonstrate an appropriate knowledge of how the use of statistical tests can help in the evaluation and monitoring of schemes.</p> <p>Candidates will demonstrate an appropriate knowledge of the development of monitoring plans for road safety related projects.</p>
6.	Road safety audit.	<p>Candidates will demonstrate an appropriate knowledge of Road Safety Audits. This will include the administration process, reporting and roles and responsibilities in accordance with a defined Terms of Reference. e.g. DMRB HD 19/15</p>
7.	Road safety policy/ targets/ requirements & advice/ best practice guidance documents.	<p>Candidates will demonstrate an appropriate knowledge of input into road safety policy documents or the development of road safety targets at a national and / or local level. Competence can also be demonstrated through the knowledge and involvement of the preparation of the Requirements and Advice Documents (RAD), research and best practice guidance and the writing of specifications for road safety related projects.</p>
8.	Economics/ funding.	<p>Candidates will demonstrate an appropriate knowledge of economic appraisal of road safety schemes for example the calculation of First Year Rate of Returns (FYRR) or completion of Highways England SAR process.</p> <p>Candidates will demonstrate an appropriate knowledge of the allocation process for the funding of Road Safety Schemes.</p>
9.	Legal issues in road safety.	<p>Candidates will demonstrate an appropriate knowledge of the reasons why a Road Safety Audit is undertaken in terms of 1980 Highways Act, 1988 Road Traffic Act and Roads (Scotland) Act 1984.</p> <p>Candidates will demonstrate an appropriate knowledge of the following:</p> <ul style="list-style-type: none"> • 2007 Road Death Investigation Manual • The Corporate Manslaughter and Corporate Homicide Act 2007 • The Manslaughter by Gross Negligence Common Law • The EC Directive 2008/96/EC

	Module	Competency Content
10.	Risk assessment.	Candidates will demonstrate an appropriate knowledge of the various types of risk assessment that can be used to evaluate road safety issues and highway design decision making. In addition, candidates will provide evidence of how risks have been evaluated in terms of frequency and severity and how this has influenced the decision-making process.
11.	Education/ inform/ training/ publicity.	Candidates will demonstrate an appropriate knowledge of stakeholder or industry engagement. This could include: <ul style="list-style-type: none"> • Consultation and publicity of scheme proposals • Targeted information campaigns • Value Management workshops • Delivering of road safety training or seminars
12.	Safety inspections.	Candidates will demonstrate an appropriate knowledge of how highway safety inspections are used to identify defects which may introduce a road safety risk to road users. In addition, candidates will provide evidence of the use of risk assessment to ensure funding is allocated appropriately.

Professional Certificate in Traffic Signal Control

To obtain the Professional Certificate in Traffic Signal Control, you must successfully demonstrate your competence within the **ELEVEN** core modules.

	Module	Competency Content
1. (Core)	Commissioning and maintenance of works.	<p>Candidates will demonstrate an appropriate knowledge of how to capture and interpret feedback from stakeholders to add value to schemes and the processes and methods for carrying out consultation.</p> <p>Candidates will demonstrate an appropriate knowledge of how to prepare a brief, reviewing the options available and making recommendations.</p> <p>Candidates will demonstrate an appropriate knowledge of how to prepare and award a tender (including terms and conditions) together with carrying out tender assessments.</p> <p>Candidates will demonstrate an appropriate knowledge of contract preparation, including how to interpret and apply technical advice and guidance. This should include reference to DMRB or Manual for Streets, Technical Directives and Statutory Requirements.</p> <p>Candidates will demonstrate an appropriate knowledge of Asset Management, equipment life cycle, the need for planned maintenance, modernisation and replacement of damaged equipment.</p> <p>Candidates will demonstrate an appropriate knowledge of the issues associated with planning, associated timescales and implementation of a scheme, together with how to resolve and mitigate any problems encountered.</p>

	Module	Competency Content
2. (Core)	Health & Safety systems.	<p>Candidates will demonstrate an appropriate knowledge of how to identify, minimise and manage the effect of risks and hazards during the whole life cycle of the scheme.</p> <p>Candidates will demonstrate an appropriate knowledge of the implementation of the relevant health and safety at work regulations.</p> <p>Candidates will demonstrate an appropriate knowledge of the issues associated with quality control and maintaining the health and safety file.</p>
3. (Core)	Standards and specifications.	<p>Candidates will demonstrate an appropriate knowledge of how to apply and interpret standards, technical advice, guidance and best practice. This should include reference to DMRB, Technical Directives, Traffic Advisory Leaflets, Statutory Requirements.</p>
4. (Core)	Legal and other issues.	<p>Candidates will demonstrate an appropriate knowledge of the drafting of statement of reasons, knowledge of statutory requirements, process for implementation, preparation of the schedule of restriction.</p> <p>Candidates will demonstrate an appropriate knowledge of the effect of various factors on a scheme including local policies and objectives.</p>
5. (Core)	Communications.	<p>Candidates will demonstrate an appropriate knowledge of how to communicate effectively with stakeholders and how feedback is used.</p> <p>Candidates will demonstrate an appropriate knowledge of how to present proposals to enable decisions to be made.</p>
6. (Core)	Maintenance	<p>Candidates will demonstrate an appropriate knowledge of fault management systems and the documentation of fault analysis, investigation and methods of monitoring and recording potential faults for signals.</p> <p>Candidates will demonstrate an appropriate knowledge of relevant financial control systems.</p> <p>Candidates will demonstrate an appropriate knowledge of appropriate KPIs and the effect of these on a contractor's performance.</p> <p>Candidates will demonstrate an appropriate knowledge of remote monitoring systems and how to implement and use to monitor and capture operational data.</p>
7. (Core)	Post commissioning of works.	<p>Candidates will demonstrate an appropriate knowledge of how to carry out post-project appraisal including any necessary data collection. This includes an ability to interpret the results of the appraisal and formulate an action plan if required.</p> <p>Candidates will demonstrate an appropriate knowledge of how to carry out and document FATs.</p> <p>Candidates will demonstrate an appropriate knowledge of how to carry out a SAT and make adjustments.</p>

	Module	Competency Content
8. (Core)	Preparation and pre-design.	<p>Candidates will demonstrate an appropriate knowledge of what surveys are appropriate and how to interpret the output.</p> <p>Candidates will demonstrate an appropriate knowledge of how to follow and apply technical advice and interpret guidance on best practice and their relevance.</p>
9. (Core)	Audits and reviews.	<p>Candidates will demonstrate an appropriate knowledge of how to conduct or respond to Road Safety Audits/Safety Review.</p> <p>Candidates will demonstrate an appropriate knowledge of how to evaluate the most appropriate layout for traffic signal control to achieve the aims of the scheme.</p> <p>Candidates will demonstrate an appropriate knowledge of how to evaluate a TA and make appropriate comments.</p>
10. (Core)	Software and application.	<p>Candidates will demonstrate an appropriate knowledge of how to evaluate different layouts for traffic signal-controlled junctions.</p> <p>Candidates will demonstrate an appropriate knowledge of how to evaluate the layout for the network.</p>
11. (Core)	Further design principles.	<p>Candidates will demonstrate an appropriate knowledge of how to apply the results of microsimulation models in traffic signal schemes.</p> <p>Candidates will demonstrate an appropriate knowledge of how to complete controller specification forms.</p> <p>Candidates will demonstrate an appropriate knowledge of the preparation and interpretation of UTC/SCOOT plans, timing reviews, contingency plans, timetables and an understanding of how a UTC system functions together with techniques to validate and assess performance.</p> <p>Candidates will demonstrate an appropriate practical knowledge of measuring various parameters on site.</p> <p>Candidates will demonstrate an appropriate knowledge of how MOVA works together with techniques to validate and assess performance including preparation of the MOVA data set.</p> <p>Candidates will demonstrate an appropriate practical knowledge of measuring various parameters on site.</p> <p>Candidates will demonstrate an appropriate knowledge of the benefits of linking signals and show how this could be achieved.</p>

Professional Certificate in Traffic Sign Design

To obtain the Professional Certificate in Traffic Sign Design, you must successfully demonstrate your competence within at least **EIGHT** of the following fifteen modules. This is made up of **SIX** core modules and **TWO** of the nine optional modules.

	Module	Competency Content
1. (Core)	Introduction to Traffic Sign Design and road markings.	<p>Candidates will demonstrate an appropriate knowledge of the fundamental reasons why traffic signs are erected and how they serve different categories of the road user (including pedestrians, cyclists and equestrians) including what is and what is not defined as traffic sign.</p> <p>Candidates will understand relevant legislation and terminology such as: TSRGD, TSM, LTN, TAL, x-height, stroke width, working drawings.</p>
2. (Core)	National legislation and guidance.	<p>Candidates will demonstrate an appropriate knowledge of primary and secondary legislation including details of the relevant documents: RTRA 1988, TSRGD 2016, Traffic Sign Manuals, Transport Advisory Leaflets, DfT Authorisations, DMRB and further legislation relating to regulatory signs and civil enforcement.</p> <p>Candidates will demonstrate an appropriate knowledge of the differing rules for England, Scotland, Wales and Northern Ireland and how to decipher the statutory instruments and how they are applied.</p> <p>Candidates will demonstrate an appropriate knowledge of the discretion that traffic and highway authorities have to make site-specific decisions.</p>
3. (Core)	Legibility and conspicuity.	<p>Candidates will explain in detail the science behind reading a sign from a moving vehicle. In addition, candidates will provide evidence of how the Transport alphabets were designed and why we (mainly) used mixed case lettering. This includes, the difference between legibility and conspicuity, the effect of the amount of information on the sign and how to decide upon siting, visibility and text x-height or sign size, including lettering size on parking plates and signs for pedestrians.</p>
4. (Core)	Signs and safety.	<p>Candidates will demonstrate an appropriate knowledge of the effects of all types of traffic sign and marking upon road safety. The use of warning signs and markings specifically to address safety concerns, categories of warning sign and their benefits, the problems resulting from over use of warning signs, optional regulatory signs and markings.</p>

	Module	Competency Content
5. (Core)	Road markings.	<p>Candidates will demonstrate an appropriate knowledge of the legal status of different road markings (particularly with reference to 2016 TSRGD) and highway authorities' duties in relation to markings.</p> <p>Candidates will demonstrate an appropriate knowledge of the concept of 'naked streets' and their merits.</p> <p>Candidates will demonstrate an appropriate knowledge of road marking materials, maintenance of markings, reflective and tactile marking and reflecting road studs and their uses.</p> <p>Candidates will demonstrate an appropriate knowledge of understanding of interaction between markings and allowable combinations.</p>
6. (Core)	Route guidance and directional sign strategy.	<p>Candidates will demonstrate an appropriate knowledge of the vital part played by direction signs including, the different categories of direction sign and their uses.</p> <p>Candidates will demonstrate an appropriate knowledge of the UK system of coloured panels and patches for route status and destination category, the need to ensure continuity and the science behind the choice of destinations, which involves the concept of 'signing trees'.</p> <p>Candidates will demonstrate an appropriate knowledge of alternative methods of dealing with overload – too many destinations to fit on signs.</p>
7.	Directional sign design and siting.	<p>Candidates will demonstrate an appropriate knowledge of the siting of signs and some of the problems this can present including how this determines how large each sign can be and how far away it can be seen.</p> <p>Candidates will demonstrate an appropriate knowledge of the detailed rules in TSM Chapter 7 for sign layout design, the options open to the designer and a detailed analysis of the common problem of being unable to fit the desired size of sign at the optimum location.</p>
8.	Temporary signing.	<p>Candidates will demonstrate an appropriate knowledge of the current requirements for temporary signs now illustrated in TSRGD and their scope and flexibility.</p> <p>Candidates will demonstrate an appropriate knowledge of at TSRGD 2016 Schedule 13, focussing on new options for wicket type lane indication signs, the large range of options now possible under Part 9 and the requirement for a date on the back of some temporary signs.</p> <p>Candidates will demonstrate an appropriate knowledge of how best to manage temporary signs, whether to give permission to motoring and other organisations to erect them and the maximum durations permitted for their display.</p>

	Module	Competency Content
9.	On-street Parking.	<p>Candidates will demonstrate an appropriate knowledge of the current requirements for signing and marking of all types of on-street parking control in the 2016 TSRGD. This will include, how it is now possible to use marking alone or upright sign alone for some measures and how a parking place is indicated on the ground, with particular reference to parking signs for payment and for different rules to apply at different times.</p> <p>Candidates will demonstrate an appropriate knowledge of the options used with appreciation of the needs of the road user to achieve a regime that is understandable, enforceable and not unnecessarily cluttered. This includes consideration of the different options and the conflicting requirements, particularly when designing parking schemes for residential areas, the signing options for assisting blue badge holder holders and people with severe mobility impairments in addition to the options for school entrances and bus stops.</p>
10.	Parking zones.	<p>Candidates will demonstrate an appropriate knowledge of Controlled Parking Zones (CPZs) and how the public (and sometime adjudicators) have difficulty with them.</p> <p>Candidates will demonstrate an appropriate knowledge of the three main types of parking zone, plus the option to use individual controls. This includes the pros and cons of CPZs, RPZs, PPAs and in what circumstances where each is recommended.</p>
11.	Traffic sign clutter.	<p>Candidates will demonstrate an appropriate knowledge of what is clutter, the cost of signs and how clutter can be reduced at the design stage. This includes, how to deal with existing clutter by means of street audits and maintaining an inventory, when decluttering what signs should be removed completely, which reduced in number and which combined or remade on less obtrusive assemblies.</p> <p>Candidates will demonstrate an appropriate knowledge of innovative mounting techniques and reducing obstruction of the footway.</p>
12..	Structural and passive safety considerations.	<p>Candidates will demonstrate an appropriate knowledge of the relevant standards and design methods for traffic sign structures, including the standards BS EN 12899-1 and BS EN 1991-1-4, and how to select sign components and a design wind load for the location. This includes foundation requirements and the use of software, crash friendly sign supports and how to select and design passively safe structures using the appropriate supports.</p>
13.	Bus lanes, banned turns, speed limits and other moving traffic regulations.	<p>Candidates will demonstrate an appropriate knowledge of how to determine whether and how far in advance signs are visible and the psychology of driver perception to gauge what can be readily understood in complex situations. This includes the requirements to ensure that regulatory signing is enforceable, particularly within the greater flexibility allowed by the 2016 TSRGD.</p>

	Module	Competency Content
14.	Signing for cyclists and pedestrians.	<p>Candidates will demonstrate an appropriate knowledge of the regulations for signs intended for pedestrians, including the option to put walking times instead of distances on signs intended for pedestrians.</p> <p>Candidates will demonstrate an appropriate knowledge of specific signing for cyclists, both on existing highways, and on both urban and rural cycle tracks and paths.</p> <p>Candidates will demonstrate an appropriate practical knowledge of understanding the needs of cyclists, how to differentiate their signs and how to convey safety, as well as directional information.</p>
15.	Specification and procurement.	<p>Candidates will demonstrate an appropriate knowledge of to arrange for signs to be manufactured and installed correctly, efficiently and economically. This includes how to specify to the necessary standards, what level of detail to prescribe for the constructional aspects and how to select contractors for the process.</p> <p>Candidates will demonstrate an appropriate practical knowledge that they are aware of the different ways in which CE marking is achieved and whether to place separate contracts for sign faces and sign erection or to use a single contractor.</p> <p>Candidates will demonstrate an appropriate knowledge of the checks needed and how to deal with on-site queries and problems encountered particularly with respect to the additional requirements for electrically lit signs.</p>

Professional Certificate in Winter Services – Decision Makers & Managers

To obtain the Professional Certificate in Winter Services, you must successfully demonstrate your competence within all **EIGHT** of the following eight modules.

	Module	Competency Content
1. (Core)	The law, the code and your policy relating to Winter Services.	<p>Candidates will demonstrate an appropriate knowledge of the law relating to winter services and how the duty is discharged through policy and procedure.</p> <p>Candidates will demonstrate an appropriate practical knowledge of an assessment of the justification and of how risk is addressed.</p>
2. (Core)	The importance of record keeping.	<p>Candidates will demonstrate an appropriate knowledge of legal accusations and the basis of the defence. In addition, candidates will provide evidence of appropriate winter documentation and a well-justified assessment of improvements.</p>

	Module	Competency Content
3. (Core)	Winter Service plant and delivery.	<p>Candidates will demonstrate an appropriate knowledge of:</p> <ul style="list-style-type: none"> • Plant and calibration • Salt storage and management • Human resources • De-icer choice <p>Candidates will demonstrate an appropriate knowledge of how winter services plant and delivery relates to Appendix H. This includes timescales for complying with App H or justification for not complying.</p>
4. (Core)	Severe winter weather and snow response.	<p>Candidates will demonstrate an appropriate practical knowledge of snow plan operation and resources used, including command and control of a severe event detailing key internal and external communications with stakeholders and partners.</p>
5. (Core)	Winter communications.	<p>Candidates will demonstrate an appropriate knowledge of how communications support the decision-making process, identifying and assessing pre-winter, operational and severe weather communication in terms of different media used, including broadcast, written and social, with public, stakeholders and partners.</p> <p>Candidates will demonstrate an appropriate practical knowledge of how feedback is obtained, what it reveals and how it is being used to shape the service.</p>
6. (Core)	Winter road meteorology.	<p>Candidates will demonstrate an appropriate practical knowledge of the range of weather information available and how it can be used, by listing them and an assessment of which are being used and which could have benefit if used.</p>
7. (Core)	Ice prediction systems and monitoring.	<p>Candidates will demonstrate an appropriate knowledge of how weather is monitored for change, using ice prediction systems and offer an assessment as to how effective this approach is and whether it could be improved.</p>
8. (Core)	Decision making.	<p>Candidates will demonstrate an appropriate knowledge of the decision-making process with reference to WMH Appendix H. Candidates will demonstrate an appropriate practical knowledge of the forecast (eg text and hazards), how risk and confidence are considered in the forecast, their decision-making rationale for each scenario and a critical assessment of how it could be improved.</p>

12. Document matrix

Please map how your evidence documents meet each module in a document matrix. An example of this would be:

Doc No	Doc Name	Module 1	Module 2	Module 5	Module 8
1.	Drawing of roundabout design	✓			✓
2.	CAD drawing of approach junction		✓		

13. Statement by applicant

You must sign and date the declaration in section 15. *We will not accept any application without this declaration signed.*

14. Completing your submission

Please follow the guidance in the application form regarding our required format for Professional Certificate 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 32–34, 286 Euston Road, London, NW1 3DP

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.

15. Electronic copy of your submission

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

16. Payment form

If you have attended one of our Professional Certificate courses, there are no further fees to pay as part of your formal submission for assessment as your course fee includes the Professional Certificate fee.

If you are applying individually for your Professional Certificate under the Knowledge Based Route the fee required as part of your application comprises of (2018 rates):

IHE members: £125.00

Non IHE members: £175.00

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

17. 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

This section is designed for applicants who wish to use their IHE Professional Certificate as the basis for Engineering Council registration at Engineering Technician (EngTech) level. The two processes are designed to build upon each other and applying for EngTech alongside your Professional Certificate is easy. You will need to produce a second copy of your Professional Certificate portfolio and complete the additional requirements listed in this section.

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.

In order to obtain EngTech registration you will need to be an existing IHE member. Please refer to our website at <http://www.theihe.org/membership/> if you need to apply for IHE membership.

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.

Getting started

Please download a copy of the IHE EngTech guidance booklet from the Highway Engineering Academy website or the IHE Members Area. This is essential for completing your application and contains all the guidance and support you require to make a successful EngTech application.

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, operation or maintenance of products, equipment, processes, systems or services.
- C.** Accept and exercise personal responsibility.
- D.** Use effective communication and interpersonal skills.
- E.** Make a personal commitment to an appropriate code of professional conduct, recognising obligations to society, the engineering profession and the environment.

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.

In addition, if you have attended a Professional Certificate course, there is a one day add on EngTech workshop available. This is included in your course fee and provides the same guidance as the two-day workshop above.

1. The coversheet

Please complete the coversheet in section 1 of section C 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 qualifications

We require copies of your certificates for the further and higher education courses you have listed in section 6 of the Professional Certificate application form. These should be authenticated (signed and dated) by either your Line Manager, Proposer or Seconder who can confirm that these are true copies of the original certificates. Do not send us original certificates as these will not be returned to you.

3. 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.

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

- A** Knowledge and understanding
- B** Design and development of processes, systems, services and products
- C** Responsibility, management or leadership
- D** Communication and inter-personal skills
- E** 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 the separate EngTech guidance booklet. Please read the statements and guidance carefully and bear this in mind as you answer each of the assessment questions.

Please refer to the EngTech guidance booklet when completing this section.

4. Document matrix

Please map how your evidence documents meet the 14 statements of competence and commitment in a document matrix. An example of this would be:

Doc No	Doc Name	A1	A2	B1	B2	B3
1.	Drawing of roundabout design	✓			✓	
2.	CAD drawing of approach junction		✓			✓

5. Statement by applicant

You must sign and date the declaration in section 5. *We will not accept any application without this declaration signed.*

6. Completing your submission

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

In addition to your Professional Certificate, we require an additional copy of your Professional Certificate portfolio for your EngTech submission. 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 32–34, 286 Euston Road, LONDON, NW1 3DP.

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, or with sections of this application form incomplete or left blank unless not required.

7. Electronic copy of your submission

Please follow the guidance in the application form and supply us with a digital copy of your EngTech folder and any documents you have submitted on a writeable CD. *We cannot accept USB memory sticks for the EngTech portfolio submission.*

8. Employer Proposal Statement

Section 8 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.

9. Proposer and seconder

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

10. Payment form

The fee required as part of paying for your EngTech application comprises of (2018 rates):

IHE EngTech professional review fee: £85.00

Engineering Council EngTech registration entry fee (collected on their behalf by the IHE): £17.50

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, Affiliate, 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 £124.00.

If you have attended a Professional Certificate course your EngTech fees are included in your course fee. You will still need to pay the fee to upgrade your membership to Member grade (if applicable).

11. 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.

