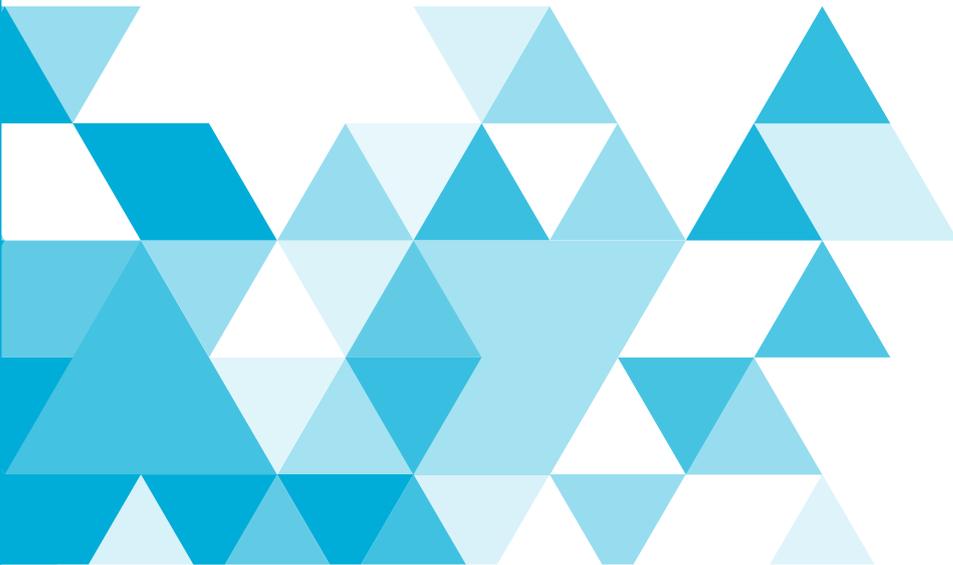




Civil Engineering Technician Apprenticeship Level 3

Mapping of Knowledge, Skills & Behaviours against
EngTech Standards



Contents

Introduction	3
Level 3 Civil Engineering Technician Apprenticeship	4
Knowledge	4
Skills	5
Behaviours	5
Engineering Technician Standards	6



Introduction

As a Civil Engineering Technician Apprentice, you will need to demonstrate throughout your apprenticeship programme how your practical experience is providing you with evidence to show that you have gained the appropriate Knowledge, Skills and Behaviours (KSB) outlined in the Apprenticeship Standard and the associated assessment criteria. Each apprenticeship standard has a unique set of KSB that must be achieved.

This guide outlines the mapping of the relationships between the KSB outlined in the Apprenticeship Standard for the Civil Engineering Technician apprenticeship and the EngTech standards.

Each apprenticeship standard and assessment plan is unique and can be found on the Institute for Apprenticeships and Technical Education's [website](#).

Full details of the End Point Assessment (EPA) can be found in the [Civil Engineering Technician EPA guidance](#) which also includes the application form.

Our Membership Support Team (MST) can give you advice and guidance on all aspects of the End Point Assessment, please email membershipsupport@ice.org.uk or call +44 (0)121 227 5948 for help.



Level 3 Civil Engineering Technician Apprenticeship

Knowledge

Civil Engineering Technician Apprenticeship		EngTech Standards
K1	<p>The different techniques and methods used to design, build and maintain civil engineering projects.</p> <p>This includes understanding how ideas and requirements are converted into engineering designs, knowing the standards, contracts and specifications and their impact on the design and construction process.</p>	A1, B
K2	<p>The appropriate scientific, technical and engineering principles relating to the design of infrastructure and buildings.</p> <p>This includes an understanding of the mathematical, scientific and engineering techniques required to support the design and construction processes, including building information management and modeling aspects of civil engineering disciplines with a demonstrable knowledge of sustainability.</p>	A
K3	<p>How to work effectively and contribute to engineering solutions by the correct use of resources and time.</p> <p>This includes an understanding of project management systems, tools and techniques as they are applied to the design and construction process.</p>	B
K4	<p>How to communicate effectively using a range of techniques.</p> <p>This includes an understanding of different communication methods and when to use them; how to write technical reports, drawing and modelling conventions and engineering terminology; collaboration and effective team working.</p>	D
K5	<p>The code of conduct of relevant professional bodies and institutions including ethics and their application in design and delivery of projects.</p> <p>Understanding the protection of client confidentiality, the need to adhere to corporate policies on ethics and diversity and the professional obligation to make a contribution to society.</p>	E1, E5
K6	<p>Safe working practices and how to comply with them.</p> <p>Understanding of regulations such as Construction, Design and Management (CDM), Common Safety Method (CSM), hazard identification, and risk mitigation in relation to project delivery.</p>	B2, C2, E2
K7	<p>Sustainable development and their own contribution to economic, environmental and social wellbeing.</p> <p>Understanding of company and client sustainability and environmental policies and their effect on design and delivery; and an awareness of the environmental impact of projects and mitigating actions.</p>	B1, B2, E3
K8	<p>Sources of and approaches to Continuing Professional Development (CPD).</p> <p>Understanding of appraisal schemes including training and development plans, CPD obligations and competency requirements relating to self and others.</p>	C2, C3, E4

Skills

Civil Engineering Technician Apprenticeship		EngTech Standards
S1	<p>Select and use appropriate scientific, technical and engineering principles, techniques and methods to contribute to the design and delivery of infrastructure and building projects.</p> <p>This includes the ability to produce and self-check; calculations, models and drawings; use appropriate systems for data gathering, Computer Aided Drawing, Building Information Management and project management; and assist with site surveys and inspections.</p>	A
S2	<p>Work with others to contribute to produce integrated engineering solutions by the correct use of resources and time.</p> <p>This includes the ability to contribute to developing, evolving and monitoring solutions to engineering problems whilst working to programme and within budget.</p>	B, C
S3	<p>Manage and maintain the quality of their work and that of others.</p> <p>Assess the task to be done, plan/schedule work and manage time; decide when to allocate work to other people; maintain the flow of information; check work at an appropriate level and against appropriate standards and specifications. Keep well organised personal records of work undertaken</p>	C
S4	<p>Communicate effectively and appropriately with others using a range of techniques including verbal communication, written reports, models and drawings using correct terms, standards and formats.</p>	D
S5	<p>Keep themselves and others safe by adhering to safe working practices.</p> <p>This includes the ability to identify hazards and assess risks, follow safe systems of work and adhere to all company safety policies.</p>	B2, E
S6	<p>Maintain their skills base and learning.</p> <p>This includes the ability to assess their own competence against training objectives and identify development needs and training action plans</p>	C, E4

Behaviours

Civil Engineering Technician Apprenticeship		EngTech Standards
B1	Take a responsible approach to health and safety	B2, E1, E2, E3
B2	Be professional, proactive and receptive to constructive advice and guidance	E5
B3	Be willing to learn new skills and to adapt in the light of experience	E4
B4	Know one's limitations and when to ask for help or escalate	A1
B5	Work independently when appropriate and take responsibility for and pride in their work	D2, C1
B6	Demonstrate a positive approach to problem solving	B1
B7	Show an ability to contribute to discussions as part of a team	B2, D1

Engineering Technician Standards

Engineering Technician Standards		K	S	B
A	Use engineering knowledge and understanding to apply technical and practical skills. This includes the ability to:	2	1	
A1	Review and select appropriate techniques, procedures and methods to undertake tasks.	1		4
A2	Use appropriate scientific, technical or engineering principles			
B	Contribute to the design, development, manufacture, construction, commissioning, operation or maintenance of products, equipment, processes, systems or services. In this context, this includes the ability to:	1, 3, 7	2	
B1	Identify problems and apply appropriate methods to identify causes and achieve satisfactory solutions			2, 6
B2	Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact.	6	5	7
C	Accept and exercise personal responsibility. This includes the ability to:		2, 3, 6	
	C1 - Work reliably and effectively without close supervision, to the appropriate codes of practice			5
	C2 - Accept responsibility for work of self or others	6, 8		
	C3 - Accept, allocate and supervise technical and other tasks	8		
D	Use effective communication and interpersonal skills. This includes the ability to:	4	4	
	D1 - Use oral, written and electronic methods for the communication in English of technical and other information.			7
	D2 - Work effectively with colleagues, clients, suppliers or the public, and be aware of the needs and concerns of others, especially where related to diversity and equality.			5
E	E - Make a personal commitment to an appropriate code of professional conduct, recognising obligations to society, the profession and the environment.		5	
	E1 - Comply with the Code of Conduct of your institution.	5		1
	E2 - Manage and apply safe systems of work.	6		1
	E3 - Undertake engineering work in a way that contributes to sustainable development. This could include an ability to: <ul style="list-style-type: none"> Operate and act responsibly, taking account of the need to progress environmental, social and economic outcomes simultaneously 	7		1
	E4 - Carry out and record CPD necessary to maintain and enhance competence in own area of practice including: <ul style="list-style-type: none"> Undertake reviews of own development needs Plan how to meet personal and organisational objectives Carry out planned (and unplanned) CPD activities Record and maintain evidence of competence development Evaluate CPD outcomes against any plans made Assist others with their CPD 	8	6	3
	E5 – Exercise responsibilities in an ethical manner.	5		2

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Our vision

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

Core purpose

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

Diversity statement

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