Pearson Edexcel Level 3 Diploma in Civil Engineering for Technicians (Institution of Civil Engineers)

Specification

Competence-based qualification

First registration September 2010

Issue 4 from September 2024

About Pearson

We are the world's leading learning company operating in countries all around the world. We provide content, assessment and digital services to schools, colleges and universities, as well as professional and vocational education to learners to help increase their skills and lifelong employability prospects. We believe that wherever learning flourishes so do people.

This specification is Issue 4. Key changes are summarised on the next page. We will inform centres of any changes to this issue. The latest issue can be found on our website.

References to third-party material made in this specification are made in good faith. Pearson does not endorse, approve or accept responsibility for the content of materials, which may be subject to change, or any opinions expressed therein. (Material may include textbooks, journals, magazines and other publications and websites.)

All information in this specification is correct at time of publication.

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Summary of changes to Pearson Edexcel Level 3 Diploma in Civil Engineering for Technicians (Institution of Civil Engineers) Issue 4

Summary of changes made between previous issue and this issue	Page number
Updated to new specification template	All
Unit 1: amended suggested development activities and UK-SPEC mapping.	14 - 16
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Earlier issue(s) show previous changes.

If you need further information on these changes or what they mean, please contact us via our website at: qualifications.pearson.com/en/support/contact-us.html.

Contents

1 Introducing the qualification

What are Pearson competence-based qualifications?

Pearson competence-based qualifications are work-based qualifications that give learners the opportunity to develop and demonstrate their competence in the area of work or job role to which the qualification relates.

Learners will develop the knowledge, skills and behaviours to become competent in the area of work or job role. The requirements to be competent are set by occupational standards for the appropriate sector. Pearson has worked closely with the appropriate professional body in the development of this qualification. The qualifications are written in broad terms to enable employers and providers to apply them to a wide range of related occupational areas.

Qualification purpose

The Pearson Edexcel Level 3 Diploma in Civil Engineering for Technicians (Institution of Civil Engineers) is for learners who are working in the role of a Civil Engineering Technician in a variety of settings with contractors, consultants, government agencies, local authorities and other client bodies.

The qualification will allow apprentices undertaking a Civil Engineering Technical Apprenticeship to fulfil the requirements of the competence-based component of the apprenticeship, with appropriate underpinning knowledge and professional attributes. It will also meet the requirements for Technician Membership of the Institution of Civil Engineers, subject to success at a subsequent professional review. It contributes to the development of trained technician level personnel for the sector and is a response to expressed employer need via the Civil Engineering Employers Training Group (CEETG) which ICE hosts.

The Pearson Edexcel Level 3 Diploma in Civil Engineering for Technicians (Institution of Civil Engineers) will assist companies to meet their contractual obligations with regards to public procurement, to provide apprenticeships and to have sufficient professionally qualified staff.

Learners will have a qualification that enable them to seek professional registration as an Engineering Technician (EngTech) with the Engineering Council.

Industry support and recognition

The Pearson Edexcel Level 3 Diploma in Civil Engineering for Technicians (Institution of Civil Engineers) was developed in close collaboration with the Institution of Civil Engineers directly. In addition, it is approved for use in apprenticeships in Wales (by CITB Wales) and Northern Ireland and is supported by local apprenticeship employer-provider groups which include engineering companies such as Arcadis.

Funding

Qualifications eligible and funded for post-16-year-olds can be found on the funding Hub.

The apprenticeship funding rules can be found at www.gov.uk.

2 Qualification summary and key information

Qualification title	Pearson Edexcel Level 3 Diploma in Civil Engineering for Technicians (Institution of Civil Engineers)
Qualification Number (QN)	501/1115/2
Regulation start date	01/09/2010
Operational start date	01/09/2010
Approved age ranges	16–18 19+
Total Qualification Time (TQT)	1300 hours.
Guided Learning Hours (GLH)	390.
Assessment	Internal assessment (portfolio of evidence).
Grading information	The qualification and units are graded Pass/Fail.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. Centres must follow the information in our document, *A guide to recruiting learners onto Pearson qualifications and Section 6 Access to qualifications.*
Qualification title	Pearson Edexcel Level 3 Diploma in Civil Engineering for Technicians (Institution for Civil Engineers)
Progression	Learners who achieve the Pearson Edexcel Level 3 Diploma in Civil Engineering for Technicians (Institution of Civil Engineers) are able to progress to the Pearson BTEC Higher National Certificate in Construction and the Pearson BTEC Higher National Diploma in Construction. Progression is also possible to Foundation Degrees, BSc and BEng degrees in construction and civil engineering. Ultimately students can progress to Meng and MSc. *Further information is available in Annexe A.*

3 Qualification structure

Pearson Edexcel Level 3 Diploma in Civil Engineering for Technicians (Institution for Civil Engineers)

The requirements outlined in the table below must be met for Pearson to award the qualification.

Number of units that must be achieved	9

Unit number	Mandatory units	Level	Guided learning hours
1	Techniques, procedures and methods for civil engineering tasks	3	48
2	Develop and finalise civil engineering solutions	3	51
3	Management and leadership in civil engineering	3	48
4	Independent judgement and responsibility in civil engineering	3	48
5	Commercial awareness in civil engineering	3	24
6	Health, safety and welfare for civil engineers	3	48
7	Sustainable development in civil engineering	3	24
8	Interpersonal skills and communication in civil engineering	3	48
9	Professional commitment for civil engineers	3	51

4 Assessment requirements

The units in this qualification are all internally assessed.

Assessment requirements

The assessment requirements for this qualification are included in *Annexe A*. It sets out the overarching assessment requirements and the framework for assessing the units to ensure that the qualification remains valid and reliable. It has been developed by the Institution of Civil Engineers in partnership with employers, training providers, the sector skills council, the awarding organisation and the regulatory authorities.

Language of assessment

Learners must use English only during the assessment of this qualification.

A learner taking the qualification(s) may be assessed in British Sign Language where it is permitted for the purpose of reasonable adjustment.

Further information on the use of language in qualifications is available in our *Use of languages in qualifications policy,* available on our website.

Internal assessment

The units in this qualification are assessed through an internally- and externally quality-assured Portfolio of Evidence made up of evidence gathered during the course of the learner's work.

Each unit has specified learning outcomes and assessment criteria. To pass each unit, learners must:

- achieve **all** the specified learning outcomes
- satisfy **all** the assessment criteria by providing sufficient and valid evidence for each criterion
- prove that the evidence is their own.

Learners must have an assessment record that identifies the assessment criteria that have been met. The assessment record should be cross-referenced to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment. Suitable centre documentation should be used to form an assessment record.

Presenting evidence

In line with the assessment requirements, evidence for internally-assessed units can take a variety of forms as indicated below:

- direct observation of the learner's performance by their assessor (O)
- outcomes from oral or written questioning (Q&A)
- products of the learner's work (P)
- personal statements and/or reflective accounts (RA)
- outcomes from simulation (S), where permitted by the assessment requirements
- professional discussion (PD)
- assignment, project/case studies, written reports
- authentic statements/witness testimony (WT)
- expert witness testimony (EWT)
- evidence of Recognition of Prior Learning (RPL).

Learners can use the abbreviations in their portfolios for cross-referencing purposes.

Learners can also use one piece of evidence to prove their knowledge, skills and understanding across different assessment criteria and/or across different units. It is not necessary for learners to have each assessment criterion assessed separately. They should be encouraged to reference evidence to the relevant assessment criteria. However, the evidence provided for each unit must clearly reference the unit being assessed. Evidence must be available to the assessor, the internal verifier and the Pearson Standards Verifier.

Any specific evidence requirements for a unit are given in the *Unit assessment requirements* section of the unit.

Assessment of knowledge and understanding

Knowledge and understanding are key components of competent performance, but it is unlikely that performance evidence alone will provide sufficient evidence for knowledge-based learning outcomes and assessment criteria. Where the learners' knowledge and understanding is not apparent from performance evidence, it must be assessed through other valid methods and be supported by suitable evidence. The evidence provided to meet these learning outcomes and assessment criteria must be in line with the assessment requirements. Any specific assessment requirements are stated in the *Unit assessment requirements* section of each unit in *Section 9 Units*.

Assessor requirements

Centres must ensure:

- assessment is carried out by assessors with relevant expertise in both the occupational area and assessment. The requirements for assessor qualifications and experience are stated in the assessment requirements in *Annexe A*.
- internal verification systems are in place to ensure the quality and authenticity of learners' work, as well as the accuracy and consistency of assessment. The requirements of internal verifiers (IVs) are stated in the assessment requirements in *Annexe A*.

5 Centre recognition and approval

Centres must have approval prior to delivering or assessing any of the units in this qualification.

Centres that have not previously offered Pearson competence-based qualifications need to apply for, and be granted, centre recognition and approval to offer individual qualifications.

Existing Pearson centres seeking approval to offer Pearson competence-based qualifications, will be required to submit supplementary evidence for approval, aligned with the associated Standards and/or assessment requirements.

Guidance on seeking approval to deliver Pearson vocational qualifications is available on our website.

Approvals agreement

All centres are required to enter into an approval agreement with Pearson, in which the head of centre or principal agrees to meet all the requirements of the qualification specification and to comply with the policies, procedures, codes of practice and regulations of Pearson and relevant regulatory bodies. If centres do not comply with the agreement, this could result in the suspension of certification or withdrawal of centre or qualification approval.

Centre resource requirements

As part of the approval process, centres must make sure that the resource requirements below are in place before offering the qualification:

- appropriate physical resources as outlined in the Assessment Requirements in *Annexe A* (for example a workplace in line with industry standards or a Realistic Working Environment (RWE), where permitted)
- centres must meet any specific human resource requirements outlined in the Assessment Requirements in *Annexe A*
- staff assessing learners and internally verifying programmes must meet the occupational competence requirements in the Assessment Requirements
- systems to ensure continuing professional development (CPD) for staff delivering, assessing and internally verifying the qualification
- health and safety policies that relate to the use of equipment by learners
- internal verification systems and procedures (see *Section 4 Assessment requirements*)
- any unit-specific resources stated in individual units.

6 Access to qualifications

Access to qualifications for learners with disabilities or specific needs

Equality and fairness are central to our work. Our *Equity, diversity and inclusion in Pearson qualifications and related services policy* requires all learners to have equal opportunity to access our qualifications and assessments, and that our qualifications are awarded in a way that is fair every learner.

We are committed to making sure that:

- learners with a protected characteristic (as defined by the Equality Act 2010) are not, when they are taking one of our qualifications, disadvantaged in comparison to learners who do not share that characteristic
- all learners achieve the recognition they deserve from their qualification and that this achievement can be compared fairly to the achievement of their peers.

For learners with disabilities and specific needs, the assessment of their potential to achieve the qualification must identify, where appropriate, the support that will be made available to them during delivery and assessment of the qualification.

Centres must deliver the qualification in accordance with current equality legislation. For full details of the Equality Act 2010, please visit www.legislation.gov.uk.

Reasonable adjustments and special consideration

Centres are permitted to make adjustments to assessment to take account of the needs of individual learners. Any reasonable adjustment must reflect the normal learning or working practice of a learner in a centre or a learner working in the occupational area.

Centres cannot apply their own special consideration – applications for special consideration must be made to Pearson and can be made on a case-by-case basis only.

Centres must follow the guidance in the Pearson document *Guidance for reasonable adjustments and special consideration in vocational internally assessed units.*

7 Recognising prior learning and achievement

Recognition of Prior Learning (RPL) considers whether a learner can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess and so do not need to develop through a course of learning.

Pearson encourages centres to recognise learners' previous achievements and experiences in and outside the workplace, as well as in the classroom. RPL provides a route for the recognition of the achievements resulting from continuous learning.

RPL enables recognition of achievement from a range of activities using any valid assessment methodology. If the assessment requirements of a given unit or qualification have been met, the use of RPL is acceptable for accrediting a unit, units or a whole qualification. Evidence of learning must be sufficient, reliable and valid.

Further guidance is available in our policy document *Recognition of prior learning policy and process*, available on our website.

8 Quality assurance of centres

For the qualification in this specification, the Pearson quality assurance model will consist of the following processes.

Centres will receive at least one visit from our Standards Verifier, followed by ongoing support and development. This may result in more visits or remote support, as required to complete standards verification. The exact frequency and duration of Standards Verifier visits/remote sampling will reflect the level of risk associated with a programme, taking account of the:

- number of assessment sites
- number and throughput of learners
- number and turnover of assessors
- number and turnover of internal verifiers
- amount of previous experience of delivery.

If a centre is offering a Pearson competence-based qualification alongside other qualifications related to a similar Apprenticeship Standard, wherever possible we will allocate the same Standards Verifier for both qualifications.

Following registration, centres will be given further quality assurance and sampling guidance.

For further details, please see the work-based learning quality assurance handbooks, available in the support section of our website:

- *Pearson centre guide to quality assurance – NVQs/SVQs and competence-based qualifications*
- *Pearson delivery guidance & quality assurance requirements – NVQs/SVQs; competence-based qualifications and BTEC Specialist qualifications.*

In relation to application for professional membership as an Engineering Technician (EngTech), centres are strongly advised to appoint a professionally qualified engineer as an assessor/verifier, and to contact the ICE Regional Support Team to arrange for professional review. Link: https://www.ice.org.uk/about-us/what-we-do/ice-near-you/

9 Units

This section of the specification contains the unit(s) that form the assessment for the qualification.

For explanation of the terms within the units, please refer to *Section 13 Glossary*.

It is compulsory for learners to meet the learning outcomes and the assessment criteria to achieve a Pass. The unit assessment requirements must also be met by the evidence that is provided by the learner.

Where legislation is included in delivery and assessment, centres must ensure that it is current and up to date.

Unit 1: Techniques, procedures and methods for civil engineering tasks

Level: 3

Guided learning hours: 48

Credit value: 16

Unit summary

This unit allows the learner to demonstrate that they have built an appropriate set of technical skills to enable them to perform engineering tasks.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the Assessment Requirements in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
1	Be able to use technical skills to perform engineering tasks	1.1	Review techniques, procedures and methods to undertake engineering tasks	Identifying limits of own personal independent engineering judgment, knowledge and skills Evidence should show you have acquired engineering knowledge through project work, including how technology assists its application. You should ensure evidence is gathered from a wide range of engineering tasks, which will cover a variety of methods and techniques in different contexts. Identifying the engineering principles used in your work. Using engineering codes.	A1 A1 A1			
		1.2	Select appropriate techniques, procedures and methods to undertake engineering tasks					
		1.3	Use appropriate techniques, procedures and methods to undertake tasks					

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
				Using engineering standards. Using digital engineering applications and models. Preparation, planning and use of engineering specifications.				

Learner name: Date:

Learner signature: Date:

Assessor signature: Date:

Internal verifier signature:
(*if sampled*) Date:

Unit 2: Develop and finalise civil engineering solutions

Level: 3

Guided learning hours: 51

Credit value: 17

Unit summary

This unit allows the learner to demonstrate that they have an appropriate set of technical skills which will enable them to develop engineering solutions.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the Assessment Requirements in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
1	Be able to contribute to the solution of civil engineering problems in the context of the whole project life cycle	1.1	Identify scientific, technical or engineering problems	Apply engineering principles Link the knowledge of core engineering principles to data, digital applications, technology, codes, standards and specifications within your area of operations Example solutions should consider: Health, safety and Welfare; buildability issues; the relationship between quality, costs and time; the impact of sustainability; project life cycle; security; net zero; data; digital applications; technology;				
		1.2	Analyse problems using appropriate scientific, technical or engineering principles					
		1.3	Develop solutions to civil engineering problems in the context of the whole project life cycle					

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
		1.4	Optimise solutions to civil engineering problems in the context of the whole project life cycle	environmental impact; minimise waste Examples could include designing that minimises resource use and is inclusive for all users Link the analysis to relevant Codes, Standards and Specifications Look at alternative solutions to meet the requirements of the problem Examples could include the production of drawings, BIM, models and digital visualisations to show the solutions you have worked on.				
		1.5	Finalise solutions to civil engineering problems in the context of the whole project life cycle					

Learner name: Date:

Learner signature: Date:

Assessor signature: Date:

Internal verifier signature:
(*if sampled*) Date:

Unit 3: Management and leadership in civil engineering

Level:	**3**
Guided learning hours:	**48**
Credit value:	**16**

Unit summary

This unit allows the learner to demonstrate an appropriate level of management expertise in relation to civil engineering works.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the Assessment Requirements in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
1	Be able to manage activities within own field of responsibility	1.1	Mange own work schedule	Examples of working effectively without close supervision Leading by example Identify the steps required to complete tasks, plan the work allocated to you and organise resources				
		1.2	Monitor tasks allocated to others					
		1.3	Contribute to quality processes					

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
		1.4	Contribute to the administration of projects	Monitoring the work of others and record progress against the schedule Assisting others to meet changing technical and managerial needs Follow quality processes and procedures to bring continuous improvements Work with programmes, plans, digital building information models, surveys and method statements in relation to the administration of a project. Examples could include outputs of software, designs, models, Gantt charts, or reports on activities carried out to administer the project; showing your role in the wider project goal and how your contribution helps meet targets.				

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (*if sampled*)	Date:

Unit 4: Independent judgement and responsibility in civil engineering

Level:	**3**
Guided learning hours:	**48**
Credit value:	**16**

Unit summary

This unit allows the learner to demonstrate that they are able to apply independent judgement and exercise a level of responsibility appropriate to their position in the civil engineering team.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the Assessment Requirements in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
1	Be able to exercise independent judgement within own field of responsibility	1.1	Identify the limits of own knowledge and skills	Show that you can take responsibility for identifying areas beyond your current engineering knowledge and skills, broaden your skills base using engineering knowledge, produce learning and development plans to address weaknesses Prepare a review of the organisation within which you are working and how your role fits into this context				
		1.2	Explain scope of own responsibility within an organisational context					
		1.3	Explain scope of own responsibility within a statutory and legal context					

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
		1.4	Demonstrate how these responsibilities are exercised through decisions made	Link your work with best practice, planning laws and the legislative framework governing the sector where you work and identify relevant issues Link your experience and responsibilities and consider the judgement you make when taking decisions to evaluate risk and other factors. Examples could include design assumptions, feasibility reports, decision trees, flow charts, project Gantt charts.				

Learner name: Date:

Learner signature: Date:

Assessor signature: Date:

Internal verifier signature:
(*if sampled*) Date:

Unit 5: Commercial awareness in civil engineering

Level: 3

Guided learning hours: 24

Credit value: 8

Unit summary

This unit allows the learner to demonstrate that they have built an appropriate set of skills relating to commercial awareness and civil engineering.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the Assessment Requirements in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
1	Be able to contribute to commercial activities	1.1	Contribute to controlling project costs	Assess the relationship between budget and cost on a project you are working on Preparation and monitoring of costs for a task on the project you are working on. Examples could include identifying areas of overspend on a completed project, reviewing schedules and rates, or if working in a design field then value engineering outputs that show the impact of improved designs on lowering costs from materials, energy, labour or other resource use				

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
		1.2	Contribute to maintaining records for financial control	Show you can maintain effective records in relation to contractual matters Participation in the progress of evaluating contract instructions and variations.				

Learner name: Date:

Learner signature: Date:

Assessor signature: Date:

Internal verifier signature:
(*if sampled*) Date:

Unit 6: Health, safety and welfare for civil engineers

Level:	**3**
Guided learning hours:	**48**
Credit value:	**16**

Unit summary

This unit allows the learner to demonstrate an appropriate level of knowledge in relation to their Health, Safety and Welfare responsibilities and rights.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the Assessment Requirements in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
1	Be able to manage and apply safe systems of work	1.1	Work within health and safety legislation	Examples of tasks where you can identify you have taken responsibility for your own Health, Safety and Welfare issues Show that you have implemented and/or operate Health, Safety and Welfare systems Apply the current Health, Safety and Welfare codes and legislation to the work situation. Examples could include: National H&S legislation, local employment requirements, contract requirements, applying CDM				
		1.2	Supervise the safe working of those under one's control					

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
		1.3	Manage health and safety hazards and risks within their control	regulations, method statements Recommend improvements to Health, Safety and Welfare systems, showing detailed knowledge of the hazards and risks applicable to your field of work Evidence of being proactive with regards to Health, Safety and Welfare practice, for example attending and contributing to safety briefings, promoting good practice on the site, initiatives to raise awareness of safety issues etc.				

Learner name: Date:

Learner signature: Date:

Assessor signature: Date:

Internal verifier signature:
(*if sampled*) Date:

Unit 7: Sustainable development in civil engineering

Level: 3

Guided learning hours: 24

Credit value: 8

Unit summary

This unit allows the learner to demonstrate that they have built an appropriate set of skills in relation to the development of sustainability in civil engineering.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the Assessment Requirements in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
1	Be able to contribute to sustainable development	1.1	Understand the principles of sustainable development and apply them in work	Understand the United Nations' Sustainable Development Goals, environmental legislation and best practice that impacts on your work Understand the 'three pillars' of sustainability Implementing sustainable and net zero solutions within your work. Highlight the carbon use arising from projects you have worked on and suggest potential solutions to reduce the footprint of the project.				
		1.2	Supervise the sustainable working of those under one's control					

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
		1.3	Contribute to problem solving in sustainable development in the context of a whole project life cycle	Show that you understand the contribution your work makes in potential future climate change and identify potential mitigations. Actively participate in the development and application of sustainability across the life cycle of your projects Contribute towards influencing the sustainable development of communities both local and global Examples could include habitat protection, sustainable urban drainage schemes, actions to limit raw sewerage pollution events, but also wider societal impact, e.g. reporting on how carbon footprint and environmental impact of projects may disproportionately affect poorer communities.				

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (*if sampled*)	Date:

Unit 8: Interpersonal skills and communication in civil engineering

Level: 3

Guided learning hours: 48

Credit value: 16

Unit summary

This unit allows the learner to demonstrate that they have built a set of technical skills that will allow them to effectively communicate with their peers in the civil engineering industry.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the Assessment Requirements in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
1	Be able to show effective communication and interpersonal skills	1.1	Communicate with others effectively	Examples of communication with others, on both technical and non-technical matters Gain experience of effective communication across a variety of media (oral, written, digital and graphic communication) Practice discussing ideas and plans relating to Civil Engineering with your peers, colleagues, technical and non-technical stakeholders Resolve issues in discussion with team members, suppliers, clients and others				

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
		1.2	Demonstrate effective interpersonal and social skills when working with others	Consultation with others and understanding the working relationships that are required when working with others. Examples could include both within the organisation, and outside, e.g. to clients via reports and briefings produced, attendance at community consultations, planning discussions Demonstrate awareness of diversity and inclusion Practice personal awareness, recognising own emotions, strengths, weaknesses and unconscious bias.				

Learner name: Date:

Learner signature: Date:

Assessor signature: Date:

Internal verifier signature:
(*if sampled*) Date:

Unit 9: Professional commitment for civil engineers

Level: 3

Guided learning hours: 51

Credit value: 17

Unit summary

This unit allows the learner to demonstrate that they have developed knowledge and skills in relation to the professional commitment standards of the civil engineering industry.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the Assessment Requirements in Annexe A.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
1	Be able to show professional commitment	1.1	Comply with a professional body's Code of Conduct	Read and understand the ICE Code of Conduct and its use. Demonstrate and discuss your position on typical ethical challenges Record your own CPD in accordance with the requirements of the ICE Offer relevant assistance to ensure the CPD of others is developed where necessary Support ICE activities through engagement with events, seminars, evening lectures etc. Maintain professional and ethical standards in relation to your employer or society as well as the wider profession				
		1.2	Produce own CPD plans and records					
		1.3	Assist others with their CPD plans and records					
		1.4	Support professional body activities					

Learning outcomes		Assessment criteria		Suggested Development Activity	UK-SPEC mapping	Evidence type	Portfolio reference	Date
		1.5	Demonstrate a commitment to professional standards, recognising obligations to society and to the profession	Continually safeguard diversity and inclusion to create a profession for everyone. Examples could include diversity impact assessments – the effect on communities, socioeconomic groups etc., during urban project planning.				

Learner name: Date:

Learner signature: Date:

Assessor signature: Date:

Internal verifier signature:
(*if sampled*) Date:

10 Appeals

Centres must have a policy for dealing with appeals from learners. Appeals may relate to assessment decisions being incorrect or assessment not being conducted fairly. The first step in such a policy is a consideration of the evidence by a Lead Internal Verifier or other member of the programme team. The assessment plan should allow time for potential appeals after learners have been given assessment decisions.

Centres must document all learners' appeals and their resolutions. Further information on the appeals process can be found in the document *Internal assessment in vocational qualifications: Reviews and appeals policy*, available on our website.

11 Malpractice

Dealing with malpractice in assessment

'Malpractice' refers to acts that undermine the integrity and validity of assessment, the certification of qualifications and/or may damage the authority of those responsible for delivering the assessment and certification.

Pearson does not tolerate actual or attempted malpractice by learners, centre staff or centres in connection with Pearson qualifications. Pearson may impose sanctions on learners, centre staff or centres where malpractice or attempted malpractice has been proven.

Malpractice may occur or be suspected in relation to any unit or type of assessment within a qualification. For further details on malpractice and advice on preventing malpractice by learners, please see Pearson's *Centre Guidance: Dealing with Malpractice*, available on our website.

Centres are required to take steps to prevent malpractice and to assist with investigating instances of suspected malpractice. Learners must be given information that explains what malpractice is and how suspected incidents will be dealt with by the centre. The *Centre Guidance: Dealing with Malpractice* document gives full information on the actions we expect you to take.

Pearson may conduct investigations if we believe a centre is failing to conduct assessments according to our policies. The above document gives further information, examples, and details the sanctions that may be imposed.

In the interests of learners and centre staff, centres need to respond effectively and openly to all requests relating to an investigation into an incident of suspected malpractice.

Learner malpractice

The head of centre is required to report incidents of suspected learner malpractice that occur during the delivery of Pearson qualifications. We ask centres to complete JCQ Form M1 (www.jcq.org.uk/malpractice) and email it with any supporting documents (signed statements from the learner, invigilator, copies of evidence, etc) to the Investigations Processing team at candidatemalpractice@pearson.com. The responsibility for determining any appropriate sanctions on learners lies with Pearson.

Learners must be informed at the earliest opportunity of the specific allegation and the centre's malpractice policy, including the right of appeal. Learners found guilty of malpractice may be disqualified from the qualification for which they have been entered with Pearson.

Failure to report malpractice constitutes staff or centre malpractice.

Teacher/centre malpractice

The head of centre is required to inform Pearson's Investigations team of any incident of suspected malpractice (which includes maladministration) by centre staff, before any investigation is undertaken. The head of centre should inform the Investigations team by submitting a JCQ M2 Form (downloadable from www.jcq.org.uk/malpractice) with supporting documentation to pqsmalpractice@pearson.com. Where Pearson receives allegations of malpractice from other sources (for example Pearson staff, anonymous informants), the Investigations team will conduct the investigation directly or may ask the head of centre to assist.

Pearson reserves the right in cases of suspected malpractice to withhold the issuing of results/certificates while an investigation is in progress. Depending on the outcome of the investigation, results and/or certificates may not be released or they may be withheld.

You should be aware that Pearson may need to suspend certification when undertaking investigations, audits and quality assurances processes. You will be notified within a reasonable period of time if this occurs.

Sanctions and appeals

Where malpractice is proven, we may impose sanctions such as:

- mark reduction for affected assessments
- disqualification from the qualification
- debarment from registration for Pearson qualifications for a period of time.

If we are concerned about your centre's quality procedures we may impose sanctions such as:

- requiring centres to create an improvement action plan
- requiring staff members to receive further training
- placing temporary suspensions on certification of learners
- placing temporary suspensions on registration of learners
- debarring staff members or the centre from delivering Pearson qualifications
- suspending or withdrawing centre approval status.

The centre will be notified if any of these apply.

Pearson has established procedures for considering appeals against sanctions arising from malpractice. Appeals against a decision made by Pearson will normally be accepted only from the head of centre (on behalf of learners and/or members or staff) and from individual members (in respect of a decision taken against them personally). Further information on appeals can be found in the *JCQ Appeals booklet* (https://www.jcq.org.uk/exams-office/appeals).

12 Further information and publications

- Edexcel, BTEC and Pearson Work Based Learning contact details: qualifications.pearson.com/en/contact-us.html.
- Books, software and online resources for UK schools and colleges: www.pearsonschoolsandfecolleges.co.uk.
- Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please visit our website.

Further documents that support the information in this specification:

- *Access arrangements and reasonable adjustments* (JCQ)
- *A guide to the special consideration process* (JCQ)
- *Collaborative and consortium arrangements for the delivery of vocational qualifications policy* (Pearson)
- *UK information manual* (updated annually and available in hard copy) or *Entries and information manual* (available online) (Pearson)
- *Distance learning and assessment policy* (Pearson)

Publisher information

Any publisher can seek endorsement for their resources and, if they are successful, we will list their resources on our website.

13 Glossary

Section A – General terminology used in specification

Term	Description
Level	Units and qualifications have a level assigned to them. The level assigned is informed by the level descriptors defined by Ofqual, the qualifications regulator.
Guided learning hours (GLH)	This indicates the number of hours of activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners, for example lectures, tutorials, online instruction and supervised study. Units may vary in size.
Total qualification time (TQT)	This indicates the total number of hours that a typical learner will take to complete the qualification. This is in terms of both guided learning hours but also unguided learning, for example private study, time spent in the workplace to master skills.
Learning outcomes	The learning outcomes of a unit set out what a learner knows, understands or is able to do as the result of a process of learning.
Assessment criteria	The assessment criteria specify the standard the learner is required to meet to achieve a learning outcome.
Competence	The minimum knowledge, skills and behaviours required to perform a job role effectively.
Valid assessment	The assessment assesses the skills or knowledge/understanding in the most sensible, direct way to measure what it is intended to measure.
Reliable assessment	The assessment is consistent and the agreed approach delivers the correct results on different days for the same learners and different cohorts of learners.
Workplace simulation	Realistic tasks carried out in the workplace that are additional to the normal work duties for the day to produce evidence for criteria that are very challenging to meet in the natural course of work.

Annexe A: Assessment requirements

The work setting:

The assessment requirements for this qualification have been developed by the Institution of Civil Engineers in partnership with employers, training providers, the sector skills council, the awarding organisation and the regulatory authorities.

The qualification may be part of a work-based apprenticeship scheme or ICE training scheme. As such, the company providing the work setting for the apprenticeship or training programme would benefit from having an ICE Approved Training Scheme:

https://www.ice.org.uk/download-centre/ice-training-scheme-guidance/

The approval of an ICE Approved Training Scheme ensures that the working environment enables the learner to achieve the qualification substantively in a real work context.

Employing Companies should contact ICE on 0207 665 2014 if they do not have an ICE Approved Training Scheme.

Educational Institutions providing day/evening/block release will normally have been approved to offer Pearson's BTEC Construction and the Built Environment qualifications.

Criteria for defining realistic working environments:

A realistic working environment or simulation may be used when learners are unable to obtain direct evidence from the workplace. This may be because:

- some safety issues may not arise in the course of the training period
- some activities may be hazardous
- certain work situations may occur infrequently or not at all within a particular organisation.

Realistic working environments should follow the Constructions Skills guidelines in the National Occupational Standards and may include the following:

- equipment such as tools, instruments, materials and ICT including software; types of contingencies; standards and quality specifications; timescales; physical conditions; quantity of work; relationships with people; information and data.

The use of simulation and/or a realistic working environment should be agreed between the assessor and the learner and be agreed with the internal verifier.

Roles and occupational competence of assessors, expert witnesses, mentors, internal verifiers and standards verifiers

- Assessors and verifiers will either have or be working towards the relevant Assessor and Quality Assurance qualifications.
- Assessors and verifiers should have recent and relevant industrial experience and up-to-date knowledge at or above Level 3. This may be demonstrated through:

- CV and references
- possession of a relevant qualification
- membership of a relevant professional institution
- CPD records
- Companies will appoint mentors and expert witnesses in the workplace setting. Where an ICE Approved Training Scheme is in place, these are likely to be Supervising Civil Engineers or Delegated Engineers.

Annexe B: Achieving EngTech TMICE status

This qualification prepares learners for Technician Membership of the Institution of Civil Engineers and for professional registration as an Engineering Technician (EngTech) with the Engineering Council.

If learners are registered for an ICE training scheme with their employers, this will run in parallel with the qualification. Details can be found here:

https://www.ice.org.uk/membership/my-membership/ice-training-schemes/

As part of the ICE training scheme, learners will be allocated a mentor who will be a Supervising Civil Engineer (SCE), registered with the Institution of Civil Engineers (ICE), or a Delegated Engineer (DE), depending on the company's scheme. The SCE and/or DE will be aware of the processes and procedures that would be required in relation to the running of a traditional ICE training scheme. For companies without a training scheme, contact the ICE's Regional Support Team for advice:

https://www.ice.org.uk/about-us/what-we-do/ice-near-you/

The trainee with gather a portfolio of evidence to match the learning outcomes and assessment criteria. The portfolio should reference supporting documentation for the trainee's attainment. It should cover what the trainee has done and what has been learned.

Where a company uses development reports as part of its training scheme, the report might focus on a particular topic. They also provide valuable practice in writing about achievements and technical matters and as such are among the professional competences and behaviours expected of a civil engineer. These may be cross-referenced to the portfolio.

A regular report can also be used by the trainee in planning for the short or medium-term future in conjunction with the mentor, SCE or DE. It is part of the dialogue through which hat the trainee wants to do, and what help is needed is explored. If the trainee is part of an ICE training scheme there will also be an annual appraisal meeting with the Supervising Civil Engineer (SCE).

The portfolio record tables (see examples above pp 11-19) should use the key provided in the section Guidance for Tutor (p 10 and below) to indicate the type of evidence that has been gathered for each unit, using the following headers as an indicator for the type of evidence claimed.

O Observation

Q&A Questions and answers

P Learner products

RA Reflective accounts/personal statements

S Simulation

PD Professional discussion

A Assignment, project/case studies

WT Witness testimony

EPW Expert witness evidence

RPL Recognition of Prior Learning

The mentor, Delegated Engineer or Supervising Civil Engineer undertakes the initial discussion with the trainee to ensure that the evidence claimed matches with the experience of the trainee and that the statements are appropriate and relevant. The Assessor is then responsible for signing off the units, based on the evidence of the trainee provided within the portfolio, and/or cross-referenced to the relevant Development Report, plus any further discussions, further evidence or witness support from the SCE/DE.

On completion, the employer should put the trainee forward for professional review. Guidance can be found in the Technician Professional Review Guidance

https://www.ice.org.uk/download-centre/technician-professional-review-guidance/

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For information about Pearson qualifications, including Pearson Edexcel, BTEC and LCCI qualifications, visit qualifications.pearson.com

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