Qualification Specification

ProQual Level 6 Diploma in Civil Engineering

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This qualification is part of ProQual's broad offer of qualifications in the Construction Sector.

To find out more about other qualifications in this, or any other sector, or for our latest fees; check our Fees Schedule via the QR code below:

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Introduction

The ProQual Level 6 Diploma in Civil Engineering provides a nationally recognised qualification for individuals responsible for developing, implementing, and maintaining civil engineering systems within an organisation. This qualification is ideal for managers seeking to enhance their expertise in environmental sustainability, compliance, and best practices.

The aims of this qualification are:

- To allow candidates to develop knowledge of civil engineering and sustainability management procedures.
- To provide candidates with opportunities to apply their knowledge of civil engineering and sustainability management in their organisation.
- To facilitate career development for those interested in civil engineering and sustainability management.

The awarding body for this qualification is ProQual AB. This qualification has been approved for delivery in England, and to international candidates by approved centres based in England. This qualification is regulated by Ofqual and has been entered into the Regulated Qualification Framework (RQF).

This qualification is not an NVQ and candidates for this qualification will not be eligible for a CSCS card.

Qualification Profile

Qualification Title:	ProQual Level 6 Diploma in Civil Engineering
Qualification Number:	610/5246/2
Level:	6
Total Qualification Time (TQT):	1200 Hours 120 Credits
Guided Learning Hours (GLH):	600 Hours
Assessment:	Pass / Fail
	Internally assessed and verified by centre staff
	Externally verified by ProQual Verifiers
Qualification Start Date:	24/01/2025
Qualification Review Date:	24/01/2028

Learner Profile

There are no formal academic entry requirements for this qualification. Centres should carry out an initial assessment of candidate skills and knowledge to identify and gaps and inform the assessment plan.

Candidates must be aged 18 years or older on the day they are registered for this qualification. Centres are reminded that no assessment should take place before candidates are registered.

Candidates who complete this qualification may progress onto the ProQual Level 7 Diploma in Civil Engineering.

Qualification Structure

This qualification consists of **six** mandatory units. Candidates must complete all mandatory units to complete this qualification.

Unit Number	Unit Title	Level	TQT	GLH
Mandatory Units – Candidates must complete **all** units in this group.				
H/651/4572	Advanced Surveying Techniques	6	200	100
J/651/4573	Estimation and Costing in Construction	6	200	100
K/651/4574	Structural Design and Analysis	6	200	100
L/651/4575	Construction Drawing and Drafting	6	200	100
M/651/4576	Construction Project Management	6	200	100
R/651/4577	Building Materials and Construction Technology	6	200	100

Centre Requirements

Centres must be approved to deliver this qualification. If your centre is not approved to deliver this qualification, please complete and submit the **ProQual Additional Qualification Approval Form.**

Materials produced by centres to support candidates should:

- Enable them to track their achievements as they progress through the learning outcomes and assessment criteria.
- Provide information on where ProQual's policies and procedures can be viewed.
- Provide a means of enabling Internal and External Quality Assurance staff to authenticate evidence.

Centres must have the appropriate equipment to enable candidates to carry out the practical requirements of this qualification.

Certification

Candidates who achieve the requirements for this qualification will be awarded:

- A certificate listing all units achieved, and
- A certificate giving the full qualification title:

ProQual Level 6 Diploma in Civil Engineering

Claiming certificates

Centres may claim certificates for candidates who have been registered with ProQual and who have successfully achieved the qualification. All certificates will be issued to the centre for successful candidates.

Unit certificates

If a candidate does not achieve all of the units required for a qualification, the centre may claim a unit certificate for the candidate which will list all of the units achieved.

Replacement certificates

If a replacement certificate is required a request must be made to ProQual in writing. Replacement certificates are labelled as such and are only provided when the claim has been authenticated. Refer to the Fee Schedule for details of charges for replacement.

Assessment Requirements

Each candidate is required to produce a portfolio of evidence which demonstrates their achievement of all of the learning outcomes and assessment criteria for each unit.

Evidence can include:

- Observation report by assessor
- Assignments/projects/reports
- Professional discussion
- Witness testimony
- Candidate product
- Worksheets
- Record of oral and written questioning
- Recognition of Prior Learning

Candidates must demonstrate the level of competence described in the units. Assessment is the process of measuring a candidate's skill, knowledge and understanding against the standards set in the qualification.

Centre staff assessing this qualification must be **occupationally competent** and qualified to make assessment decisions. Assessors who are suitably qualified may hold a qualification such as, but not limited to:

- ProQual Level 3 Certificate in Teaching, Training and Assessment.
- ProQual Level 3 Award in Education and Training.
- ProQual Level 3 Award in Assessing Competence in the Work Environment. *(Suitable for assessment taking place in a working environment only.)*
- ProQual Level 3 Award in Assessing Vocational Achievement. *(Suitable for assessment taking place in a simulated training environment only.)*

Candidate portfolios must be internally verified by centre staff who are **occupationally knowledgeable** and qualified to make quality assurance decisions. Internal verifiers who are suitably qualified may hold a qualification such as:

- ProQual Level 4 Award in the Internal QA of Assessment Processes and Practice.
- ProQual Level 4 Certificate in Leading the Internal QA of Assessment Processes and Practice.

Occupationally competent means capable of carrying out the full requirements contained within a unit. **Occupationally knowledgeable** means possessing relevant knowledge and understanding.

Enquiries, Appeals and Adjustments

Adjustments to standard assessment arrangements are made on the individual needs of candidates. ProQual's Reasonable Adjustments Policy and Special Consideration Policy sets out the steps to follow when implementing reasonable adjustments and special considerations and the service that ProQual provides for some of these arrangements.

Centres should contact ProQual for further information or queries about the contents of the policy.

All enquiries relating to assessment or other decisions should be dealt with by centres, with reference to ProQual's Enquiries and Appeals Procedures.

Units – Learning Outcomes and Assessment Criteria

Title:	Advanced Surveying Techniques			**Level:**	6
Unit Number:	H/651/4572	**TQT:**	200	**GLH:**	100

Learning Outcomes *The learner will be able to:*		**Assessment Criteria** *The learner can:*	
1	Use advanced surveying techniques for civil engineering projects.	1.1	Describe various advanced surveying instruments and technologies used in civil engineering.
		1.2	Compare different surveying techniques and justify their use in various contexts.
		1.3	Perform land surveying using advanced equipment, such as total station and GPS.
		1.4	Apply surveying data for mapping and layout of civil projects.
2	Analyse the data collected during surveying.	2.1	Interpret and process surveying data for use in construction planning.
		2.2	Identify common errors in surveying data and suggest corrective measures.
		2.3	Produce detailed reports based on survey data analysis.
3	Apply surveying principles to real-world civil engineering projects.	3.1	Integrate surveying data with other engineering designs, such as structural and environmental designs.
		3.2	Discuss local regulations related to land surveying.

Additional Assessment Information

Where an assessment criteria is **knowledge based.** This means that evidence is expected to take the form of candidate's written work and/or records of appropriate professional discussions.

Where an assessment criteria is **competency based.** This means that the candidate is expected to perform the tasks, and demonstrate the level of competence, outlined in the assessment criteria. It is expected that evidence will be a combination following:

- Photographic and/or video evidence of the candidate's practical work.
- Assessor's observation report.
- Expert witness testimony.
- Candidate reflection on own practical work.

An observation report and witness testimony are differentiated as follows:

- An **assessor's report** is completed by a qualified assessor who observes the candidate carrying out practical work. The assessor will make assessment decisions as they observe and record these in the report, alongside a commentary of what they observe.
- A **witness statement** is completed by a suitably qualified or experienced expert who observes the candidate carrying out practical work. The witness statement will contain **only** a commentary of what has been observed. An assessor must then use the witness statement, alongside any additional evidence to make assessment decisions.
- In all cases, an assessor's report is preferred as evidence over a witness statement; as it is always better for an assessor to observe a candidate live.

Assessors may wish use to use a checklist or evidence matrix to organise and track the assessment outcomes that have been achieved, but these **do not,** in themselves, constitute evidence of achievement.

An assessor's report or witness statement alone is unlikely to be sufficient evidence of achievement. Reports and statements should always be accompanied by photographic and/or video evidence.

Evidence of practical skills may be generated as part of the candidate's work in their real job role, or it may be generated through the use of case studies and simulated scenarios.

Title:	Estimation and Costing in Construction			Level:	6
Unit Number:	J/651/4573	TQT:	200	GLH:	100

Learning Outcomes *The learner will be able to:*		Assessment Criteria *The learner can:*	
1	Demonstrate skills for accurate estimation and costing in construction.	1.1	Explain the principles and methodologies of cost estimation in construction projects.
		1.2	Prepare cost estimates for materials, labour, and overheads for various construction activities.
		1.3	Use software tools to assist in cost estimation.
2	Assess the factors affecting construction costs.	2.1	Identify key factors that influence project costs.
		2.2	Explain how key factors influence project costs.
		2.3	Discuss the cost implications of design changes and unforeseen circumstances.
3	Apply cost control measures throughout a construction project.	3.1	Produce a cost management plan for a construction project.
		3.2	Analyse budget status of a project, including variance analysis.
4	Evaluate cost-benefit analysis for construction alternatives.	4.1	Compare the financial implications of using different materials or construction methods.
		4.2	Produce a cost-benefit analysis and present findings to stakeholders.

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Title:	Structural Design and Analysis			Level:	6
Unit Number:	K/651/4574	TQT:	200	GLH:	100

Learning Outcomes *The learner will be able to:*		Assessment Criteria *The learner can:*	
1	Demonstrate understanding of structural design principles.	1.1	Explain the fundamental principles of structural design in civil engineering.
		1.2	Analyse the behaviour of structures under various load conditions, including: • Dead load. • Live load. • Wind load.
2	Apply structural analysis techniques to determine forces, stresses, and deformations.	2.1	Conduct structural analysis using both traditional methods and software tools.
		2.2	Interpret analysis results and their implications for design.
3	Design structural components in compliance with relevant standards and regulations.	3.1	Design reinforced concrete and steel structures using appropriate design codes.
		3.2	Evaluate the impact of different material choices on design outcomes.
4	Develop and communicate structural design solutions.	4.1	Produce detailed structural design calculations and drawings
		4.2	Explain the rationale behind design choices to non-technical stakeholders.

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Title:	Construction Drawing and Drafting			Level:	6
Unit Number:	L/651/4575	TQT:	200	GLH:	100

Learning Outcomes *The learner will be able to:*		Assessment Criteria *The learner can:*	
1	Demonstrate proficiency in construction drawing and drafting techniques.	1.1	Produce detailed technical drawings using both manual and CAD methods.
		1.2	Produce construction plans for a variety of civil and building projects.
2	Apply design standards to construction drawings.	2.1	Identify drawing standards relevant to the creation of construction drawings.
		2.2	Apply relevant drawing standards in the creation of construction drawings.
		2.3	Produce drawings with appropriate clarity and accuracy for construction purposes.
3	Interpret construction drawings for project implementation.	3.1	Analyse construction drawings to identify key elements and potential issues.
		3.2	Produce material take-offs from construction drawings.
4	Integrate construction drawings into project workflows.	4.1	Ensure coordination between drawings, specifications, and other project documents.
		4.2	Resolve discrepancies between drawings and actual project site conditions.

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Title:	Construction Project Management			Level:	6
Unit Number:	M/651/4576	TQT:	200	GLH:	100

Learning Outcomes *The learner will be able to:*		Assessment Criteria *The learner can:*	
1	Apply project management principles to construction projects.	1.1	Explain the principles of project management and their application in construction.
		1.2	Produce a project plan that includes scope, time, and resource management.
2	Manage construction project resources effectively.	2.1	Produce a resource management plan that includes labour, equipment, and materials.
		2.2	Monitor and control the use of resources throughout the project lifecycle.
3	Oversee construction project scheduling and time management.	3.1	Produce a detailed project schedule using Gantt charts and critical path methods.
		3.2	Identify and manage scheduling risks and delays.
4	Ensure quality control in construction projects.	4.1	Produce a quality management plan for construction projects.
		4.2	Implement and monitor quality control procedures to ensure compliance with standards.
5	Understand the financial aspects of construction project management.	5.1	Produce a cost-benefit analysis for construction project decisions.
		5.2	Develop strategies to stay within budget while maintaining project quality.

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Title:	Building Materials and Construction Technology			Level:	6
Unit Number:	R/651/4577	TQT:	200	GLH:	100

Learning Outcomes *The learner will be able to:*		Assessment Criteria *The learner can:*	
1	Evaluate the selection and properties of materials used in construction.	1.1	Identify common building materials used in civil engineering.
		1.2	Describe the properties of common building materials used in civil engineering.
		1.2	Compare the performance of materials in different environmental conditions.
2	Apply materials science principles to construction projects.	2.1	Discuss the suitability of materials for different construction applications.
		2.2	Discuss the latest advancements in construction technology and their applications.
3	Analyse the role of construction technology in modern civil engineering projects.	3.1	Identify the latest advancements in construction technology and their applications.
		3.2	Evaluate the impact of technological innovations on project efficiency and sustainability.
4	Integrate material selection and construction technology into project planning.	4.1	Produce strategies for material procurement based on project specifications and budget.
		4.2	Apply new construction technologies to the planning and execution of civil engineering projects.
5	Discuss the environmental and economic considerations in material selection.	5.1	Discuss the environmental impact of materials used in construction.
		5.2	Recommend materials and technologies based on economic feasibility and sustainability.

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Appendix One – Command Verb Definitions

The table below explains what is expected from each **command verb** used in an assessment objective. Not all verbs are used in this specification

Apply	Use existing knowledge or skills in a new or different context.
Analyse	Break a larger subject into smaller parts, examine them in detail and show how these parts are related to each other. This may be supported by reference to current research or theories.
Classify	Organise information according to specific criteria.
Compare	Examine subjects in detail, giving the similarities and differences.
Critically Compare	As with compare, but extended to include pros and cons of the subject. There may or may not be a conclusion or recommendation as appropriate.
Describe	Provide detailed, factual information about a subject.
Discuss	Give a detailed account of a subject, including a range of contrasting views and opinions.
Explain	As with describe, but extended to include causation and reasoning.
Identify	Select or ascertain appropriate information and details from a broader range of information or data.
Interpret	Use information or data to clarify or explain something.
Produce	Make or create something.
State	Give short, factual information about something.
Specify	State a fact or requirement clearly and in precise detail.

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