City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) (7255-62)

Version 1.8 (April 2026)

Qualification Handbook

Qualification at a glance

Subject area	Building and construction
City & Guilds number	7255
Age group approved	16–18, 19+
Entry requirements	N/A
Assessment	Multiple-choice question (MCQ) paper(s) Practical assignment
Grading	Pass/Fail
Approvals	Full approval required
Support materials	Sample assessments (SAMs), Qualification handbook
Registration and certification	Consult the Walled Garden/Online Catalogue for last dates
Occupational Standard	ST0264 Carpentry and Joinery

Title and level	City & Guilds qualification number	Regulatory reference number	GLH	TQT
City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma)	7255-62	610/4591/3	411	452

Version and date	Change detail	Section
1.0 March 2025	Initial version	All
1.1 July 2025	Updates to formatting	All
	Summary of assessment methods, updates to component 261 and 262	7
	Learning outcomes updated in units 212 and 213	8
	Additional topics added into units 212 and 213	8
1.2 July 2025	Registration details added	6
	RPA/RPL update	7
	Updated content in Unit 202, 6.1.2 c) vii relating to sustainability practices	8
1.3 October 2025	Re-sit opportunities updated with re-submission process	7
	Availability of assessments updated	7
	Unit 211 LO1 and Topic 1.1 wording amendment	8
1.4 November 2025	Unit 316, Topic 3.2 wording amendment	8
1.5 January 2026	Results release information	7
1.6 February 2026	Addition of ITEE (In-Service Inspection and Testing of Electrical Equipment) to content referring to Portable Appliance Testing (PAT) **Please note that this also may be referred to as EET (Electrical Equipment Testing)**	Physical resources guidance and Unit 201
	Addition of terminology in content for Unit 202, 4.2.1a, (step 1 – shell added) referring to first fix elements	Unit 202
	Unit 215, 2.1.1cvi, planned corrected to planed. 2.3.1bv, removed	Unit 215

Version and date	Change detail	Section
	Unit 216, 4.2.1c, “see also profiler below” removed	Unit 216
	Unit 217, 1.1.1av, spelling correction. 1.5.1avi addition of spirit level	Unit 217
	Unit 211, 1.8.1, reformatting of content referencing	Unit 211
	Unit 213, 1.2.2, reformatting of content referencing. 1.2.2di, amended to HMO. 2.5.2, removal of additional adhesive	Unit 213
1.7 March 2026	210, 1.1.1, Amended wording to read materials/products	Unit 210
	211, 1.4, LO wording amended for clarity	Unit 211
	211, 1.6, amended for clarity	Unit 211
	211, 2.1, note formatting amendment in amplified list	Unit 211
	212, 2.5/2.5.1, amended wording for clarity	Unit 212
	214, 2.4.2(b/c), amended amplified lists for clarity	Unit 214
	215, 1.4.1b, additional amplification point added (vi)	Unit 215
	215, 1.7.1b(iv), amended	Unit 215
	216, 1.1, amended to reflect this is broader than legislation	Unit 216
	216, 4.1.2, amended wording for clarity	Unit 216
1.8 April 2026	Coverage clarified to include both double mortice and tenon and twin mortice and tenon joints	Unit 215

Contents

1 Introduction

What is this qualification about?

Area	Description
Who is the qualification for?	This qualification is for those individuals who are looking to work in the construction industry, specifically as a craftsperson in carpentry and joinery. Carpenters and joiners have the skills and knowledge to manufacture and install structural and non-structural timber products and components. Learners will gain an understanding of the skills and knowledge that are important when working as a carpenter or joiner or progressing to further learning and training in this area. This qualification is suitable for those aged 16 years old or over.
What does the qualification cover?	This qualification aligns to the knowledge, skills and behaviours in the ST0264 Carpentry and Joinery Occupational Standard.
What opportunities for progression are there?	Following successful completion of this qualification, learners will be qualified to work in the construction industry as a carpenter or joiner.
Why choose this qualification?	The City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) 7255-62 is a high-quality qualification that supports entry into an occupation at level 2 by providing as close to full occupational competence as is possible in a classroom-based setting. The qualification aligns to an employer-led occupational standard at level 2.

2 Content coverage and mapping

Occupational standards

This qualification has been developed to cover as many of the knowledge, skills and behaviours (KSBs) in the relevant occupational standard as it may be reasonable to attain by undertaking a course of education or training. Where KSBs in a relevant occupation standard cannot be reasonably obtained within a course of education or training in an educational setting, City & Guilds seeks validation from credible employers to ensure that the qualification is fit for purpose.

The knowledge and skills content within this qualification have been amplified to reflect the KSBs. High-level mapping to the KSBs in the Occupational Standard can be found in the *Qualification structure* section. Detailed mapping at topic level can be found in Annex 2 within this Qualification Handbook.

The table below shows the Occupational Standard the qualification aligns to:

Qualification	Occupational Standard reference/title
City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma)	ST0264 Carpentry and Joinery

3 Employer engagement

City & Guilds would like to take this opportunity to thank all the employers, trade associations, professional bodies, providers, subject matter experts and consultants who have dedicated time to review and validate this qualification. These stakeholders have been consulted throughout the development and validation of this qualification to ensure the qualification meets the requirements of the Occupational Standard and the needs of industry. Employer validation recognises the demand or likely demand for learners who have completed the Level 2 Technical Occupational Entry in Wood Occupations (Diploma). This collaborative work is to ensure that a learner studying the Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) has the best opportunities available to them as they progress through their career, with a solid base as a starting point.

4 Qualification structure

Structure

To achieve the City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) – **Architectural Joinery**, learners must achieve all units. **All units are mandatory.**

City & Guilds unit number	Unit title	GLH
Mandatory units:		
101	Health and safety in a construction environment	21
201	Principles of welfare, health and safety in construction environments	30
202	Principles of working in the construction industry	50
210	Timber technology	30
215	Planning and preparation for setting out and marking out architectural joinery	60
216	Use of woodworking machinery	90
217	Architectural joinery component production	90
218	Assembly and finishing of architectural joinery products	40

Unit 101, health and safety in a construction environment, is an imported unit that covers the health and safety knowledge that is required to gain a Construction Skills Certification Scheme (CSCS) 'Green Card' for access to construction sites in the UK.

The unit was developed in conjunction with the Construction Industry Training Board (CITB) and CSCS UK Ltd and also exists as a standalone, single-unit City & Guilds qualification – Scheme and POS number 6072-51.

To achieve the City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) – **Site Carpentry**, learners must achieve all units. **All units are mandatory.**

City & Guilds unit number	Unit title	GLH
Mandatory units:		
101	Health and safety in a construction environment	21
201	Principles of welfare, health and safety in construction environments	30
202	Principles of working in the construction industry	50
210	Timber technology	30
211	Structural carpentry	90
212	First fix carpentry	80
213	Second fix carpentry	90
214	Circular saw	20

Unit 101, health and safety in a construction environment, is an imported unit that covers the health and safety knowledge that is required to gain a Construction Skills Certification Scheme (CSCS) 'Green Card' for access to construction sites in the UK.

The unit was developed in conjunction with the Construction Industry Training Board (CITB) and CSCS UK Ltd and also exists as a standalone, single-unit City & Guilds qualification – Scheme and POS number 6072-51.

Total Qualification Time (TQT)

TQT is the number of notional hours which represents an estimate of the total amount of time that could reasonably be expected for a learner to demonstrate the achievement of the level of attainment necessary for the award of a qualification.

TQT consists of the following two elements:

- the number of hours that an awarding organisation has assigned to a qualification for guided learning (GLH, or Guided Learning Hours)
- an estimate of the number of hours a learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by – but, unlike guided learning, not under the immediate guidance or supervision of – a lecturer, supervisor, tutor or other appropriate provider of education or training.

Title and level	GLH	TQT
City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) – Architectural Joinery	411	452
City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) – Site Carpentry	411	452

5 Centre requirements

Approval

Full approval

To offer this qualification, new centres will need to gain both centre and qualification approval. Please refer to the document **Centre Approval process: Quality Standards** for further information.

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification before designing a course programme.

Resource requirements

Centre staffing

Staff delivering these qualifications must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be occupationally competent or technically knowledgeable in the area(s) for which they are delivering training and/or have experience of providing training (this knowledge must be to the same level as the training being delivered)
- have recent relevant experience in the specific area they will be assessing
- have credible experience of providing training.

Continuing professional development (CPD)

Centres are expected to support their staff in ensuring that their knowledge remains current of the occupational area and of best practice in delivery, mentoring, training, assessment and quality assurance, and that it takes account of any national or legislative developments.

Physical resources

Centres must be able to demonstrate that they have access to the equipment and technical resources required to deliver this qualification and its assessment.

Centres will have well-equipped workshops with a comprehensive range of hand and portable power tools that meet current industry standards. All powered equipment should be well maintained and portable appliance testing (PAT)/ In-Service Inspection and Testing of Electrical Equipment (ITEE) certified.

A bench vice will be available to each candidate. Facilities for grinding and sharpening hand tools will be available. Centres will have special designated areas within carpentry and joinery workshops (cubicles or project areas), allowing candidates to practise the requirements of the units and carry out the practical assignments. There must also be a fixed or transportable circular saw, which shall be to industrial standards and comply with current regulations.

Quality assurance

Approved centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications. Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance and City & Guilds is responsible for external quality assurance. All external quality assurance processes reflect the minimum requirements for verified and moderated assessments, as detailed in the Centre Assessment Standards Scrutiny (CASS), section H2 of Ofqual's General Conditions. For more information on both CASS and City & Guilds quality assurance processes, visit the **What is CASS?** and **Quality Assurance Standards** documents on the City & Guilds website.

Standards and rigorous quality assurance are maintained by the use of:

- internal quality assurance
- City & Guilds external quality assurance.

In order to carry out the quality assurance role, internal quality assurers must:

- have appropriate teaching and vocational knowledge and expertise
- have experience in quality management/internal quality assurance
- hold or be working towards an appropriate teaching/training/assessing qualification
- be familiar with the occupation and technical content covered within the qualification.

External quality assurance for the qualification will be provided by City & Guilds EQA process. External quality assurers (EQAs) are appointed by City & Guilds to approve centres and to monitor the assessment and internal quality assurance carried out by centres. External quality assurance is carried out to ensure that assessment is valid and reliable, and that there is good assessment practice in centres.

The role of the EQA is to:

- provide advice and support to centre staff
- ensure the quality and consistency of assessments within and between centres by the use of systematic sampling
- provide feedback to centres and to City & Guilds.

Learner entry requirements

City & Guilds does not set entry requirements for these qualifications. However, centres must ensure that candidates have the potential and opportunity to gain the qualification successfully.

Initial assessment and induction

An initial assessment of each learner should be made before the start of their programme to identify:

- if the learner has any specific training needs
- any support and guidance they may need when working towards their qualification
- any units they have already completed or credit they have accumulated which is relevant to the qualification
- the appropriate type and level of qualification.

We recommend that centres provide an induction programme so the learner fully understands the requirements of the qualification, their responsibilities as a learner and the responsibilities of the centre. This information can be recorded on a learning contract.

Age restrictions

This qualification is approved for learners aged 16 or above.

Access to assessment and special consideration

City & Guilds has considered the design of this qualification and its assessments in order to best support accessibility and inclusion for all learners. We understand, however, that individuals have diverse learning needs and may require reasonable adjustments to fully participate. Reasonable adjustments, such as additional time or alternative formats, may be provided to accommodate learners with disabilities and to support fair access to assessment.

Access arrangements are adjustments that allow candidates with disabilities, special educational needs or temporary injuries to access the assessment and demonstrate their skills and knowledge without changing the demands of the assessment. These arrangements must be made before assessment takes place.

The Equality Act 2010 requires City & Guilds to make reasonable adjustments where a disabled person would be at a substantial disadvantage in undertaking an assessment.

It is the responsibility of the centre to ensure at the start of a programme of learning that candidates will be able to access the requirements of the qualification.

Please refer to the Joint Council for Qualifications (JCQ) access arrangements and reasonable adjustments and *Access arrangements: When and how applications need to be made to City & Guilds* for more information. Both are available on the City & Guilds website: **City & Guilds website**

6 Delivering the qualification

Inclusion and diversity

City & Guilds is committed to improving inclusion and diversity within the way we work and how we deliver our purpose, which is to help people and organisations develop the skills they need for growth. More information and guidance to support centres in supporting inclusion and diversity through the delivery of City & Guilds qualifications can be found here:

Inclusion and diversity | City & Guilds (cityandguilds.com)

Sustainability

City & Guilds is committed to net zero. Our ambition is to reduce our carbon emissions by at least 50% before 2030 and to develop environmentally responsible operations to achieve net zero by 2040 or sooner if we can. City & Guilds is committed to supporting qualifications that support our customers to consider sustainability and their environmental footprint.

More information and guidance to support centres in developing sustainable practices through the delivery of City & Guilds qualifications can be found here:

Our Pathway to Net Zero | City & Guilds (cityandguilds.com)

Centres should consider their own carbon footprint when delivering this qualification and consider reasonable and practical ways of delivering this qualification with sustainability in mind. This could include:

- reviewing purchasing and procurement processes (such as buying in bulk to reduce the amount of travel time and energy; considering and investing in the use of components that can be reused, instead of disposable or single-use consumables)
- reusing components wherever possible
- waste procedures (ensuring that waste is minimised and recycling of components is in place wherever possible)
- minimising water use and considering options for reuse/salvage as part of building activities wherever possible.

Support materials

The following resources are available for this qualification:

Description	How to access
Sample assessments	www.cityandguilds.com
Qualification handbook	www.cityandguilds.com

Registration

Registering learners on the Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma):

To access the Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) Architectural Joinery and Site Carpentry pathways, centres must first register learners on the Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) package 7255-60:

Package Title and level	City & Guilds number
Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma)(Package)	7255-60 (Registration only)

Learners registered on this 'package' will automatically be registered on:

Qualification Title and Level	City & Guilds number
Level 1 Award in Health and Safety in a Construction Environment	7255-01 (bookings only)
Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma)	7255-62 (bookings and results entry only)

This provides access to the Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) – Architectural Joinery and Site Carpentry pathways.

7 Assessment

Summary of assessment methods

For City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) – **Architectural Joinery**, candidates must successfully complete:

Assessment component	Assessment method	Description and conditions
101	Externally marked MCQ exam	This assessment covers unit 101. The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve. The exam is designed to assess the candidate's depth and breadth of understanding across content in the unit using one-mark MCQs and will be sat under invigilated examination conditions. See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations** The test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City & Guilds website. Live assessment will be delivered by the City & Guilds online platform e-volve.
201	Externally marked MCQ exam	This assessment covers unit 201. The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve. The exam is designed to assess the candidate's depth and breadth of understanding across content in the unit using one-mark MCQs and will be sat under invigilated examination conditions. See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations** The test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City & Guilds website. Live assessment will be delivered by the City & Guilds online platform e-volve.

Assessment component	Assessment method	Description and conditions
202	Externally marked MCQ exam	This assessment covers unit 202. The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve. The exam is designed to assess the candidate's depth and breadth of understanding across content in the unit using one-mark MCQs and will be sat under invigilated examination conditions. See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations** The test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City & Guilds website. Live assessment will be delivered by the City & Guilds online platform e-volve.
252	Externally marked MCQ exam	This assessment covers units 210, 215, 216, 217 and 218. The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve. The exam is designed to assess the candidate's depth and breadth of understanding across content in units 210, 215, 216, 217 and 218 (and should only be attempted following learner completion of these units) using MCQs and will be sat under invigilated examination conditions. See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations** The test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City & Guilds website. Live assessment will be delivered by the City & Guilds online platform e-volve.

Assessment component	Assessment method	Description and conditions
262	Practical assignment	This assessment covers units 215, 216, 217 and 218. The practical assignment is externally set and internally marked with external verification. The assignment is designed to assess the candidate's depth and breadth of knowledge, skills and understanding from across content in the qualification, at the end of their period of learning. It will be completed under supervised conditions. See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations** The test specification shows the coverage of the assessment across the qualification content.

For City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) – **Site Carpentry**, candidates must successfully complete:

Assessment component	Assessment method	Description and conditions
101	Externally marked MCQ exam	This assessment covers unit 101. The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve. The exam is designed to assess the candidate's depth and breadth of understanding across content in the unit using one-mark MCQs and will be sat under invigilated examination conditions. See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations** The test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City & Guilds website. Live assessment will be delivered by the City & Guilds online platform e-volve.
201	Externally marked MCQ exam	This assessment covers unit 201. The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve. The exam is designed to assess the candidate's depth and breadth of understanding across content in the unit using one-mark MCQs and will be sat under invigilated examination conditions. See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations** The test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City & Guilds website. Live assessment will be delivered by the City & Guilds online platform e-volve.
202	Externally marked MCQ exam	This assessment covers unit 202. The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve. The exam is designed to assess the candidate's depth and breadth of understanding across content in the unit using one-mark MCQs and will be sat under invigilated examination conditions.

Assessment component	Assessment method	Description and conditions
		See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations** The test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City & Guilds website. Live assessment will be delivered by the City & Guilds online platform e-volve.
251	Externally marked MCQ exam	This assessment covers units 210, 211, 212, 213 and 214. The multiple-choice assessment is externally set and externally marked and will be delivered online via e-volve. The exam is designed to assess the candidate's depth and breadth of understanding across content in units 210, 211, 212, 213 and 214 (and should only be attempted following learner completion of these units) using MCQs. It will be sat under invigilated examination conditions. See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations** The test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City & Guilds website. Live assessment will be delivered by the City & Guilds online platform e-volve.
261	Practical assignment	This assessment covers units 211, 212, 213 and 214. The practical assignment is externally set and internally marked with external verification. The assignment is designed to assess the candidate's depth and breadth of knowledge, skills and understanding from across content in the qualification, at the end of their period of learning. It will be completed under supervised conditions. See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations** The test specification shows the coverage of the assessment across the qualification content.

Scheme of assessment overview

For City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) – **Architectural Joinery**, candidates must successfully complete:

Candidates must complete all assessment components					
Assessment component	**Method**	**Duration**	**Marks**	**Marking approach**	**Grading**
101*	On-demand e-volve online MCQ exam	1 hour 10 minutes	45	Externally set and externally marked	Pass/fail
201	On-demand e-volve online MCQ exam	45 minutes	30	Externally set and externally marked	Pass/fail
202	On-demand e-volve online MCQ exam	1 hour	40	Externally set and externally marked	Pass/fail
252	On-demand e-volve online MCQ exam	55 minutes	35	Externally set and externally marked	Pass/fail
262	On-demand practical assignment	14 hours	N/A	Externally set, internally marked and externally verified	Pass/fail

Candidates must pass all assessment components to achieve the qualification.

*101 – Where candidates have met requirements for an exemption through Recognised prior achievement (RPA), proxy unit 801 can be claimed on the Walled Garden under 7255-62. See RPL/A section for requirements.

For City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) – **Site Carpentry**, candidates must successfully complete:

Candidates must complete all assessment components					
Assessment component	**Method**	**Duration**	**Marks**	**Marking approach**	**Grading**
101*	On-demand e-volve online MCQ exam	1 hour 10 minutes	45	Externally set and externally marked	Pass/fail
201	On-demand e-volve online MCQ exam	45 minutes	30	Externally set and externally marked	Pass/fail
202	On-demand e-volve online MCQ exam	1 hour	40	Externally set and externally marked	Pass/fail
251	On-demand e-volve online MCQ exam	55 minutes	35	Externally set and externally marked	Pass/fail
261	On-demand practical assignment	14 hours	N/A	Externally set, internally marked and externally verified	Pass/fail

Candidates must pass all assessment components to achieve the qualification.

*101 – Where candidates have met requirements for an exemption through Recognised prior achievement (RPA), proxy unit 801 can be claimed on the Walled Garden under 7255-62. See RPL/A section for requirements.

Assessment specifications

The assessment specifications outlined in the tables below highlight, at high level, the way that the qualification content will be assessed within the different assessment components.

Test: 101	Duration: 1 hour 10 minutes		
Unit	**Outcome**	**Number of marks**	**Percentage %**
101	LO1: Know the principles of risk assessment for maintaining and improving health and safety at work	11	24
	LO2: Know the importance of safe manual handling in the workplace	8	18
	LO3: Know the importance of working safely at height in the workplace	9	20
	LO4: Know risks to health within a construction environment	12	27
	LO5: Know the importance of working around plant and equipment safely	5	11
	Total	45	100%

Permitted materials: None

Graded: Pass/Fail

Pass mark: The pass mark for this examination is set at 80% (36 marks).

This boundary may be subject to slight variation to ensure fairness should any variations in the difficulty of the individual assessment versions be identified.

Test: 201	Duration: 45 minutes		
Unit	**Outcome**	**Number of marks**	**Percentage %**
201	LO1: Know health and safety regulations, roles and responsibilities	4	13
	LO2: Understand accident and emergency reporting procedures and documentation	2	7
	LO3: Understand the management of workplace hazards and risks	5	17
	LO4: Know safe storage requirements for materials and equipment	1	3
	LO5: Understand access requirements and equipment when working at heights	2	7
	LO6: Understand safety considerations when working with electrical equipment	4	13
	LO7: Know personal protective equipment (PPE) responsibilities	1	3
	LO8: Understand fire emergency procedures	3	10
	LO9: Understand factors that impact on physical and mental welfare maintenance and management	8	27
	Total	30	100%

Permitted materials: None

Graded: Pass/Fail

Pass mark: The pass mark for this examination is set at approximately 66% (20 marks).

This boundary may be subject to slight variation to ensure fairness should any variations in the difficulty of the individual assessment versions be identified.

Test: 202	Duration: 60 minutes		
Unit	**Outcome**	**Number of marks**	**Percentage %**
202	LO1: Understand working practices in the construction industry	15	38
	LO2: Understand construction information	6	15
	LO3: Understand how to set up and secure construction work areas	2	5
	LO4: Know building substructure and superstructure components	8	20
	LO5: Understand personal development and working with others in the construction industry	6	15
	LO6: Know sustainability and emerging technology considerations affecting the construction industry	3	8
	Total	40	100%[1]

Permitted materials: None

Graded: Pass/Fail

Pass mark: The pass mark for this examination is set at approximately 70% (28 marks).

This boundary may be subject to slight variation to ensure fairness should any variations in the difficulty of the individual assessment versions be identified.

[1] Percentages in table rounded to whole numbers (presents as 101% in total due to roundings)

Test: 251	Duration: 55 minutes		
Unit	**Outcome**	**Number of marks**	**Percentage %**
210	LO1 Understand the key characteristics of timber, engineered timbers and manufactured boards	2	6
	LO2 Understand the process of timber conversion and the relative moisture content of timbers for different applications	2	6
	LO3 Understand key defects associated with timber	1	3
211	LO1 Demonstrate how to construct suspended timber floors and flat roofs	3	9
	LO2 Demonstrate how to construct trussed rafter roofing	3	9
212	LO1 Install the different types of floor joist coverings and their fixings	2	6
	LO2 Install different types of stud partitions and their fixing methods	4	11
	LO3 Install different types of frames, linings and casings	2	6
	LO4 Position and fix a straight flight of stairs	2	6
213	LO1 Hang doors and fit ironmongery	3	9
	LO2 Fix mouldings	4	11
	LO3 Encase services	1	3
	LO4 Installation of kitchen units and worktops	3	9
214	LO1 Legislation and hazards in relation to the use of and maintenance of circular saws	1	3
	LO2 Safely set up and use a circular saw for use and carry out prescribed maintenance activities	2	6
	Total	35	100%[2]

Permitted materials: Calculator

Graded: Pass/Fail

Pass mark: The pass mark for this examination is set at approximately 60% (21 marks).

[2] Percentages in table rounded to whole numbers (presents as 103% in total due to roundings)

This boundary may be subject to slight variation to ensure fairness should any variations in the difficulty of the individual assessment versions be identified.

Test: 252	**Duration: 55 minutes**		
Unit	**Outcome**	**Number of marks**	**Percentage %**
210	LO1 Understand the key characteristics of timber, engineered timbers and manufactured boards	3	9
	LO2 Understand the process of timber conversion and the relative moisture content of timbers for different applications	1	3
	LO3 Understand key defects associated with timber	1	3
215	LO1 Understand architectural joinery and their specific components, the related jointing arrangements and ironmongery	11	31
216	LO1 Understand legislation and hazards	2	6
	LO2 Know woodworking machinery component parts	8	23
217	LO1 Understand types of components and joints	6	17
218	LO1 How to assemble and finish architectural joinery products	3	9
	Total	35	100%[3]

Permitted materials: Calculator

Graded: Pass/Fail

Pass mark: The pass mark for this examination is set at approximately 60% (21 marks).

This boundary may be subject to slight variation to ensure fairness should any variations in the difficulty of the individual assessment versions be identified.

[3] Percentages in table rounded to whole numbers (presents as 101% in total due to roundings)

Results processing of external assessments
City and Guilds will always strive to process and issue results as soon as possible. However, when a new version of the assessment is launched, candidate results will be held until we have received a representative number of completed exam scripts and completed an analysis of the live results to ensure that the test is producing valid and reliable outcomes and that the grade boundary is set correctly.

This is an important step to ensure that the pass mark set is a fair and accurate reflection of the pass standard.

As a result of this, please be aware that results may take up **27** working days. Once the pass mark has been confirmed, it will go back to instant results (ie on the Walled Garden within 48 hours).

If you have any specific queries please contact centresupport@cityandguilds.com for further information

The table below highlights, at high level, the way that the practical assessment coverage sits within the **261 Site Carpentry** assessment.

Units	Task
211, 212	Resources list and risk assessment[4]
211, 212, 214	Practical Project (part 1) [5]
213, 214	Practical Project (part 2)

Permitted materials: Permitted materials will be given to candidates by centres.

Graded: Pass/fail

Candidates must gain a pass in all tasks within the assignment to achieve a pass overall for this component.

The table below highlights, at high level, the way that the practical assessment coverage sits within the **262 Architectural Joinery** assessment.

Units	Task
215	Resources list and risk assessment
215	Setting out
215, 216, 217, 218	Practical project

Permitted materials: Permitted materials will be given to candidates by centres.

Graded: Pass/fail

Candidates must gain a pass in all tasks within the assignment to achieve a pass overall for this component.

[4] This task may contain skills content from unit 211 in some versions of this assessment component
[5] This task may contain skills content from unit 211 in some versions of this assessment component

Assessment objectives

The following assessment objectives are used within the **101 assessment**.
The weightings for how the assessment objectives are applied in the assessment are shown in the table below.

Assessment objective	Description	Weighting in Assessment 101
AO1a Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning	45 marks: 100%
AO1b Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions	0 marks: 0%
AO2 Apply knowledge and understanding of the content to different situations and contexts	Applying knowledge and understanding, taking the understanding of generalities and applying them to specific situations	0 marks: 0%

The following assessment objectives are used within the **201 assessment**.
The weightings for how the assessment objectives are applied in the assessment are shown in the table below.

Assessment objective	Description	Weighting in Assessment 201
AO1a Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning	16 marks: 53%
AO1b Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions	14 marks: 47%
AO2 Apply knowledge and understanding of the content to different situations and contexts	Applying knowledge and understanding, taking the understanding of generalities and applying them to specific situations	0 marks: 0%

The following assessment objectives are used within the **202 assessment**.
The weightings for how the assessment objectives are applied in the assessment are shown in the table below.

Assessment objective	Description	Weighting in Assessment 202
AO1a Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning	22 marks: 55%
AO1b Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions	18 marks: 45%
AO2 Apply knowledge and understanding of the content to different situations and contexts	Applying knowledge and understanding, taking the understanding of generalities and applying them to specific situations	0 marks: 0%

The following assessment objectives are used within the **252 assessment**.
The weightings for how the assessment objectives are applied in the assessment are shown in the table below.

Assessment objective	Description	Weighting in Assessment 252
AO1a Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning	24 marks: 69%
AO1b Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions	7 marks: 20%
AO2 Apply knowledge and understanding of the content to different situations and contexts	Applying knowledge and understanding, taking the understanding of generalities and applying them to specific situations	4 marks: 11%

The following assessment objectives are used within the **251 assessment**.
The weightings for how the assessment objectives are applied in the assessment are shown in the table below.

Assessment objective	Description	Weighting in Assessment 251
AO1a Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning	10 marks: 28%
AO1b Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions	22 marks: 63%
AO2 Apply knowledge and understanding of the content to different situations and contexts	Applying knowledge and understanding, taking the understanding of generalities and applying them to specific situations	3 marks: 9%

Availability of assessments

Assignment material will be made available from the City & Guilds website qualification pages.

All assessments that are on e-volve are on demand and can be booked by the provider when the candidate is ready to be entered for the assessment.

Retakes/resits

Multiple-choice test(s)
Candidates who have failed an online MCQ test(s) assessment are permitted up to **four** retakes of the assessments before reregistration is required.

Assignment(s)
Candidates who have failed one or more tasks in the practical assignment but have **not** met the conditions for the resubmission of evidence (detailed below and within the grading section of the Assessor Pack), will be advised to complete a further period of learning before then re-sitting fully, all tasks within a different version of the assignment. Candidates can resit a different version of the assignment up to a maximum of **three** times (total **four** attempts) before re-registration is required.

Resubmission of evidence
At the approval of the centre a candidate can resubmit evidence for an assessment if they have not met specific criteria required for a pass. This is intended to provide candidates who have broadly met the standard set with only minor gaps in their performance an opportunity to achieve the pass standard without a full resit. This must only be granted if the following conditions are met.

When can the resubmission of evidence process be used:

- There is evidence the candidate has not met the pass standard on specific assessment criteria
- The candidate has demonstrated competency/capability to the required standard during a programme of study through formative assessments that can be evidenced

- The candidate has met agreed deadlines and conditions for the assessment
- The candidate and assessor have authenticated the evidence submitted
- The resubmission of evidence has been agreed by the IQA
- The resubmission of evidence process does not take place until a task has been completed, assessed and recorded
- All evidence submitted as part of the resubmission process has been generated within the same assessment conditions as the first submission
- All evidence submitted as part of the initial submission and resubmission is made available for external quality assurance as required.

When the resubmission of evidence process cannot be used:

- The candidate has not met agreed deadlines and not met the conditions for the assessment
- The candidate has only part completed a task or not attempted the assessment
- The candidate and assessor have not authenticated the evidence submitted
- The IQA does not agree that the candidate has met the conditions set out in the assessment to allow for a resubmission of evidence
- Evidence is not available for external quality assurance as required.

If the resubmitted evidence does **not** meet the required standard for a pass, then the candidate will need to take a different assignment. Candidates can only resubmit evidence **once per version** of the assessment.

In cases where a candidate has attempted and resubmitted on **three** separate versions but has still not met the pass standard, they must undergo a period of additional study before being offered the opportunity to re-register and retake the qualification.

Please note that further information and guidance for centre assessors on the resubmission of evidence process will be found within the assessment materials of this qualification.

Recognition of prior learning (RPL)

RPL means using a person's previous experience or qualifications which have already been achieved to contribute to a new qualification. RPL can be used to exempt learners from areas of learning previously achieved but does not exempt them from assessment.

RPL is allowed and is also sector-specific.

Recognition of prior achievement (RPA)

Recognition of prior achievement is allowed for the online assessment of Unit 101 Health and safety in a construction environment, where a learner can provide certificated evidence of achieving the City & Guilds Level 1 Award in Health and Safety in a Construction Environment (6072-51) or an equivalent qualification with another awarding organisation. This can be claimed using proxy 801 on the Walled Garden. Certificated evidence must have been achieved within 2 years prior to application for the use of proxy 801. Where RPA is allowed in a qualification, centres will need to apply to City & Guilds and provide the appropriate supporting evidence eg certificate of achievement. For further information please contact your Business Manager.

8 Units

Structure of the units

All units each have:

- a City & Guilds reference number
- a title
- level
- GLH
- unit aim
- assessment type.

Unit 101 also has:

- learning outcomes, which are comprised of a number of assessment criteria
- evidence requirements.

Units 201, 202, 210, 215 and F also each have:

- learning outcomes, which are comprised of a number of topics
- content elements
- supporting information
- relationship to Occupational Standard, inc. reference.

Guidance for delivery of the units

This qualification comprises a number of **units**. A unit describes what is expected of a competent person in particular aspects of their job.

Each **unit** is divided into **learning outcomes**, which describe in further detail the knowledge and skills that a candidate should possess.

For **unit 101**, each **learning outcome** has a set of **assessment criteria** (knowledge in the form of simple and concise statements) that indicates to a learner something specific they will be learning in relation to the learning outcome. It should provide clarity to a learner at a high level on what they should be expecting to learn or be able to do about a specific area of the learning outcome.

For **units 201, 202, 210, 215 and 216** each **learning outcome** has a set of **topics** (knowledge or skills). These are simple and concise statements that indicate to a learner something specific they will be learning in relation to the learning outcome. They should provide clarity to a learner at a high level on what they should be expecting to learn or be able to do about a specific area of the learning outcome.

For **units 201, 202, 210, 215 and 216** each **topic** has a **content element** (What needs to be covered). The content sections define the 'depth and breadth' to which the teaching/learning must be delivered.

It is important for **all units** that these sections define all the essential content that must be covered for learners to achieve the learning outcome. It is the information in this section that learners will be assessed on.

Transferable employability skills

The Institute for Apprenticeships have developed a transferable skills mapping framework which provides elaboration of generic, transferable employability skills that can be applied across all relevant occupational areas. This framework can be found **here.**

City & Guilds have considered which transferable employability skills within this framework are relevant to this qualification, and then mapped these skills to the relevant practical outcomes within the qualification content. A mapping grid that outlines how the skills are best reflected in the content **is** found in each relevant practical unit within this qualification.

Unit 101 Health and safety in a construction environment

Unit level:	Level 1
Guided Learning Hours (GLH):	21
Unit aim:	This is a **theory only** unit. The purpose and aim of this unit is to provide the learner with the skills and knowledge required in health and safety in a construction environment.
Assessment method:	Multiple choice question (MCQ) assessment
Endorsed by:	CITB
Links to Occupational Standards:	ST0095 (Bricklayer), ST0171 (Property Maintenance Operative), ST0295 (Painter and Decorator), ST0096 (Plasterer), ST0264 (Site Carpenter, Architectural Joiner)

Learning outcomes

1. Know the principles of risk assessment for maintaining and improving health and safety at work
2. Know the importance of safe manual handling in the workplace
3. Know the importance of working safely at height in the workplace
4. Know risks to health within a construction environment
5. Know the importance of working around plant and equipment safely

Learning outcome 1

The learner will:

1 Know the principles of risk assessment for maintaining and improving health and safety at work

Assessment criteria

The learner can:

1.1 State the purpose of risk assessments and method statements

1.2 State the legal requirements of risk assessments and method statements

1.3 State common causes of work-related:
- fatalities
- injuries.

1.4 State the implications of not preventing accidents and ill health at work

1.5 State the meaning of the following in relation to health and safety at work:
- accident
- near miss
- hazard
- risk
- competence.

1.6 List typical hazards and potential risks associated with:
- resources
- equipment
- obstructions
- storage
- services
- wastes
- work activities.

1.7 State the importance of reporting accidents and near misses

1.8 State typical accident reporting procedures

1.9 State who is responsible for making accident reports

1.10 State the purpose of dynamic risk assessments

Learning outcome 2

The learner will:

2 Know the importance of safe manual handling in the workplace

Assessment criteria

The learner can:

2.1 State the reasons for ensuring safe manual handling in the workplace

2.2 State the potential injuries and ill health that may occur from incorrect manual handling

2.3 State the employee's responsibilities under current legislation and official guidance for:
- moving and storing materials
- manual handling
- mechanical lifting

2.4 State the procedures for safe lifting in accordance with official guidance

2.5 State the importance of using site safety equipment when handling materials and equipment

2.6 List aids available to assist manual handling in the workplace:
- pallet truck
- forklift truck
- lifting sling
- roust-about
- wheelbarrow
- sack barrow
- kerb/vacuum lifters.

2.7 State how to apply safe work practices, follow procedures and report problems when carrying out safe manual handling in the workplace

Learning outcome 3

The learner will:

3 Know the importance of working safely at height in the workplace

Assessment criteria

The learner can:

3.1 Define the term 'working at height'

3.2 State the employee's responsibilities under current legislation and official guidance whilst working at height

3.3 List hazards and potential risks associated with:
- dropping tools and debris
- stability of ladders
- overhead cables
- fragile roofs
- scaffolds
- internal voids

- equipment
- the working area
- other people.

3.4 State how hazards and potential risks associated with working at height can be controlled

3.5 State the regulation that controls the use of suitable equipment for working at height

Learning outcome 4

The learner will:

4 Know risks to health within a construction environment

Assessment criteria

The learner can:

4.1 List the main groups of substances hazardous to health under current regulations

4.2 List common risks to health within a construction environment:

- hand arm vibration
- noise
- respiratory illness
- dermatitis
- musculoskeletal problems
- falling from height
- struck by moving plant machinery.

4.3 State the types of hazards and potential risks that may occur in the workplace linked with the use of drugs and alcohol

4.4 State the importance of the correct storage of combustibles and chemicals on site

4.5 State the importance of personal hygiene within a construction environment

4.6 State the potential risks to the health of workers exposed to asbestos

4.7 State the types of asbestos waste

4.8 State the types of Personal Protective Equipment (PPE) that may be used when dealing with hazardous materials

Learning outcome 5

The learner will:

5 Know the importance of working around plant and equipment safely

Assessment criteria

The learner can:

5.1 List ways in which moving plant, machinery or equipment can cause injuries

5.2 State the hazards/risks relating to the use of plant and equipment:

- struck by moving machinery
- striking cables and buried services

- trapped by moving machinery
- damage from flying debris
- electric shocks
- burns
- noise
- tripping
- injury during use and changing tooling
- dust

5.3 State the importance of safeguards located near where plant, machinery and equipment are being used

5.4 State the importance of keeping a safe distance away from plant, machinery or equipment until clear contact is made with the operator

5.5 Outline how method statements can assist in ensuring the safety of workers where moving plant, machinery or equipment is in use

5.6 State the ways to eliminate or control risks relating to working around plant, machinery or equipment

5.7 Identify hazard warning signs and symbols used when operating or working with, around or in close proximity to plant, machinery or equipment

Unit 101 Health and safety in a construction environment

Supporting information

Evidence requirements

Assessment requirements:

Assessment criterion 1.6:
One hazard and potential risk must be listed for **each** of the following:

- resources
- equipment
- obstructions
- storage
- services
- wastes
- work activities.

Assessment criterion 2.6:
Four aids must be listed.

Assessment criterion 3.3:
One hazard and potential risk must be listed for **each** of the following:

- dropping tools and debris
- stability of ladders
- the working area
- overhead cables
- fragile roofs
- scaffolds
- internal voids
- equipment
- other people.

Assessment criterion 4.1
List **five** substance groups

Assessment criterion 4.2:
Five risks to health must be listed.

Assessment criterion 4.7:
Two types of asbestos waste must be stated.

Assessment criterion 4.8:
Three types of PPE must be stated.

Assessment criterion 5.2:
Five hazards and **five** potential risks must be stated.

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the level 2 unit 'Health, safety, and welfare in construction environments', as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance. There may be some efficiencies with health and safety practice content before/in line with associated practical activities from the trade-specific content areas.
Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:	Short formative assessments at the end of sessions/aligned to outcome Sample test exam prep session(s) to prepare for assessment
Opportunities for visits/engagement with local industry and employers:	Site visits linked to specific trade area Guest lectures/speakers from local employers explaining elements of health and safety and how these are addressed on site
Considerations for innovative methods of delivery:	Blended learning approach – online learning opportunities Learners to research and investigate local/national health and safety incidents that have made recent news, related to their chosen/specific trade area; explore the impacts (eg changes in legislation/practice, implications for employees, fines etc)
Ways of ensuring content is delivered in line with current, up to date industry practice:	Providers to check current legislation/guidance for amendments/changes prior to content delivery Staff CPD in line with current practice (eg CSCS card)
Equality, diversity and inclusion (EDI) or accessibility considerations:	Teaching for some specific areas may need adaptation, eg PPE considerations based on religious grounds (eg headwear).
Digital initiative considerations:	Online virtual reality (VR) tools to explore risks and hazards in workshop
Sustainability considerations:	Encouraging paperless working practices – printing materials only where necessary
Books:	Health and Safety Executive (HSE) pamphlets available from HSE website
Websites:	https://www.hse.gov.uk/ https://www.nebosh.org.uk/home/ https://www.ioshmagazine.com/

Unit 201 Principles of welfare, health and safety in construction environments

Unit level:	Level 2
GLH:	30
Unit aim:	This is a **theory only** unit. The purpose of this unit is to provide learners with the knowledge required to enable them to carry out safe working practices in construction environments, including sourcing relevant safety information and using relevant safety procedures at work. This unit covers core cross-construction sector knowledge, including awareness of key health and safety legislation and regulations. Through completion of the unit learners, will understand the roles and responsibilities of employers and employees in maintaining safe sites. The unit covers processes for hazard identification, risk assessments, accident reporting, emergency response and welfare provision. Learners will gain knowledge on safe working practices relating to working at height, electrical safety, manual handling, PPE and fire prevention. This unit provides foundational health and safety knowledge to operate safely in the sector.
Assessment method:	Multiple choice question (MCQ) assessment
Links to Occupational Standards:	ST0095 (Bricklayer), ST0171 (Property Maintenance Operative), ST0295 (Painter and Decorator), ST0096 (Plasterer), ST0264 (Site Carpenter, Architectural Joiner)

Learning outcomes

1. Know health and safety regulations, roles and responsibilities
2. Understand accident and emergency reporting procedures and documentation
3. Understand the management of workplace hazards and risks
4. Know safe storage requirements for materials and equipment
5. Understand access requirements and equipment when working at heights
6. Understand safety considerations when working with electrical equipment
7. Know PPE responsibilities
8. Understand fire emergency procedures
9. Understand factors that impact on physical and mental welfare maintenance and management

Learning outcome 1

Know health and safety regulations, roles and responsibilities

Topics	Content elements
1.1 Legislation and the roles of employers and employees	1.1.1 Where information on health and safety legislation relevant to, and used in, the construction environment can be found and key employee considerations for each legislation a) Legislation: i. Health and Safety at Work Act (HASWA) • follow workplace procedures and systems • follow slip, trip and fall prevention methods • use equipment and PPE properly • report any issues or risks. ii. Reporting Injuries Diseases and Dangerous Occurrences Regulations (RIDDOR) • report any work-related incidents • provide details for reporting purposes • comply with reporting procedures. iii. Control of Substances Hazardous to Health (COSHH) • follow instructions for safe use • use control measures properly • report exposure incidents. iv. Construction, Design and Management (CDM) Regulations • take care of own health and safety • be aware of safety of others who may be affected by own actions • report potential safety issues to the employer. v. Provision and Use of Work Equipment Regulations (PUWER) • use equipment only if trained • report any faulty equipment • follow safety instructions provided. vi. Manual Handling Operations Regulations (MHOR) • follow safe lifting techniques • use aids where provided • report unsafe loads or practices. vii. Personal Protective Equipment (PPE) at Work Regulations • use PPE correctly as instructed • help maintain PPE properly • report any defects or issues. viii. Work at Height Regulations (WAHR) • use safety equipment provided • follow training and procedures • do not undertake unsafe practices.

Topics	Content elements
	ix. Control of Noise at Work Regulations (CNWR) • wear hearing protection when required • follow noise control procedures • report potential issues or over-exposure. x. Control of Vibration at Work Regulations (CVWR) • take regular rest breaks from use of vibrating tools • report potential symptoms of vibration exposure • follow control measures implemented. xi. Electricity at Work Regulations (EAWR) • visually check equipment before use • report any defects immediately • follow safe systems of work. xii. Lifting Operations and Lifting Equipment Regulations (LOLER) • do not use equipment unless trained • follow safe lifting practices • report any defective equipment. xiii. Confined Spaces Regulations • avoid entry into confined spaces whenever possible • if entry is unavoidable, follow a safe system of work • put in place adequate emergency arrangements before starting work in confined spaces. xiv. Building Safety Act • comply with building regulations and fire safety orders • escalate/report significant fire and structural safety concerns. xv. The Control of Lead at Work Regulations • use appropriate PPE • follow safe working practices. b) Where information can be found: i. government website – HSE website ii. company handbook/induction materials iii. local authority websites. 1.1.2 Employer and employee responsibilities under the Health and Safety at Work Act (HASAWA) a) Employer responsibilities: i. provision of safe working environment ii. provision of access to adequate staff training: • CSCS card • induction • toolbox talks. iii. provision of health and safety information iv. completion of risk assessments

Topics	Content elements
	v. supervision vi. provision of PPE for employees vii. reporting of hazards, accidents and near misses viii. CDM regulations, construction phase plans ix. protecting/providing provision for employee welfare x. display of public liability insurance and health and safety law posters/information. b) Employee responsibilities: i. exercising a duty of care to themselves and to others ii. working in a safe manner iii. complying with employer instructions iv. working safely with other trades v. reporting hazards, accidents and near misses vi. following organisational procedures.
1.2 Organisations involved in health and safety advice and guidance	1.2.1 The key role/purpose of organisations and bodies involved in providing relevant health and safety information and guidance a) Key role/purpose of organisations and bodies: i. Health and Safety Executive (HSE) • government body responsible for health and safety regulation and enforcement. ii. Institute of Occupational Health and Safety • professional body for occupational safety and health professionals. iii. British Safety Council • charity providing health, safety and environmental advice. iv. Royal Society for the Prevention of Accidents (RoSPA) • charity promoting safety in the workplace and in public spaces. v. Local authorities • enforce regulations locally and provide health and safety services. vi. Construction Industry Training Board (CITB) • training, skills and standards body for the construction industry. vii. Manufacturers (equipment and materials) • provide expert advice on safe use of their specific products. 1.2.2 Roles and responsibilities of the Health and Safety Executive (HSE) and their inspectors a) HSE roles and responsibilities: i. reduce accidents through education and advice ii. inspection iii. investigation eg site investigations

Topics	Content elements
	iv. advice and enforcement.
1.3 Communicating health and safety information in construction environments	1.3.1 Reasons for/purpose of holding on-site safety inductions and toolbox talks. a) Reasons for/purpose of on-site safety inductions: i. ensuring employees understand site health and safety requirements in relation to: • methods of accident reporting • methods of fire reporting • location of assembly points • location of risk assessments • evacuation procedures • first aid procedures. ii. identifying specific hazards associated with the site iii. ensuring employees understand company policies and procedures and their roles in relation to them iv. ensuring employees understand site layout v. maintaining safe site access. b) Reasons for/purpose of toolbox talks: i. update on incidents and accidents ii. update on access routes and site layout iii. update on changes to company policies and procedures iv. update on manufacturers/suppliers, materials and plant movement.

Learning outcome 2

Understand accident and emergency reporting procedures and documentation

Topics	Content elements
2.1 Emergencies and major occurrences	2.1.1 Major occurrences defined as emergencies that may occur in construction workplaces and potential causes of emergencies that may occur in construction workplaces a) Emergencies: i. fire ii. security incident: • unauthorized persons on site • terrorism • vandalism. iii. gas leak iv. explosion v. collapse of scaffolding vi. collapse of excavations vii. vehicle strikes (moving plant and machinery)

Topics	Content elements
	viii. physical injury to personnel. b) Potential causes: i. fire • fuel spillage • smoking on site • burning of waste • hot work. ii. security incident • inefficient security measures in place. iii. gas leak • poor storage of gas cylinders • unprofessional practice • unknown services/existing services in place. iv. explosion • gas leak • fuel spillage • mixing of chemicals • poor storage of hazardous materials. v. collapse of scaffolding • adverse weather • missing components • unauthorised modifications • overload of weight • insufficient safety checks • poor erection/quality of work. vi. collapse of excavations • adverse weather • poor shoring • lack or barriers • plant operation proximity.
2.2 Dealing with accidents and emergencies	2.2.1 Authorised personnel involved in dealing with accident and emergency situations and their duties a) Authorised personnel: i. fire warden ii. first aider iii. supervisor/manager iv. safety officer v. emergency services vi. Health and Safety Executive (HSE). b) Duties of authorised personnel: i. fire warden • ensuring safe evacuation of personnel • fighting fires if safe to do so.

Topics	Content elements
	ii. first aider • attending to personal injury incidents • treating minor injuries • liaising with emergency service professionals. iii. supervisor/manager • overseeing safety procedures that are taking place • completing documentation to comply with legislation. iv. safety officer • initial responder • point of call/investigation. v. emergency services • providing professional medical/rescue assistance. vi. Health and Safety Executive (HSE) • carrying out investigations into accident/emergency incidents. 2.2.2 Actions that must be taken upon discovery of an accident in a construction workplace environment and their logical sequence a) Accident not involving injury to persons: i. step 1 - assess the seriousness of the incident ii. step 2 - ensure the area is made safe iii. step 3 - alert other relevant persons – supervisors, employees iv. step 4 - assess whether emergency services are required v. step 5 - alert the emergency services in line with workplace protocols. b) Accident involving injury to persons: i. step 1 - call for help/first aider ii. step 2 - ensure the area is made safe iii. step 3 - treat casualty (within limits of training and competency) iv. step 4 - alert the emergency services, if required, in line with workplace procedures. c) Follow-up actions: i. complete records ii. contact HSE iii. review workplace safety control measures and procedures.

Learning outcome 3

Understand the management of workplace hazards and risks

Topics	Content elements
3.1 Control measures related to risk assessments	3.1.1 Control measures related to risk assessments and method statements a) Control measures: i. good housekeeping in the workplace ii. training of employees iii. signage and safety procedures. b) Potential outcome of hazards affecting individuals: i. injury ii. long-term illness/disability iii. loss of days worked due to injury/illness/prohibition notice iv. death.
3.2 Housekeeping in construction environments	3.2.1 Definition of good housekeeping and its importance and purpose in relation to health and safety in construction environments a) **Definition:** 'Good housekeeping' is the practice of maintaining a clean, organised and hazard-free work environment. b) Importance and purpose of good housekeeping in relation to health and safety: i. maintaining safety ii. reducing build-up of waste iii. keeping access routes clear iv. safe storage of materials, tools and equipment v. reducing workplace/site congestion vi. enhancing good working relationships and reducing stress. 3.2.2 Steps that can be taken to maintain good housekeeping in construction environments a) Steps/factors that contribute to good housekeeping: i. cleanliness of working area ii. tidiness, robust storage systems, designated storage iii. use of skips and chutes iv. segregation of materials v. segregation of stored materials to avoid congestion of work area and access vi. clear access to fire escapes and fire extinguishers vii. waste and debris management viii. storage and maintenance of tools and equipment.

Topics	Content elements
3.3 Signage and notices found in construction environments	3.3.1 Categories of signs and safety notices used in construction workplaces and their key visual characteristics a) Categories of signs and safety notices: i. prohibition • indicating that something must not be done. ii. mandatory • indicating that something must be done. iii. warning • alerting to danger/hazard awareness. iv. safe condition • indicating equipment is safe to use, or not. v. emergency • indicating what to do in event of an emergency. b) Shape and colour of categories of safety signs and notices: i. prohibition • circular • red band, white background • imagery of item in black • red diagonal cross. ii. mandatory • circular • blue and white. iii. warning • triangle • yellow and black. iv. safe condition • rectangular • green and white. v. emergency • rectangular • red and white. 3.3.2 Responsibilities of employers and employees relating to signs and safety notices in construction workplaces a) Responsibilities of employers: i. ensuring signage is present, correct and up to date ii. checking and maintaining visible signage iii. compliance with legislation and codes of conduct. b) Responsibilities of employees: i. reading signage ii. adhering to signage iii. escalating issues to a supervisor.

Learning outcome 4

Know safe storage requirements for materials and equipment

Topics	Content elements
4.1 Safe storage of materials and equipment	4.1.1 Considerations for the correct storage of materials and equipment a) Safe storage considerations: i. stored securely and safely ii. following workplace systems/protocols iii. ease of access and availability iv. kept clean and dry where relevant and possible v. location and designated area of storage. b) Importance of safe storage: i. preventing damage ii. maintaining working order iii. preventing loss/theft iv. restricting/limiting access where appropriate.

Learning outcome 5

Understand access requirements and equipment when working at heights

Topics	Content elements
5.1 Health and safety considerations when working at height	5.1.1 Responsibilities of employers and employees under current working at height regulations a) Responsibilities of employers: a) undertake risk assessments b) employ competent people for working at height c) provide appropriate equipment d) ensure sufficient inspection and recording of condition of access equipment as appropriate. b) Responsibilities of employees: i. carry out visual inspection before using any ladders scaffolding etc ii. do not alter or remove any parts of scaffold provided iii. use identified access to working height iv. report any safety issues to employer v. use equipment and PPE provided properly.

Topics	Content elements
	5.1.2 Types of access equipment used in construction workplace environments and safety considerations for their use a) Access equipment: i. stepladders ii. ladders (pole, extension) iii. trestles iv. hop-ups v. scaffolding – mobile/static vi. podiums vii. stilts viii. Mobile Elevating Working Platforms (MEWPs) b) Safety considerations for use: i. erection by competent persons (where applicable) ii. inspecting equipment before use iii. using equipment only if properly trained iv. following manufacturer's instructions v. maintaining three points of contact (where applicable) vi. do not overreach (sideways) vii. checking ground condition before setting up – level, firm, stable viii. do not work in adverse weather conditions if unsafe ix. wear appropriate PPE x. use of equipment for intended purpose xi. complying with method statement.

Learning outcome 6

Understand safety considerations when working with electrical equipment

Topics	Content elements
6.1 Dangers of working with electrical equipment	6.1.1 Potential hazards and risks when using electrical equipment in construction workplace environments a) Potential hazards: i. faulty equipment ii. incorrect voltage iii. weather and environment iv. lack of training/incorrect use v. hidden services vi. overheard power lines vii. dust inhalation. b) Potential risks: i. burns ii. electrocution iii. death iv. fire. 6.1.2 Precautions that should be taken to avoid risks to self and others when working with electrical equipment and why this is important a) Precautions: i. checking tools and equipment before use • checking leads for signs of wear or damage • checking plugs for labelling and signs of wear or damage. ii. using cable hangers where possible iii. ensuring there is a current PAT/ITEE (EET) certificate iv. escalating issues or concerns to a supervisor v. ensuring training has been given before use vi. use of dust suppression measures and use of PPE – electrical safety respiratory protective equipment (RPE) vii. use of safety control equipment and PPE. b) Importance of taking precautions: i. keeping self and others safe ii. reducing risk of injury or death iii. complying with legislation and workplace conduct.

Topics	Content elements
6.2 Power sources and voltages for electrical equipment	6.2.1 Power sources, voltages and voltage colour coding that are used for electrical equipment in construction workplace environments a) Power sources: i. battery powered ii. mains powered iii. portable generator iv. renewable energy sources – solar/wind. b) Voltages and associated colours: i. no standard colour – 18/24/36 volts • battery power for cordless tools. ii. yellow – 110/115 volts • common workplace voltage for power tools and equipment. iii. blue – 230/240 volts • standard domestic voltage for power tools and equipment. iv. red – 415 volts • commercial/industrial machinery.
6.3 Storage of electrical equipment	6.3.1 Methods of safely storing and maintaining electrical equipment and the importance of this a) Methods of safe storage and maintenance: i. components present including any safety guards ii. equipment cleaned iii. checking for damage regularly/before and after use and reporting where relevant iv. stored in a clean, dry and secure location v. PAT/ITEE (EET) tested. b) Importance of safe storage/maintenance: i. maintaining safety of self and others ii. promoting efficiency and safe working.

Learning outcome 7

Know Personal Protective Equipment (PPE) responsibilities

Topics	Content elements
7.1 Responsibilities in relation to PPE	7.1.1 Responsibilities of employers and employees relating to PPE under current regulations a) Responsibilities of employers: i. ensuring suitable PPE is provided free of charge to employees who may be exposed to a risk to their health or safety while at work ii. the maintenance, storage and replacement of any PPE they provide iii. providing training and instruction on safe and correct use of PPE for relevant tasks. b) Responsibilities of employees: i. use PPE correctly following training and instruction from employer ii. if PPE is lost or becomes damaged/defective, reporting to employer and not using damaged/defective PPE iii. check and ensure PPE to be used is within date before use and report to employer and do not use where out of date.

Learning outcome 8

Understand fire emergency procedures

Topics	Content elements
8.1 How fires start	8.1.1 How fire is created/caused – elements essential to the creation of fire and how they interact/depend on each other a) Elements: i. oxygen ii. fuel iii. heat. b) Their interdependence/situational requirements: i. they must all be present ii. they are interdependent - removal of one of the three elements will extinguish the fire iii. they may be referred to as the ‘fire triangle’.

Topics	Content elements
8.2 Fire prevention methods	8.2.1 Methods of fire prevention, roles responsible for carrying them out and why this is important a) Methods of prevention: i. up-to-date risk assessment ii. keeping sources of ignition and flammable substances apart iii. ensuring good housekeeping at all times – regular emptying of rubbish bins/skips iv. training workforce on their responsibilities in relation to fire prevention. b) Roles responsible: i. all personnel on site/in the workplace ii. appointed fire wardens iii. site manager. c) Importance of fire prevention: i. protection of lives/personal safety ii. preservation of property and equipment iii. reducing site downtime, keeping job on track. iv. compliance with regulation v. avoiding legal implications vi. protecting reputation/image vii. reducing environmental impacts.
8.3 Extinguishing fires	8.3.1 Actions that must be taken on discovery of a fire and the sequence a) Actions: i. step 1 - sound alarm ii. step 2 - assess risk and tackle fire if competent iii. step 3 - evacuate to fire assembly point iv. step 4 - call emergency services. 8.3.2 Types of fire extinguisher, their colours and uses a) Types and colours: i. water • red. ii. foam • cream/off-white. iii. CO_2 • black. iv. dry powder • blue. b) Uses: i. water • Class A fires o wood o paper o cloth

Topics	Content elements
	○ some plastics ○ never electrical, flammable liquid or gas. ii. foam • Class A and B fires ○ wood ○ paper ○ cloth ○ some plastics ○ flammable liquids. iii. CO_2 • Class B and C fires ○ flammable liquids ○ energised electrical equipment. iv. dry powder • Class A, B and C fires ○ applicable for use on all types of fire. 8.3.3 Circumstances under which fire extinguishers can/should be used a) Circumstances: i. use in cases where it will aid means of escape/preserve life ii. in other circumstances use only when trained and authorised to do so in case of emergency.

Learning outcome 9

Understand factors that impact on physical and mental welfare maintenance and management

Topics	Content elements
9.1 Considerations in relation to construction workplace welfare	9.1.1 Duty of care considerations in the workplace and why they are important a) **Definition:** 'Duty of care' – all employers are under a statutory duty to ensure the health, safety and welfare of their staff. b) Duty of care considerations: i. physical well-being ii. psychological well-being. c) Duty of care importance: i. safety of employees is maintained: • protection from harm • protection from abuse • protection from injury. ii. satisfaction and happiness of employees iii. legal requirement – statutory requirement in law. 9.1.2 Facilities for welfare that must be provided as part of workplace/site set-up and their importance a) Welfare facilities: i. toilets ii. washing facilities – with hot and cold running water iii. secure storage for personal items iv. canteen v. drinking water vi. drying room. b) Importance/reasons for provision: i. legal requirement ii. employee comfort and duty of care iii. attraction and retention of employees iv. company reputation. 9.1.3 Potential causes and effects of excessive noise and employer/employee responsibilities in relation to minimising the impact a) **Definition:** 'Excessive noise' can be gradual, from exposure to loud noise over time, or caused by sudden, extreme loud noise. b) Potential causes of excessive noise: i. machinery and equipment • excavators • mixers • cranes.

Topics	Content elements
	ii. power tools • drills • saws • grinders. iii. demolition activity iv. construction activity v. deliveries and transport of materials with machines vi. communication and radio systems. c) Potential effects of exposure to excessive noise: i. deafness/hearing loss ii. tinnitus/ringing in the ears iii. disturbed sleep iv. stress v. communication issues on site/within workplace vi. loss or reduction of working hours. d) Employee precautions: i. wearing hearing protection (PPE) – ear defenders ii. adhering to workplace/site rules/training iii. being aware of own safety and that of others on site/in the workplace. e) Employer requirements: i. providing PPE and ensuring employees know how/when to use it ii. adhering to legislation iii. regularly monitoring sound levels iv. taking action when excess levels are evident v. ensuring risk assessments are in place and followed.
9.2 Personal physical welfare considerations in construction	9.2.1 Practices and support available to stay physically well and healthy at work a) Personal practices that can support staying well/healthy whilst at work: i. taking breaks regularly ii. staying hydrated iii. making smart snack/food choices iv. keeping workplace/station clean v. using good hygiene practices vi. minimising caffeine intake. b) Factors that may support employees to stay well/healthy at work: i. a productive working environment, eg well lit ii. provision of an Employee Assistance Programme (EAP) iii. scheduling of regular rest/breaks away from point of work iv. encouragement of positive work–life balance

Topics	Content elements
	v. frequent recognition of achievement/success vi. provision of social events/interactivity. 9.2.2 The importance of maintaining own physical well-being and how to do this in everyday life a) physical well-being importance: i. staying healthy/physically well ii. remaining fit for task/work and day-to-day life. b) General physical well-being Maintenance: i. exercising regularly ii. getting enough sleep iii. eating healthy, regular meals and staying hydrated iv. knowing own physical capabilities and limits to avoid injury. 9.2.3 Unacceptable/inappropriate behaviours at work and their likely negative impacts for employees and employers a) Unacceptable/inappropriate behaviours at work: i. bullying/harassment ii. consumption of alcohol iii. use of illegal drugs iv. not declaring to employer use of prescription medications that can impair judgement v. discrimination of others based on perceived differences vi. initiation ceremonies vii. smoking/vaping outside of designated areas viii. physical or verbal aggression towards others ix. self-harm x. isolation/deliberate exclusion and/or non-cooperation at work xi. coercion, such as pressure to subscribe to a particular political or religious belief xii. circulating or displaying offensive material. b) Potential negative impacts: i. for an employee • isolation/loneliness • loss of employment • impact on mental health and social relationships • detrimental to personal reputation. ii. for an employer • loss in production • loss of experienced staff • loss of revenue • loss of future orders • creation of negative environment that can impact positive mental health and well-being of employees • legal action/implications • reputational damage.

Topics	Content elements
	9.2.4 Sources/where to access support in cases of encountering/experiencing negative behavioural issues at work a) Sources of support: i. colleagues ii. management iii. human resources iv. trade union representative v. trade organisations vi. police.
9.3 Personal mental welfare considerations in construction	9.3.1 The importance of maintaining own mental well-being and how to do this a) Mental well-being importance: i. can perform at optimal level ii. promotes safety – reduces risks and mistakes iii. reduces absence iv. maintains good work and personal relationships. b) Mental well-being maintenance: i. spending time with others/avoiding isolation ii. remote communication with others iii. engaging in open, safe discourse about mental health in the workplace. 9.3.2 Ways in which mental ill health can present and where individuals affected directly or indirectly can seek help a) Ways in which mental ill health can present: i. stress ii. anxiety iii. depression iv. suicidal feelings/tendencies v. other complex mental health issues vi. absence from work vii. changes in behaviour eg increased aggression viii. self-harm. b) Where to seek help: i. mental health first aider ii. employer – raise awareness of issues and have the conversation iii. peers and colleagues – raise awareness of issues and have the conversation iv. medical professional/doctor – to get medical support as needed v. specific mental health organisations/charities vi. online support networks.

Topics	Content elements
	9.3.3 Working methods that can promote good mental health as part of a duty of care and their importance a) **Definition:** 'Mental health' is an individual's emotional, psychological and social well-being. b) Methods that promote good mental health: i. 'buddy' system – not working alone ii. access to support/information iii. recognising its importance and openly talking about issues iv. robust induction and onboarding processes v. avoiding alcohol and illegal substances vi. taking regular breaks. c) Importance of mental health awareness: i. employee well-being and duty of care ii. reduction in employee stress and isolation iii. attraction and retention of employees iv. company/industry reputation.

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the level 1 unit 'Health and safety in a construction environment' and the level 2 unit 'Principles of working in the construction industry', as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance. There may be some efficiencies with health and safety practice content before/in line with associated practical activities from the trade-specific content areas.
Suggestions for formative assessment opportunities:	Short formative assessments at the end of sessions/aligned to outcome Sample test exam prep session to prepare for assessment
Opportunities for visits/engagement with local industry and employers:	Employer engagement opportunities for this unit should be incorporated in order to allow the learner to understand the application of the knowledge learnt in context. This could include site visits linked to the specific trade area or having guest lectures/speakers from local employers explain elements of health and safety and how these are addressed on site.
Considerations for innovative methods of delivery:	Providers should make the best use of available resources to provide learners with the opportunity to use a wide range of activities. These could include lectures, discussions and self-study. A blended learning approach, with online learning opportunities, could be adopted for content delivery. Learners could research and investigate local/national health and safety incidents that have made recent news, related to their chosen/specific trade area. They could explore the impacts (eg changes in legislation/practice, implications for employees, fines etc).
Ways of ensuring content is delivered in line with current, up-to date industry practice:	Providers to check current legislation/guidance for amendments/changes prior to content delivery Staff CPD in line with current practice (eg CSCS card)
EDI or accessibility considerations:	Teaching for some specific areas may need adaptation, eg electrical power colour cords, fire extinguisher colours, PPE considerations based on religious grounds (eg headwear).
Digital initiative considerations:	Online VR tools to explore risks and hazards in workshop
Sustainability considerations:	Encouraging paperless working practices – printing materials only where necessary
Books:	HSE pamphlets available from HSE website
Websites:	https://www.hse.gov.uk/ https://www.nebosh.org.uk/home/ https://www.ioshmagazine.com/

Unit 202 Principles of working in the construction industry

Unit level:	Level 2
Guided Learning Hours (GLH):	50
Unit aim:	This is a **theory only** unit. The purpose of this unit is to introduce learners to the construction industry and to give a wider context to the trade area they are studying, as construction is a vital part of the economy and plays an important role in all our lives. Learners will discover that this sector can be very rewarding and that there are opportunities for career progression. This unit provides learners with an understanding of the principles of construction, building technology and the terminology used. This unit also covers various pieces of legislation, including health and safety, planning and building control. This unit covers core cross-construction sector knowledge, which will support learners to understand how their future role fits within the context of the construction industry. The unit covers a range of knowledge areas, including job roles and related sector areas/industries and how they work together and impact on each other. It also develops learner understanding of key shared concepts, such as the importance of sustainability, personal development and equality, diversity and inclusion.
Assessment method:	Multiple choice question (MCQ) assessment
Links to Occupational Standards:	ST0095 (Bricklayer), ST0171 (Property Maintenance Operative), ST0295 (Painter and Decorator), ST0096 (Plasterer), ST0264 (Site Carpenter, Architectural Joiner)

Learning outcomes

1. Understand working practices in the construction industry
2. Understand construction information
3. Understand how to set up and secure construction work areas
4. Know building substructure and superstructure components
5. Understand personal development and working with others in the construction industry
6. Know sustainability and emerging technology considerations affecting the construction industry

Learning outcome 1

Understand working practices in the construction industry

Topics	Content elements
1.1 Areas of work and personnel involved in construction work	1.1.1 Types of building construction work that may be encountered when working in the industry and their key features a) Types of work: i. new build ii. renovation iii. maintenance iv. restoration/retrofit v. domestic vi. commercial vii. industrial viii. demolition. b) Key features of different types of work: i. relative cost implications ii. regional variations iii. relative controls and regulations in place iv. speculative new build. 1.1.2 Organisations and bodies that contribute to and are involved in the construction process and their main responsibilities a) Organisations and bodies: i. building contractors ii. manufacturers/suppliers iii. local authorities iv. legislative bodies v. training organisations vi. professional bodies. b) Responsibilities of organisations and bodies: i. building contractors • planning, managing, monitoring and co-ordinating the entire construction phase conforming to Construction Design Management (CDM) • taking account of the health and safety risks to everyone affected by the work, including members of the public, in planning and managing the measures needed to control them. ii. manufacturers/suppliers • must comply with all relevant requirements under the Construction Products Regulation as retained in UK law. iii. local authorities • preparing town and city plans and their associated basic development programmes to promote the improvement of various urban facilities, as well as area development and construction • issuing building consents • inspecting building work for which it has granted a building consent. iv. legislative bodies

Topics	Content elements
	• inspecting and confirming that all activities and standard of work carried out meet the requirements of all regulatory bodies. v. training organisations • meeting industry requirements for training and development • recommending standards. vi. professional bodies • Continuing Professional Development (CPD) • providing recommendations for future legislation.
1.2 Roles of construction colleagues, team members and career progression pathways	1.2.1 Professional, craft and operative roles in the building team and their key responsibilities a) Professional role responsibilities: i. architect • liaising with client and other relevant parties to design building, and ensuring it is completed to standard • acting as the client's representative on site/in the workplace • specifying materials used for the project • on smaller projects, advising on legal matters, including risks and disputes, monitoring sub-contractors and stages of construction. ii. quantity surveyor • working out quantities and costs of materials, time and labour for tender • negotiating contracts and work schedules • advising on legal matters, including risks and disputes • monitoring sub-contractors and stages of construction. iii. building surveyor • guiding construction and development projects • providing professional advice on matters such as the structural integrity of a property or its value, accessibility specifications and health and safety requirements • advising on energy efficiency and environmental impact of a property. iv. structural engineer • ensuring structures can withstand the stresses and pressures imposed through use and from the environment • calculating stability, strength and rigidity • advising on size, scale and suitability of materials used. v. mechanical engineer • creating solutions and solving problems, playing a central role in the design and implementation of moving parts in a range of industries. vi. estimator

Topics	Content elements
	• calculating how much construction projects will cost, taking into account labour, materials and equipment requirements • negotiating with suppliers and obtaining quotes from sub-contractors • using this information to compile detailed cost proposals for a client • works closely with the quantity surveyor • usually responsible for completing tenders. vii. site manager • co-ordinating the total build of the project from start to finish, including organising schedule of work, costings and budgets • planning the work and overseeing the buying/hiring of plant and equipment. viii. architectural technologist • working with architects to develop technical drawings, building models, material specifications • ensuring designs meet regulations. ix. Building information modelling (BIM) manager • overseeing the BIM process • managing digital 3D model data, design collaboration and file sharing. x. project manager • planning and overseeing entire project lifecycle • managing budget, schedule, quality, safety, staffing, materials, sub-contractors. xi. site engineer/planner • developing site plans, logistics, access • ordering materials, plant, equipment • managing/inspecting site operations and contractors. xii. building services engineer • designing and overseeing installation of systems such as electrical, ventilation, plumbing, heating/cooling • confirming functionality and compliance. b) Craft role responsibilities: i. carpenter/joiner • completing all first and second fix operations in buildings, including roof trusses, floors, skirtings, doors, staircases, partition walls, and door and window furniture. ii. bricklayer • laying bricks • pre-cutting stone and concrete blocks in mortar • constructing, extending and repairing buildings and other structures such as foundations, walls, chimneys or decorative masonry features. iii. plumber • installing water, drainage and heating systems • cutting, shaping and joining pipes and fittings

Topics	Content elements
	• finding and fixing faults • servicing plumbing systems. iv. gas/heating engineer • carrying out installation, servicing and maintenance of gas appliances and pipework systems. v. electrician • installing indoor and outdoor electrical control, wiring and lighting systems • inspecting and testing electrical systems, including fuses, transformers and circuit breakers. vi. plasterer/dry liner • applying wet finishes to walls and ceilings and external finish to walls • creating ornamental features like ceiling roses, cornices and architraves. vii. painter and decorator • applying paint, varnish, wallpaper and other finishes and special coatings to the walls, ceilings and other surfaces of buildings and structures • protecting surfaces from weather damage, erosion, mould and rust • making surfaces look attractive. viii. wall and floor tiler • cutting and placing wall and floor tiles. ix. roofer • covering roof with slates, tiles, sheets or cladding • applying waterproof membranes to flat roofs • fitting plastic or lead flashing around chimneys to seal roof joints. x. renewable energy installer • installing and maintaining renewable energy systems like solar panels, heat pumps, wind turbines • following plans to assemble, connect and test systems. xi. floor layer • preparing and laying flooring materials, including wood, laminate, vinyl and carpet • measuring areas, laying underlay and adhesive, cutting materials, fitting trims and edge. c) Operative role responsibilities: i. general building operative/labourer • unloading materials • preparing site/workplace areas • providing craft teams with materials. ii. ground worker • excavating trenches • preparing and laying drainage pipes • preparing and laying floors and substrata for roads. iii. highways operative • working on roads and highways on paving, repairing surfaces, cleaning and traffic management. iv. plant operative

Topics	Content elements
	• driving and operating construction plant (including excavators and dumpers). v. scaffolder • erecting and dismantling temporary static metal scaffoldings on structures in construction areas to enable others to work at height and carry out their roles safely • may set up a scaffolding inside or outside a building. 1.2.2 Key stages involved in a construction project, their logical sequence, and factors that may impact the sequencing a) Key stages and their logical sequence: i. stage 1 - site investigation ii. stage 2 - design and planning iii. stage 3 - setting up site iv. stage 4 - groundwork v. stage 5 - substructure vi. stage 6 - superstructure vii. stage 7 - external works viii. stage 8 - internal services and finishes ix. stage 9 - testing, commissioning and handover. b) Factors that impact sequencing: i. planning permission ii. site conditions iii. lack of/shortage of materials and/or labour iv. adverse weather v. disputes vi. regulatory changes vii. accidents viii. investigations. 1.2.3 Career opportunities and progression routes that exist in the construction industry and where to get information on them a) Career opportunities, in hierarchical order: i. craft ii. supervisory iii. managerial iv. professional. b) Progression routes, in sequence: i. apprenticeship to level 2/3 ii. craft level 2/3, progressing to supervisor iii. further study for site manager or similar role iv. higher education into a professional role. c) Where to access information: i. employer ii. college/university open days – progression within education iii. local company websites iv. trade organisation websites v. City & Guilds website vi. careers advisor.

Topics	Content elements
	1.2.4 The importance/benefits of maintaining Continuous Professional Development (CPD) and lifelong learning a) **Definition:** 'CPD' is the ongoing process of acquiring and enhancing knowledge, skills and competencies throughout one's professional career. It involves engaging in activities and learning opportunities that help individuals stay up to date with industry trends, advancements and best practices. b) Benefits of maintaining CPD: i. keeping knowledge and skills up to date ii. professional standard of qualifications and registrations are maintained iii. credibility and confidence are built and enhanced iv. employment opportunities increased, with possible increased renumeration.
1.3 Communication within construction team and wider (those outside the team)	1.3.1 Key personnel involved in day-to-day communications in construction workplace environments and the chain of reporting a) **Definition:** 'Chain of reporting' - the line of authority and sequence of personnel that information or issues get communicated to within a workplace. b) Personnel and basic chain of reporting: i. operatives and craft personnel report to ii. supervisors report to iii. site managers report to iv. project managers report to v. clients/end users/occupiers vi. suppliers - may report to a combination of i – v, depending on project. 1.3.2 Additional parties' roles involved in wider communication on construction projects and activities a) Additional parties: i. architect ii. quantity surveyor iii. safety officer iv. local authority planning v. local residents/neighbours around site/workplace area vi. building inspector (Local Authority Building Control (LABC) or appointed) vii. environmental bodies viii. conservation officer ix. National House Building Council (NHBC) b) Additional parties' roles in communication: i. architect • communicating details of type and size of building/s to be completed. ii. quantity surveyor • notifying client when payments are due. iii. safety officer • communicating workplace safety issues to all personnel.

Topics	Content elements
	iv. local authorities planning • communicating breaches of planning permission to project manager and client. v. local residents/neighbours around site/workplace area • voicing and reporting consensus of opinion of residents over planned development. vi. building inspector (LABC or appointed) • communicating to contractor and reporting to local authority or relevant parties. vii. environmental bodies • requests access and communicates findings of investigations and monitoring to planning teaming. viii. conservation officer • requests access and communicates finding of investigations and monitoring to planning team. ix. NHBC • communicating with architect, project manager and site manager on day-to-day site/workplace affairs in respect of new builds. 1.3.3 Forms of communication/ways in which communication may be used in construction workplace environments and their suitability related to information type a) Communication methods for types of information being communicated: i. written • text/wording • formal, detailed or complex information • should be clear, concise, accurate and well structured • should follow the appropriate tone, style and format for intended audience. ii. verbal • voice/words • ideas, opinions, emotions or instructions, communicated in a direct and personal way • should be confident, engaging, respectful and persuasive • should use appropriate language and tone of voice, consider appropriate use of specialist terminology. iii. visual • graphical or pictorial information • for capturing attention and enhancing understanding • should be simple, attractive, relevant and consistent • should use appropriate colours, shapes and symbols effectively. b) Types of written communication: i. agenda items and minutes of meetings ii. emails iii. texts iv. written notices – signs and posters

Topics	Content elements
	v. variation orders/architect's instructions vi. orders to suppliers/delivery notes vii. manufacturer's instructions viii. specifications ix. leaflets. c) Types of verbal communication: i. face to face ii. radio iii. mobile phone. d) Types of visual communication: i. hand signals ii. video calls or online meetings iii. signage and notices iv. drawings/plans. 1.3.4 Considerations for maintaining positive communication with colleagues and other parties when working in construction environments and the importance/benefits of doing so a) Positive written communication considerations: i. creates a permanent record of evidence ii. can be used as a legal document iii. can be sent to many people at once/one time iv. suitable for long and distance communication and repetitive standing orders v. information presented as stated fact – no question as to the content/variation of message via delivery. b) Positive verbal communication considerations: i. can aid in building rapport and trust ii. establishment of empathy with audience/others iii. allows for quick/instant feedback once delivered iv. reduces possible misunderstandings through opportunity for clarification 'in the moment'. c) Importance/benefits of maintaining positive communications: i. ensuring everyone is clear on tasks to be performed ii. avoiding misunderstanding iii. maintaining/promoting safety iv. building trust.
1.4 The importance of good customer service	1.4.1 Key elements and considerations that make up good customer service in construction activities a) Key elements of good customer service: i. good communication • updated on project details ○ timelines ○ costs ○ changes. • using their preferred communication method • listening to and addressing their concerns. ii. reliability/honesty • completing high quality work • working to schedule as promised

Topics	Content elements
	• taking accountability if issues arise. iii. responsiveness • reaching out to customers promptly • having systems to respond to inquiries, requests, complaints quickly. iv. expertise • having qualified, knowledgeable staff • providing solutions tailored to their needs. v. courtesy • treating customers with respect and professionalism • being patient and helpful even when under pressure • making them feel valued • positive customer reviews and feedback. 1.4.2 Importance of good customer service in construction from the perspective of employees, employers and customers a) Employee perspective: i. builds trust and rapport with customers ii. creates positive work environment iii. gives sense of pride in own work iv. opportunity to showcase expertise v. gain recognition and rewards. b) Employer perspective: i. Attracts new customers and business – potential expansion and growth ii. improves customer satisfaction and loyalty and/or provide recommendations to others iii. reduces complaints and improving reputation iv. competitive advantage over other companies v. increased productivity and profitability. c) Customer perspective: i. creates a positive experience ii. makes them feel valued and respected iii. issues are handled quickly and effectively iv. needs and expectations are met v. time saving through having trusted source of service.

Topics	Content elements
1.5 Quality assurance and quality control of construction work	1.5.1 The purpose of quality assurance activities in relation to construction activities and the impact they aim to have on quality of work and efficiencies of activities a) **Definition:** 'Quality assurance (QA)' - checking work systematically to make sure it meets standards and requirements. b) **Definition:** 'Quality control (QC)' - the process of checking outcomes from quality assurance are being achieved eg building control. c) Quality control methods used in construction i. inspections by others/supervisors ii. regular testing - including random sampling iii. documented processes/checklists iv. official audits. d) Purpose and impact of quality assurance and quality control activities i. meet agreed quality standards of work ii. maintain consistency across activities/instances iii. check and ensure safety of procedures iv. help find problems in early stages before they cause bigger issues v. increase efficiency through monitoring and correcting issues along the way rather than at the end vi. making sure collective end result of the job meets external requirements and factors.
1.6 Roles of construction trade/professional bodies and unions	1.6.1 The role and purpose of trade and professional bodies within the construction sector and the services/benefits they can provide a) Role of trade and professional bodies: i. provide support and help to tradespeople ii. represent and advocate in cases of issue iii. educate and provide training and CPD iv. source of information and guidance v. support networking within/across trade areas vi. act in advisory role to government vii. promote the industry and careers within it. 1.6.2 The role of unions within the construction sector and the services/benefits they can provide a) Role of unions: i. negotiate agreements with employers on pay and conditions ii. discuss major changes to the workplace eg large scale redundancy iii. discuss members' concerns with employers iv. accompany members in disciplinary and grievance meetings v. provide members with legal and financial advice vi. provide training and opportunities for CPD.

Topics	Content elements
1.7 Competent person schemes and their importance	1.7.1 The role and purpose of competent person schemes in place for construction trades a) Role of competent person schemes: i. providing evidence of training ii. providing evidence of assessment iii. providing evidence of competence/verification of skills iv. providing proof of identity of individual. b) Purpose of competent person schemes; i. upholding industry standards and best practice ii. reducing risks to workers and the public iii. providing assurance to clients/employers.
1.8 Requirements for professional registration when working in the construction industry	1.8.1 Potential benefits of registration with relevant professional construction institutions a) Potential benefits of registration: i. higher earning potential ii. improved career prospects and employability iii. enhanced status leading to higher self-esteem iv. international recognition of competence and commitment v. evidence of expertise vi. greater influence within own organisation and industry vii. Continuous Professional Development (CPD) viii. legal indemnity cover ix. networking opportunities. 1.8.2 The role and purpose of professional institutions related to the construction industry a) Role and purpose: i. work in the public interest and advance the public good in their respective fields ii. uphold standards of competence, conduct and ethics among members iii. award chartered status to qualified professionals who meet their criteria of knowledge and behaviour iv. provide learning programmes, research, resources, services and events for their members and stakeholders.

Learning outcome 2

Understand construction information

Topics	Content elements
2.1 The purpose of controls on the construction process	2.1.1 Controls and regulations that support the construction process, who they impact and where they can be accessed a) Controls and regulation types: i. pre-planning permission ii. planning permission/permitted development/national park authority iii. building regulations iv. health and safety law v. quality and standards (British standards) vi. environmental law/regulations vii. listed buildings viii. tree preservation orders ix. English Heritage. b) Who is impacted by the controls and regulations: i. client/homeowner/end user ii. design team • architect • surveyor iii. managerial team • site manager • site supervisor iv. tradespeople v. manufactures/suppliers of equipment and materials vi. the general public. c) Where details of the controls can be accessed: i. on site/in workplace ii. online, eg on government/local authority websites iii. local libraries iv. in the code of conduct v. in induction materials vi. professional bodies vii. building material suppliers.
2.2 Types of information and technical drawings used in the construction industry	2.2.1 Construction information used to manage, support and organise projects, and roles responsible for their production and use a) Key construction information used to manage, support and organise: i. site/workplace rules/code of conduct ii. bill of quantities • to control list material quantities and costs. iii. construction phase plan iv. program of works/Gantt charts v. specifications vi. drawings vii. schedules

Topics	Content elements
	• material/labour. viii. Building Information Modelling (BIM) ix. Risk assessment and method statement (RAMS). 2.2.2 Methods of drawing used for construction plans and blueprints and their advantages and disadvantages a) Methods and their advantages/disadvantages: i. rough sketch • quick • cheap • low detail ii. hand • level of detail may vary • time consuming to produce if highly detailed • can be more expressive • more detailed than a rough sketch iii. line drawing • precise • accurate • easily edited • scaled • usually more detailed and accurate than a hand drawing iv. Computer Aided Design (CAD) • precise • adaptable • detailed • easily sharable electronically • may be complex and expensive to produce • usually the most detailed and complex form method. 2.2.3 Types and styles of construction drawings a) Types of drawing: i. location • block • site • layout. ii. component detail iii. assembly/detail drawings iv. elevations and plans • floorplans • reflective plans. b) Styles of drawing: i. orthographic ii. isometric iii. sectional iv. perspective.

Topics	Content elements
	2.2.4 Technical information included on construction plans, diagrams a) Technical information; i. scale ii. hatchings iii. measurements iv. dimensions • length • width • height • area. v. symbols vi. services • water • gas • electricity • drainage • internet/phone. vii. architectural viii. version control/date ix. orientation. b) What information on plans is used for: i. calculating materials costs/quantities ii. setting out building in correct position iii. identifying materials to be used and their location iv. positioning and fixing of components v. communicating hazards vi. indicating specific common locations vii. identifying services viii. orientation of site when in real world ix. communicating common shared set of information across trades/roles x. ensuring currency and visibility of alterations/changes xi. ownership and version details xii. completed vision for project/building.
2.3 Data protection	2.3.1 Importance of data protection legislation and security of information in construction environments and methods workplaces may use to ensure data is kept secure a) Legislation: i. Data Protection Act ii. General Data Protection Regulation (GDPR) b) Importance: i. ensuring confidential information is kept secure ii. upholding industry regulations iii. securing sensitive documents from theft and misuse • staff information • client information. iv. preventing data breaches v. allowing controlled record access.

Topics	Content elements
	c) Methods: i. user permissions and authentication eg passwords ii. using secure file sharing procedures for transferring documents iii. safe and secure storage of documents iv. regularly backing up data offline v. following company policies.

Learning outcome 3

Understand how to set up and secure construction work areas

Topics	Content elements
3.1 Construction workplace planning requirements	3.1.1 Different areas of construction workplaces that must be included on logistics plans and their importance a) Areas: i. environmental areas (ponds, plants, trees and wildlife) ii. neighbouring properties iii. site/workplace security iv. service connections v. access/egress and parking vi. site office vii. health, safety and welfare viii. emergency assembly ix. pedestrian routes/access x. materials – delivery and storage • dry • open • hazardous xi. waste management/recycling xii. plant xiii. crane tower location. b) Importance of having the areas marked on plans: i. for efficient site/workplace movement and access (eg deliveries) ii. to ensure boundary lines are maintained and to reduce breaches iii. to maintain and improve safety and security iv. to clearly inform of location of facilities for all v. to comply with legislation.

Topics	Content elements
3.2 Considerations in relation to construction workplace security	3.2.1 The importance of site/workplace security and the employee/employer responsibilities for ensuring it a) Importance: i. to maintain safety ii. to identify and control access iii. to minimise financial loss eg loss/theft of plant, machinery and/or materials iv. to prevent unauthorised entry v. to identify and maintain safe access routes vi. to control access to plant and machinery and controlled substances. b) Responsibilities of employee: i. returning all materials and equipment after use ii. signing in/out as required iii. reporting any issues to employer/supervisor iv. following company guidelines and safety signage. c) Responsibilities of employer: i. providing security measures as required, eg booking in, signing in/out, security fencing, security guards/personnel ii. ensuring security reporting procedures and guidance are in place.

Learning outcome 4

Know building substructure and superstructure components

Topics	Content elements
4.1 Types and purposes of substructures	4.1.1 Types of foundations and their descriptions/features a) Types and their descriptions: i. pad • rectangular or circular pads • usually of concrete • used to support single point loads such as columns. ii. pile • deep cylindrical foundation • bored below ground • transferring the building load to load bearing ground made up of concrete and steel reinforcement. iii. raft • reinforced concrete slabs that cover an over site area • often the full footprint of the building. iv. strip • shallow foundation • used to provide a continuous, level or sometimes stepped strip of support around the perimeter of a building • may also be positioned where there are internal load bearing walls. 4.1.2 Materials used in substructures a) Materials: i. brick ii. block iii. steel iv. concrete v. Damp Proof Course (DPC)/Damp Proof Membrane (DPM) and membranes vi. insulation vii. aggregate.

Topics	Content elements
4.2 Sequence of first and second fix building	4.2.1 First and second building elements and logical sequence considerations relating to their installation a) First fix: i. step 1 - external envelope/shell ii. step 2 - roof structure iii. step 3 - roof coverings iv. step 4 - floors v. step 5 - stairs vi. step 6 - partitions vii. step 7 - external door and window frames viii. step 8 - internal door lining ix. step 9 - services x. step 10 - plaster. b) Second fix (order may vary, as activities may occur concurrently): i. internal doors and door furniture ii. architraves and skirting boards iii. kitchen units iv. electrical fittings v. sanitary ware vi. finishes vii. wall viii. floor ix. landscape.

Topics	Content elements
4.3 Floor types and their associated materials	4.3.1 Types of floors and factors impacting on when they are used a) Types of floors: i. solid • concrete • sometimes reinforced and insulated. ii. suspended • timber • can be concrete beam with block infill. b) factors impacting floor type: i. loading • strength • reinforcement. ii. moisture • sub floor/ground underneath. iii. subsequent finish • underfloor heating • liquid floor screed • tiles. 4.3.2 Types of materials used for flooring a) Flooring materials: i. block/beam ii. concrete iii. timber iv. steel and concrete deck v. steel reinforcement vi. insulation vii. DPM.

Topics	Content elements
4.4 Wall types and their associated materials	4.4.1 Types of walls and factors impacting on when they are used a) Types of walls: i. external • cavity • solid • steel frame • curtain • timber frame • concrete frame. ii. internal • traditional (brick or block) • timber stud • metal stud and metal lining. b) factors impacting wall type: i. loading ii. climate • location. iii. finish • client/architect specification • conservation requirements. 4.4.2 Types of materials used for walls a) Wall materials: i. brick ii. block iii. render iv. timber v. concrete vi. steel vii. cladding viii. insulation ix. DPC/Structurally Insulated Panels (SIPs) x. ties and clips.

Topics	Content elements
4.5 Roof types and their associated materials	4.5.1 Types of roofs and their common materials, and factors affecting their appropriateness/use a) Pitched roof types: i. timber • traditional hand cut • trussed. ii. metal • framed • trussed. b) Flat roof types: i. timber ii. metal iii. green. c) Roofing materials: i. timber ii. lead iii. slate iv. tile • concrete • clay • composite. v. bitumen felt vi. sheet metal or timber vii. synthetic systems • fibreglass • Ethylene Polypropylene Diene Monomer (EDPM). viii. liquid resin ix. shingle • clay • timber • bitumen felt.
4.6 Types of finishes	4.6.1 Types of internal finishes and factors affecting their appropriateness for use a) Types of internal finishes: i. paint systems ii. paper coverings iii. plaster iv. dry lined with tape and joint system v. tiling vi. cladding • timber • plastic • composite. b) Factors affecting use: i. base structure ii. customer requirements iii. cost iv. conservation restrictions.

Topics	Content elements
	4.6.2 Types of external finishes and factors affecting their appropriateness for use a) External finishes: i. paint systems ii. rendering systems iii. coatings iv. External wall insulation (EWI) v. cladding • timber • plastic • composite • slate • tile. b) Factors affecting use: i. conservation requirements ii. building control iii. customer requirements iv. cost.
4.7 Building services related to construction activities	4.7.1 Types of services that are used to supply buildings, roles responsible for their servicing and maintenance, and construction activities that rely on them a) Services: i. electricity ii. gas iii. water iv. drainage • surface • foul. v. communication networks • television • internet • phone • 'smart' home services. b) Roles responsible for installation: i. electricity • electrician and/or national utility company ii. gas • gas engineer or plumber if additionally qualified in gas safety national utility company iii. water • plumber and/or national utility company (for connection to mains) iv. drainage (surface, foul) • local authority • ground worker/plumber v. communication networks • internet/telephone engineer.

Topics	Content elements
4.8 Considerations for building materials used in construction activities	4.8.1 Factors affecting materials use in building structure and substructure elements a) Elements: i. foundations ii. floors iii. walls iv. roofs. b) Factors affecting material use: i. availability ii. bearing capacity iii. carbon footprint iv. client expectations/requirements v. conservation requirements (if relevant) vi. cost vii. design requirements viii. ground conditions ix. installation time x. longevity of material/performance over time xi. maintenance requirements xii. physical strength xiii. planning/regulation requirements xiv. purpose xv. sustainability xvi. transport, delivery and position xvii. handling weight.

Learning outcome 5

Understand personal development and working with others in the construction industry

Topics	Content elements
5.1 Equality and protected characteristics	5.1.1 The definition of equality and protected characteristics under current legislation and other potential additional barriers a) **Definition:** 'Equality' - a situation in which everyone is equal and has the same rights. b) Protected characteristics: i. age ii. disability iii. gender reassignment or gender identity iv. marriage and civil partnership v. pregnancy and maternity vi. race (including colour, nationality and ethnic or national origin) vii. religion or belief viii. sex ix. sexual orientation. c) Additional barrier characteristics: i. employment history ii. educational background/attainment iii. socio-economic status iv. criminal record v. unconscious bias.

Topics	Content elements
5.2 Considerations when valuing diversity and inclusion	5.2.1 The principles of diversity and inclusion in the workplace a) **Definition:** 'Diversity' refers to including or involving people with a range of different characteristics, and having a variety of individuals and points of view represented. b) **Definition:** 'Inclusion' refers to providing equal access to opportunities and resources for those who might otherwise be excluded. 5.2.2 Positive impacts of recognising and valuing diversity and inclusion in the workplace a) Positive impacts: i. for the individual • personal motivation/self-actualisation • feelings of value • well-being • job satisfaction and engagement. ii. for team dynamics • effective interpersonal communication • positive teamwork • time saving. iii. for employers and businesses • employee retention • meeting legislation requirements • staff progression • societal reputation • staff recruitment • increased productivity and performance • innovation, creativity and problem solving.

Topics	Content elements
5.3 Regulations, support and guidance relating to equality, diversity and inclusion (EDI)	5.3.1 Current regulations and legislation relating to EDI a) Regulations and legislation: i. UK Equality Act ii. Human Rights Act. 5.3.2 The responsibility for awareness and action in relation to the UK Equality Act a) Responsibilities: i. for the employee • awareness of • adherence to. ii. for the employer • awareness of • adherence to • procedures in place to address identified issues • promoting awareness/training employees • point of contact (welfare officer). 5.3.3 Sources of other information related to supporting and promoting EDI in the workplace a) Sources of information: i. company charter/values ii. employee handbook iii. induction materials/programme iv. contractual documents/obligations v. external bodies and legislation vi. displays/signage and posters.
5.4 Characteristics of employment and self-development	5.4.1 Key responsibilities of different employment types a) Employment types: i. sole trader ii. sub-contractors iii. main developers iv. self-employed. b) Responsibilities: i. tax ii. administration iii. planning iv. promotion v. insurance/liability vi. renumeration/wages vii. contracts viii. welfare. 5.4.2 Skills and characteristics which are beneficial to develop when working in construction roles and why these are important a) Skills: i. organisational/planning ii. digital literacy iii. communication and collaboration

Topics	Content elements
	iv. interpretation of information and directions v. practical trade skills (eg plastering, carpentry and joinery etc). b) Personal traits/characteristics: i. responsibility ii. autonomy iii. self-motivation iv. discipline v. resilience. c) Importance: i. productivity to meet deadlines/requirements ii. quality of work/finish iii. meeting goals and targets iv. business/career growth and development v. personal mental welfare vi. financial stability. 5.4.3 Patterns in employment and the potential impacts of rises and falls in demand a) Patterns: i. peaks and troughs in construction work ii. recruitment shortfall iii. skills shortage forecasts iv. financial climate v. future trend predictions/forecasts vi. vacancies – use of local labour market intelligence and the opportunities that are available. b) Impacts of fluctuations in demand: i. cash flow ii. availability of labour iii. financial incentives and opportunities.

Learning outcome 6

Know sustainability and emerging technology considerations affecting the construction industry

Topics	Content elements
6.1 Sustainability and emerging technologies	6.1.1 Considerations and impacts of sustainability in relation to construction activities a) **Definition:** 'Sustainability' refers to constructing with renewable and recyclable resources whilst minimising waste and energy consumption to protect the natural environment. b) Considerations: i. legislation ii. technological advances iii. education • eliminating bad practice • encouraging reporting. iv. sourcing of local materials v. using energy efficient plant and equipment • battery powered • solar charging. vi. changes to or meeting historical practice vii. availability of sustainable materials and equipment viii. financial cost and available funding ix. waste management practices • segregation of materials ○ wood ○ plastic ○ cardboard ○ paper ○ plasterboard. • limit environmental impact • support recycling. x. air flow in building design • acoustics • airtightness • ventilation. c) Impacts/advantages of sustainability: i. benefits to the immediate locality • improved air quality • noise reduction • less waste. ii. reduction in carbon footprint iii. a cleaner healthier site/workplace iv. personal fulfilment ('doing your bit') v. company reputation. d) Potential drawbacks:

Topics	Content elements
	i. increased costs ii. reduced/limited availability • including ranges/sizes available. iii. lack of experience/expertise for installation iv. potential limitations based on site location/climate v. infrastructure for recycling waste vi. subject to changing legislation and incentives vii. resistance to changing traditional methods. 6.1.2 Emerging and green technologies, resources and materials and activities that may be employed to maintain, increase or enhance the sustainability of building projects, and factors that may affect their use a) Technologies and resources: i. electric vehicles/machinery ii. solar/photovoltaic panels iii. wind turbines iv. air, water and ground-source heat pumps v. use of drones/Unmanned Aerial Vehicles (UAVs) for area surveying vi. 3D printing technologies vii. Augmented Reality (AR), VR, simulated training environments viii. BIM. b) Materials: i. self-healing concrete ii. insulation types and position iii. liquid floor screeds iv. thin joint systems v. transparent aluminium. c) Practices: i. sustainable production – modular/prefab housing ii. recycling/reusing demolition materials for hardcore/architectural salvage iii. carbon-neutral building design/‘passive’ buildings iv. rainwater harvesting and reuse v. installation of Electric Vehicle (EV) charging points on site/in buildings vi. installation of green energies as standard vii. refuse, reduce, reuse, repurpose, recycle viii. increasing thermal performance of buildings. d) Factors affecting use of technologies and practices: i. cost ii. availability iii. site/building location iv. planning and design requirements v. funding availability vi. legislation vii. local authority initiatives/restrictions.

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the level 2 unit 'Principles of welfare, health and safety in construction environments', as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver, to see where contextualisation can be added to enhance relevance.
Suggestions for formative assessment opportunities:	Short formative assessments at the end of sessions/aligned to outcome. Sample test exam prep session to prepare for assessment.
Opportunities for visits/engagement with local industry and employers:	Employer engagement opportunities for this unit should be incorporated in order to allow the learner to understand application of knowledge learnt in context. This could include site visits linked to the specific trade area or having guest lectures/speakers from local employers explaining elements of own role and working environments, career progression etc.
Considerations for innovative methods of delivery:	Providers should make the best use of available resources to provide learners with the opportunity to use a wide range of activities. These could include lectures, discussions and self-study. A blended learning approach, with online learning opportunities, could be adopted for content delivery. 1.6.1 Learners could be encouraged to research specific trade and professional bodies relevant to their chosen specialism/area of study, eg Chartered Institution of Building Services Engineers (CIBSE), trade organisation umbrella Build UK, Federation of Master Builders (FMB), National Federation of Builders (NFB) etc. 1.8.2 Learners could be encouraged to research a specific chartered institute relevant to their chosen specialism/area of study, eg Chartered Institute of Building (CIOB), Royal Institute of British Architects (RIBA), the Royal Institution of Chartered Surveyors (RICS), Institution of Civil Engineers (ICE), CIBSE etc.
Ways of ensuring content is delivered in line with current, up-to-date industry practice:	Providers to check current legislation/guidance for amendments/changes prior to content delivery. Staff CPD in line with current practice (eg CSCS card).
EDI or accessibility considerations:	None.
Digital initiative considerations:	None.
Sustainability considerations:	Encouraging paperless working practices – printing materials only where necessary.
Books:	N/A
Websites:	Local/national construction company websites (specific to learner trade area) Professional body websites (specific to learner trade area).

Unit 210 Timber Technology

Unit level:	Level 2
GLH:	30
Unit aim:	The aim of this unit is for learners to develop knowledge and understanding of the key properties of timber and manufactured boards. This unit will provide learners with skills related to and an understanding of timber's unique manufactured materials and properties.
Assessment method:	MCQ assessment Practical assessment
Links to Occupational Standard:	Carpentry and Joinery (ST0264) See also qualification content mapping to Occupational Standard (Appendix 1)

Learning outcomes

1. Understand the key characteristics of timber, engineered timbers and manufactured boards
2. Understand the process of timber conversion and the relative moisture content of timbers for different applications
3. Understand key defects associated with timber

Learning outcome 1

Understand the key characteristics of timber, engineered timbers and manufactured boards

Topics	Content elements
1.1 Types of timber, engineered timbers and manufactured boards	1.1.1 Commonly used timbers and associated engineered and manufactured timber materials/products a) Types: i. oak ii. ash iii. mahogany (sapele, brazilian, utilli, meranti) iv. beech v. tulip or tulip poplar vi. european redwood vii. whitewood viii. douglas fir ix. acetylated timber x. i beam xi. glulam xii. Laminated Veneered Lumber (LVL) xiii. engineered wood flooring xiv. Cross-Laminated Timber panels (CLT) xv. Medium-Density Fibre board (MDF) xvi. plywood xvii. Oriented Strand Board (OSB) xviii. chipboard xix. hardboard xx. carcassing.
1.2 Key characteristics of timber engineered timbers, and manufactured boards	1.2.1 Key characteristics of timbers and associated engineered/manufactured timber materials a) Characteristics i. durability ii. stability iii. weight iv. workability v. strength-to-weight ratio vi. aesthetics vii. ability to take preservatives and finishes viii. moisture content ix. grades of sheet material (fair faced, shuttering, veneered, birch ply, Chinese poplar core ply) x. sheet material adhesive grades (moisture resistant [MR], weather and boil proof [WBP], Marine)

	xi. standard sizes of sheet materials – standard sizes of CLS, C16, C24, Joinery Grade xii. sustainability from forests managed by the Forest Stewardship Council (FSC).

Learning outcome 2

Understand the process of timber conversion and the relative moisture content of timbers for different applications

Topics	Content elements
2.1 Process of conversion, seasoning and moisture content for different applications	2.1.1 Methods of timber conversion a) Methods: i. through and through sawn ii. quarter sawn iii. tangential sawing iv. boxed heart. b) Advantages and disadvantages of the different methods of conversion in terms of various elements: i. cost ii. yield iii. stability iv. appearance v. shrinkage vi. defects. 2.1.2 Methods used to season timber for use in construction and moisture levels based on application a) Methods: i. natural/air ii. kiln. b) Moisture levels based on application: i. structural carpentry ii. external joinery iii. internal joinery iv. joinery close to a heat source.

Learning outcome 3

Understand key defects associated with timber

Topics	Content elements
3.1 Common defects associated with timber	3.1.1 Types of defects caused by natural or kiln seasoning and conversion processes a) Seasoning/conversion defects: i. shakes ii. twist iii. bow iv. springing v. case hardening. b) Natural defects: i. knots ii. resin pockets iii. shakes (cup, ring, upset [from felling], star) iv. insect attack v. fungal attack vi. foreign bodies (metal objects) vii. decay/rot viii. waney edge.

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the Level 2 'Principles of welfare, health and safety in construction environments' unit as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance eg Health and safety, Principles of working in the construction industry, First fix, portable power tools and Second fix.
Suggestions for formative assessment opportunities, both for knowledge and for practical outcomes:	Naturally occurring training activities used to select timber will facilitate the completion of this unit. This will support the holistic approach of delivering and assessing the qualification as well as stimulate a realistic experience for the learners.
Opportunities for visits/engagement with local industry and employers:	Research opportunities, visits to exhibitions and practical training to stimulate, motivate and educate the learner Visit to local sawmills Visit to local builders merchants to see variety of timber materials
Considerations for innovative methods of delivery:	VR can be used to simulate machine use prior to actual use. Health, safety and welfare issues are an important factor to consider during the delivery of this unit; therefore, strict safe working methods as outlined by legislation should be demonstrated and reinforced through close supervision of all activities. Risk assessments, method statements and COSHH assessments must be completed prior to any practical activities taking place. This unit should be delivered as knowledge/understanding supported by practical application. Tutors delivering this unit should ensure learners have a good understanding of the setting out process and terminology prior to reinforcing learning with practical setting out exercises.
Ways of ensuring content is delivered in line with current, up-to-date industry practice:	Staff must carry out industry-relevant CPD on site to ensure that their skills remain current. Employer guest lectures or real site visits should be encouraged to allow students to gain insight and/or practical application of knowledge and skills in a real environment. Providers should ensure adherence to current relevant building regulations.

EDI or accessibility considerations:	Digitisation of resources should be done with the correct formatting for screen readers and content in multiple formats. Ensure that course materials are available in accessible formats for students with visual or learning disabilities. Use inclusive language and explain technical terms and concepts clearly. Be aware of cultural differences and ensure that examples are culturally sensitive and inclusive. Include gender-balanced representation and avoid reinforcing stereotypes.
Digital initiative considerations:	Use of VR for simulation of training on machines. Use of online quiz systems to allow for self-marking and end-of-unit knowledge assessment. Use of blended learning to promote key concepts. Accessing site plans though QR codes directly on site through use of mobile devices.
Sustainability considerations:	Use a digital virtual learning environment (VLE) and electronic assessment to reduce paper use. Use sustainably sourced materials that are FSC stamped. Reuse resources where possible. Encourage paperless working practices by printing materials only where necessary Learners should consider approaches to sustainability throughout the construction process in order to minimise environmental impact. These would include recycling of materials where possible, minimising waste and reusing components for practical tasks where possible.
Books:	Colin Fearn, Mike Jones, Clayton Rudman, *Level 1 Diploma in Carpentry and Joinery* (City & Guilds) Colin Fearn, Mike Jones, Clayton Rudman, *Level 2 Diploma in Carpentry and Joinery* (City & Guilds) W.G. Nash, *Brickwork 1* (Stanley Thornes) Jon Collison, *Brickwork & Carpentry and Joinery, A DIY handbook* (Crosswood Press Ltd)
Websites:	**https://ttf.co.uk/courses/timber-trade-topics/sheet-materials/**

Transferable employability skills

Communication in the workplace	LO and topic
Selects appropriate formats for written communication for different purposes and audiences, in line with workplace conventions or procedures, where appropriate **(CSW1)**	**LO2: 2.1**
Produces documents of different types that are appropriate (eg in terms of length, style and language use) for the purpose and intended audience **(CSW2)**	**LO2: 2.1**
Accurately and appropriately uses terminology associated with a particular workplace or sector in written communication **(CSW5)**	**LO2: 2.1** **LO3: 3.1**
Workplace conduct	
Applies sufficient effort to enable them to complete tasks set to the standard required **(CW3)**	**LO2: 2.1**
Demonstrates initiative in carrying out own role **(CW4)**	**LO1: 1.2** **LO2: 2.1** **LO3: 3.1**
Problem solving	
Gathers appropriate information or advice from different sources to help solve a specific work-related problem **(PSW1)**	**LO2: 2.1**
Assesses a range of potential solutions, applying appropriate problem-solving strategies **(PSW2)**	**LO2: 2.1** **LO3: 3.1**
Time management skills	
Works at an appropriate pace to carry out tasks in accordance with plan **(TMS2)**	**LO2: 2.1**
Adjusts approach in response to any change of circumstance (eg one task over running), as appropriate, to ensure remaining time is spent effectively **(TMS3)**	**LO2: 2.1**

Unit 215 Planning and preparation for setting out and marking out architectural joinery

Unit level:	Level 2
GLH:	60
Unit aim:	The aim of this unit is for learners to develop the knowledge, understanding and skills to plan and prepare for setting out and marking out architectural joinery. Learners will be able to understand how to explore the various aspects of setting and marking out. They will also be able use the knowledge of the tools and techniques to produce various joinery items.
Assessment method:	MCQ assessment, practical assessment
Links to Occupational Standard:	Carpentry and Joinery (ST0264) See also qualification content mapping to Occupational Standard (Appendix 1)

Learning outcomes

1. Understand architectural joinery and their specific components, the related jointing arrangements and ironmongery
2. Set out and mark out various architectural joinery items to given specifications

Learning outcome 1

Understand architectural joinery and their specific components, the related jointing arrangements and ironmongery

Topics	Content elements
1.1 Types of information sources and how to interpret information for setting and marking out	1.1.1 Interpret information from different sources required for setting out and marking out a) Information: i. client requirements ii. design requirements iii. manufacturing process and design. b) Sources: i. employer sources ii. job sheets iii. scaled drawings iv. specifications v. schedules vi. team/site meetings (verbal). c) Other sources: i. site measurements ii. plans and elevation drawings iii. component drawings iv. building regulations v. technical (including British standard) and manufacturers' information (including warranty).
1.2 Determine accuracy checks when setting and marking out joinery products and identify potential errors and their impact	1.2.1. Accuracy checks to be carried out when marking and setting out a) Accuracy checks reviewed against various elements i. product requirements ii. measurements iii. specifications iv. customer/client requirements/errors v. incorrect details vi. design issues. 1.2.2 Types of errors a) measurement b) incorrect details c) design issues. 1.2.3 Impact of errors a) Impact on setting out: i. material wastage ii. slowing of programme

Topics	Content elements
	iii. not meeting targets iv. increased labour. b) Impact on marking out: i. material wastage ii. measurement iii. quality of work iv. difficulty in assembly v. increased labour.
1.3 Types of joinery products manufactured in workshop for use on site	1.3.1 Types of external and internal joinery products a) External: i. doors ii. windows iii. door and window frames. b) Internal: i. doors ii. staircases iii. linings iv. carcasses v. fitting and fitments.
1.4 Tools and Equipment used for setting and marking out	1.4.1 Tools and equipment used for setting and marking out joinery products a) Measurement: i. rule ii. scale rule iii. measuring tape. b) Squares: i. box ii. set iii. tee iv. combination v. roofing/framing vi. try. c) Gauges: i. cutting ii. marking iii. mortice. d) Other: i. sliding bevel ii. pencils (2h, 3h).
1.5 Jointing arrangements, fixings and ironmongery choices	1.5.1 Factors influencing choice of jointing arrangements, fixings and ironmongery

Topics	Content elements
	a) Factors for jointing arrangements: i. location ii. aesthetics iii. strength requirements iv. standard practices. b) Factors for fixings: i. cost ii. location (external/internal application) iii. adhesive type iv. location (environmental conditions) v. aesthetics vi. size vii. purpose viii. availability ix. client specification. c) Factors for ironmongery: i. cost ii. location (environmental conditions) iii. location (external/internal application) iv. aesthetics v. size vi. purpose vii. client specification viii. availability.
1.6 Knowledge of architectural joinery products and their components: frames and linings	1.6.1 Components of frames and linings, and the joints and fixing systems used a) Frame and lining components: i. head ii. cill iii. jambs iv. transom v. mullion vi. beads. b) Joints used: i. mortice and tenon ii. long and short shoulders mortice and tenon iii. diminishing shoulders mortice and tenon iv. double mortice and tenon v. twin mortice and tenon vi. through housing vii. tongued housing. c) Fixing systems: i. adhesives ii. wedges

Topics	Content elements
	iii. screws.
1.7 Knowledge of architectural joinery products and their components: doors and sashes	1.7.1 Components of doors and sashes, and the joints and fixing systems used a) Door and sash components: i. stiles ii. rails (bottom, middle, top frieze, intermediate, meeting rail) iii. glazing bars (ley, cut) iv. muntin v. panels (sunk, raised, bead and flush, bead and butt) vi. beads vii. mouldings (bed/panel, bolection, solid stuck). b) Joints used: i. mortice and tenon (haunch) ii. long and short shoulders mortice and tenon iii. diminishing shoulders mortice and tenon iv. double mortice and tenon v. twin mortice and tenon vi. stub and blind mortice and tenon vii. barefaced mortice and tenon viii. tongue and groove ix. domino (dowel) x. biscuit (for panels). c) Fixing systems: i. adhesives ii. wedges.
1.8 Knowledge of architectural joinery products and their components: stairs	1.8.1 Components of stairs and the joints and fixing systems used a) Stair components: i. strings ii. treads iii. risers iv. string capping and fillers v. spindle/balusters vi. newels vii. handrails viii. nosing ix. wedges x. glue blocks xi. bullnose step. b) Joints used: i. draw bored mortice and tenon

Topics	Content elements
	ii. barefaced mortice and tenon iii. stopped housings iv. butt joints v. mitres. c) Fixing systems: i. adhesives ii. wedges iii. screws iv. nails.
1.9 Knowledge of architectural joinery products and their components: fittings and fitments	1.9.1 Components of fittings and fitments, and the joints and fixing systems used a) Fitting and fitment components: i. ends ii. sides iii. shelves iv. top v. stiles vi. rails vii. panels viii. doors ix. drawers x. plinth/feet xi. pelmet xii. cornice. b) Joints used: i. mortice and tenon ii. long and short shoulders mortice and tenon iii. diminishing shoulders mortice and tenon iv. double mortice and tenon v. twin mortice and tenon vi. stub and blind mortice and tenon vii. barefaced mortice and tenon viii. biscuit ix. dowel x. tongue and groove xi. loose tongue xii. through dovetails xiii. lapped dovetails xiv. stopped housings xv. through housings xvi. mechanical jointing systems (cam and studs). c) Fixing systems: i. adhesives ii. screws

Topics	Content elements
	iii. nails.
1.10 Interpreting commonly used types of architectural joinery profiles, mouldings and their applications	1.10.1. Types of moulding profiles and their applications a) Moulding profiles: i. rebate ii. chamfer iii. groove iv. ovolo v. ogee vi. scotia vii. bevel. b) Applications: i. decorative ii. skirtings iii. architraves iv. beading v. preventing water ingress vi. aesthetics.

Learning outcome 2

Set out and mark out various architectural joinery items to given specifications

Topics	Content elements
2.1 Setting out various joinery items	2.1.1. Set out joinery items to industrial standards against given information sources, producing cutting lists, rods and templates in the process a) Joinery items: i. straight stairs ii. door frame iii. door iv. casement window v. fittings and fitments. b) Information sources for setting out: i. site plans and elevations ii. component drawing and specification iii. door schedule. c) Producing cutting lists: i. description of the item ii. quantity iii. material iv. length

	v. width vi. sawn and planed sizes vii. remarks. d) Producing rods and templates: i. height rod ii. width rod iii. pitch board.
2.2 Marking out various joinery items	2.2.1 Mark out the joinery items to industrial standards against given information sources a) Joinery items: i. straight stairs ii. door frame iii. door iv. casement window v. fittings and fitments. b) Information sources: i. height and width rods ii. template (as required) iii. cutting list iv. material list v. pitch board.
2.3 Checks against requirements	2.3.1 Carry out checks to ensure accuracy of setting out and marking out of joinery items a) Setting out checks: i. rods within tolerance ii. pitch board within tolerance iii. compliance with building regulations iv. compliance with provided specification. b) Marking out checks: i. correct use of face and edge marks ii. items correctly paired where appropriate iii. items marked out within tolerance iv. compliance with provided information c) Minimising and disposing of waste, including segregation of resources for reuse, recycling and disposal d) Complying with health and safety including producing and completing a risk assessment.

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the Level 2 'Principles of welfare, health and safety in construction environments' unit as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance eg Health and safety, Principles of working in the construction industry, Architectural joinery component production and Assembly and finishing of architectural joinery products.
Suggestions for formative assessment opportunities, both for knowledge and for practical outcomes:	Elements of the theory, such as jointing arrangements, can be delivered as part of the practical in the workshop setting. Discourse can be had around suitability of application. Various examples of information can be used to demonstrate different iterations.
Opportunities for visits/engagement with local industry and employers:	Visits can be carried out to working bespoke joinery shops that specialise in various aspects to allow the learners to see the different types of products being set out and marked out in real time.
Considerations for innovative methods of delivery:	Mixed classes, ie apprentice and full-time learners, can be used to allow the apprentices to share their experiences with the full-time learners.
Ways of ensuring content is delivered in line with current, up to date industry practice:	Staff should carry out industry-relevant CPD in joinery shops to ensure that their skills remain current.
EDI or accessibility considerations:	Digitisation of resources should be done with the correct formatting for screen readers and content in multiple formats. Ensure that course materials are available in accessible formats for students with visual or learning disabilities. Use inclusive language and explain technical terms and concepts clearly. Be aware of cultural differences and ensure that examples are culturally sensitive and inclusive. Include gender-balanced representation and avoid reinforcing stereotypes.
Digital initiative considerations:	Work with employers or industry specialists to capture time lapse videos of the various activities to show the learners various aspects of the skills being demonstrated. Use blended learning to promote key concepts. Use online quiz systems to allow for self-marking and end-of-unit knowledge assessment.

Sustainability considerations:	Use sheet material for rods to ensure that they can be cleaned down and reused. Or use lining paper that can be recycled.
Books:	Colin Fearn, Mike Jones, Clayton Rudman, *Level 1 Diploma in Carpentry and Joinery* (City & Guilds) Colin Fearn, Mike Jones, Clayton Rudman, *Level 2 Diploma in Carpentry and Joinery* (City & Guilds) W.G. Nash, *Brickwork 1* (Stanley Thornes) Jon Collison, *Brickwork & Carpentry and Joinery, A DIY handbook* (Crosswood Press Ltd)

Transferable employability skills

Communication in the workplace	LO and topic
Selects appropriate formats for written communication for different purposes and audiences, in line with workplace conventions or procedures, where appropriate **(CSW1)**	**LO1: 1.1, 1.2** **LO2: 2.1, 2.2, 2.3**
Produces documents of different types that are appropriate (eg in terms of length, style and language use) for the purpose and intended audience **(CSW2)**	**LO1: 1.1, 1.2** **LO2: 2.1**
Uses available software appropriately to present written communication, including numerical information **(CSW4)**	**LO2: 2.1**
Accurately and appropriately uses terminology associated with a particular workplace or sector in written communication **(CSW5)**	**LO2: 2.1, 2.2, 2.3**
Workplace conduct	
Identifies and follows codes of conduct (eg for personal presentation, timekeeping) as appropriate to own role **(CW1)**	**LO1: 1.1, 1.2** **LO2: 2.1, 2.2, 2.3**
Applies sufficient effort to enable them to complete tasks set to the standard required **(CW3)**	**LO1: 1.1, 1.2** **LO2: 2.1, 2.2, 2,3**
Demonstrates initiative in carrying out own role **(CW4)**	**LO1: 1.1, 1.2** **LO2: 2.1, 2.2, 2.3**
Outlines aspects of own conduct which meet expectations of a work setting **(CW5)**	**LO1: 1.1, 1.2** **LO2: 2.1, 2.2, 2.3**
Problem solving	
Gathers appropriate information or advice from different sources to help solve a specific work-related problem **(PSW1)**	**LO1: 1.1, 1.2, 1.5** **LO2: 2.1, 2.2, 2.3**
Assesses a range of potential solutions, applying appropriate problem-solving strategies **(PSW2)**	**LO1:1.1, 1.2, 1.5** **LO2: 2.1, 2.2, 2.3**
Presents a clear action plan, including tasks and timelines, for implementing a chosen solution to a specific work-related problem **(PSW4)**	**LO1: 1.1, 1.2**
Time management skills	
Plans work: • according to priority • taking into account length of time needed to complete tasks • in order to meet deadlines **(TMS1)**	**LO1: 1.2, 1.5**
Adjusts approach in response to any change of circumstance (eg one task over running), as appropriate, to ensure remaining time is spent effectively **(TMS3)**	**LO1: 1.1, 1.5**

Unit 216 Use of woodworking machinery

Unit level:	Level 2
GLH:	90
Unit aim:	The aim of this unit is for learners to develop knowledge, skills and understanding of how to set up and safely use a range of woodworking machinery to saw, plane, mortice and profile timber to manufacture joinery products. Learners will be able to understand how to set up and safely operate woodworking machinery. They will also be able to understand how to select appropriate tooling for a specific operation and to prepare timber to specific dimensions.
Assessment method:	MCQ assessment, practical assessment
Links to Occupational Standard:	Carpentry and Joinery (ST0264) See also qualification content mapping to Occupational Standard (Appendix 1)

Learning outcomes

1. Understand legislation and hazards
2. Know woodworking machinery component parts
3. Set up woodworking machines prior to use
4. Use woodworking machines to produce component parts

Learning outcome 1

Understand legislation, regulations and guidance and hazards

Topics	Content elements
1.1 Legislation, regulations and guidance relevant to the use of woodworking machinery	1.1.1 Legislation, regulations and guidance relevant to woodworking machinery a) Legislation, regulations and guidance: i. HASAWA ii. PUWER iii. Approved Code of Practice (ACOP) in the safe use of woodworking machinery iv. CNWR v. COSHH vi. HSE woodwork information sheets vii. regional information viii. British Woodworking Federation (BWF) machine safety cards ix. manufacturer's information sheets.
1.2 Considerations to be taken into account prior to the use of woodworking machinery	1.2.1 Considerations prior to using woodworking machinery a) Considerations: i. supervision ii. training iii. guarding iv. tooling changing procedures v. housekeeping vi. manual handling vii. pre-start checks.

Learning outcome 2

Know woodworking machinery component parts

Topics	Content elements
2.1 Know saw types and their component parts	2.1.1 Types of saws and their components a) Types of saws: i. rip ii. dimension iii. cross cut iv. band. b) Common saw component parts: i. isolator ii. stop/start button iii. table iv. extraction v. fences vi. guards vii. blade. 2.1.2 Saw type specific components a) Components: i. riving knife ii. thrust wheel iii. guide assembly. b) Saw blades: i. rip ii. crosscut iii. combination iv. positive hook v. negative hook vi. neutral hook vii. tooth • root • top • face • back • heel • gullet. viii. kerf ix. set x. tungsten carbide tip xi. bore size xii. scoring saw.
2.2 Know planer types and their components	2.2.1 Types of planers and their components a) Types of planers:

Topics	Content elements
	i. bench-top ii. surface planer iii. thicknesser iv. combined. b) Common component parts of planers: i. isolator • wall isolation • electronic brake isolation. ii. stop/start button iii. cutter block • High-speed steel (HSS) cutters • quick-set blades (disposable blades) • spiral cutter block with disposable four-wing tips. iv. in-feed table v. out-feed table vi. table adjustments vii. guards • bridge guard • shaw guard. viii. extraction. c) Planer type specific components: i. split-feed roller ii. anti-kickback fingers iii. chip limiter.
2.3 Component parts of a morticer	2.3.1 Component parts of a morticer a) Components: i. isolator ii. stop/start button iii. machine bed iv. fence v. fence adjuster vi. fence cramp vii. chisel/auger housing viii. rise and fall handle ix. lateral table movement wheel x. depth stop xi. chisel/auger sizing.
2.4 Types of profiling machines and their components	2.4.1 Profiling machine types a) Types: i. spindle moulder ii. router table. 2.4.2 Component parts of profiling machines

Topics	Content elements
	a) Components: i. isolator • wall isolation • electronic brake isolation. ii. stop/start button iii. cutter/cutter block • rebate block • euro block • variable block • limited projection • disks and groovers. iv. cutter block adjustment v. table vi. false fence • wooden fence with timber breakthrough • aluminium finger safety fence vii. fence adjustments viii. guards • hood guard • pressure guard • tunnel guard • bonnet guard (ring fence) ix. extraction.

Learning outcome 3

Set up woodworking machines prior to use

Topics	Content elements
3.1 Change tooling on woodworking machines prior to use	3.1.1 Change tooling on woodworking machines following guidance a) Circular saw blades: i. consult risk assessment ii. isolate iii. remove guarding iv. remove riving knife v. remove saw blade vi. clean down machine vii. replace saw blade, riving knife and guards viii. check blade for free rotation ix. undergo pre-start checks. b) Band saw blades: i. consult risk assessment ii. isolate iii. open top and bottom doors iv. release tension on the blade v. remove guarding vi. remove saw blade vii. clean down machine viii. replace saw blade and guarding ix. check retention blade and free rotation x. close doors xi. undergo pre-start checks. c) Mortice chisels and augers: i. consult risk assessment ii. isolate iii. remove guarding iv. remove auger v. remove chisel vi. clean down machine vii. replace auger, chisel and guarding viii. undergo pre-start checks. d) Cutters/cutter blocks: i. consult risk assessment ii. isolate iii. remove guarding iv. lock spindle or router v. loosen spindle nut or router collet vi. remove cutter block or router bit vii. clean down machine viii. replace cutter block or router bit ix. tighten spindle nut or router collet x. unlock spindle or router

Topics	Content elements
	xi. check for free rotation xii. replace guarding xiii. undergo pre-start checks.
3.2 Carry out pre-start checks on woodworking machines	3.2.1 Carry out pre-start checks on woodworking machines following manufacturers' guidance a) Saw: i. check risk assessment for cutting timber and sheets ii. check machine for faults • missing or removed guards • moving parts free to move • no bare electrics • no excessive lubricants • blade the correct type • no debris on the machine or floor. iii. set guards within the current regulation iv. set fences and blade according to current specification v. comply with health and safety. b) Planer: i. check risk assessment for planing timber ii. check machine for faults • Missing or removed guards • Moving parts free to move • No bare electrics • No excessive lubricants • Blade in good condition • No debris on the machine or floor. iii. set guards within the current regulation iv. set fences and blade according to current specification v. comply with health and safety. c) Morticer: i. check risk assessment ii. check machine for faults • missing or removed guards • moving parts free to move • no bare electrics • no excessive lubricants • chisel and auger installed correctly • no debris on the machine or floor. iii. set guards within the current regulation iv. comply with health and safety. d) Profiling machine: i. check risk assessment for profiling timber and sheet material ii. check machine for faults • missing or removed guards

Topics	Content elements
	• moving parts free to move • no bare electrics • no excessive lubricants • blade the correct type • no debris on the machine or floor. iii. set guards within the current regulation iv. set fences and blade according to current specification v. comply with health and safety.

Learning outcome 4

Use woodworking machines to produce component parts

Topics	Content elements
4.1 Use sawing machines to produce component parts	4.1.1 Using safety aids on sawing machines a) Push sticks: i. minimum length ii. when to use. b) Push blocks: i. minimum length ii. when to use. c) Wedge jigs: i. hand position ii. when to use. d) Addles: i. when to use. 4.1.2 Using circular saws to cut different types of wood a) Softwood: i. check for natural defects • sloping grain • shakes and splits • knots • waney edge • foreign bodies • pith • insects. ii. check for seasoned defects • cupping • twisting • bowing • springing • case hardening. iii. check the rip fence is set in the retracted position to allow for springing within the timber

Topics	Content elements
	iv. blade should be set slightly higher than the surface of the timber v. set guard to current regulations vi. ensure push sticks and safety devices are available. b) Manufactured board: i. rip fence should be set in the forward position to allow for straight cutting ii. blade should be set slightly higher than the surface of the timber iii. set guard to current regulations iv. ensure push sticks and safety devices are available. c) Tapered firings and wedges: i. rip fence should be set in the forward position to allow for straight cutting ii. blade should be set slightly higher than the surface of the timber iii. set guard to current regulations iv. ensure push sticks and safety devices are available v. use jigs to allow for consistent cutting. d) Glue blocks: i. rip fence should be set in the forward position to allow for use with a saddle ii. blade should be set slightly higher than the surface of the timber with it sitting in the saddle iii. set guard to current regulations iv. ensure push sticks and safety devices are available v. saddle should be fitted securely onto the machine. 4.1.3 Using band saws to cut components a) Shaped components: i. set the guard post to the correct height ii. check thrust bearing is set iii. ensure tension is on the blade iv. set guard to current regulations v. ensure push sticks and safety devices are available. b) Tenons: i. set the guard post to the correct height ii. check thrust bearing is set iii. ensure tension is on the blade iv. set guard to current regulations v. set side fence to the correct position for the tenon shoulder vi. ensure push sticks and safety devices are available.
4.2 Use planing machines	4.2.1 Planing timber a) Face and edge timber: i. check for natural defects • sloping grain • shakes and splits

Topics	Content elements
	• knots • waney edge • foreign bodies • pith • insects. ii. check for seasoned defects • cupping • twisting • bowing • springing • case hardening. iii. set the bridge guard in accordance with current regulations iv. check fence for square v. set the depth of cut vi. push sticks and safety devices should be used on shorter pieces of material. b) Planing timber to width and thickness: i. set the thickness of cut ii. set the feed speed. c) Bevel timber: i. attach additional guarding (shaw/tunnel guarding) ii. angle fence to the required angle iii. set depth of cut iv. check bridge guard.
4.3 Use a morticer	4.3.1 Setting up a morticing machine and safely carry out cutting operations a) Through mortices and bridles: i. insert the correct size mortice chisel ii. place face side against the fence iii. adjust fence to correct position iv. adjust depth stop of mortice to be at least halfway through the thickness of timber v. turn timber over and mortice through from the other side. b) Stub and blind mortices: i. insert the correct size mortice chisel ii. place face side against the fence iii. adjust fence to correct position iv. adjust depth stop of mortice to be the depth required. c) Haunched mortices: i. insert the correct size mortice chisel ii. place face side against the fence iii. adjust fence to correct position iv. adjust depth stop of mortice to cut the haunches first

Topics	Content elements
	v. after haunches, adjust depth stop of mortice to be at least halfway through the thickness of timber vi. turn timber over and mortice through from the other side.
4.4 Use profiling machines	4.4.1 Use profiling machines to complete cutting operations a) Spindle moulder: i. install the correct profile cutter ii. set height of cut iii. set depth of cut iv. install a suitable breakthrough fence v. fit all guarding vi. use power feed if available vii. minimise and dispose of waste, including segregating resources for reuse, recycling and disposal. b) Table router: i. install the correct profile cutter ii. set height of cut iii. set depth of cut iv. install a suitable breakthrough fence v. fit all guarding vi. use feather boards as appropriate vii. minimise and dispose of waste, including segregating resources for reuse, recycling and disposal. 4.4.2 Using profiling machines to produce a) Grooves b) Rebates c) Mouldings: i. install the correct profile cutter ii. set height of cut iii. set depth of cut iv. install a suitable breakthrough fence v. fit all guarding vi. use auto feed or feather boards as appropriate vii. minimise and dispose of waste, including segregating resources for reuse, recycling and disposal.

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	This unit should be delivered as knowledge/understanding supported by practical application. It is recommended that this unit be taught alongside unit 210, Timber technology, so that practical activities are more contextualised.
Suggestions for formative assessment opportunities, both for knowledge and for practical outcomes:	Use short formative assessments at the end of sessions/aligned to outcome. Naturally occurring training activities used to build cavity walls will facilitate the completion of this unit. This will support the holistic approach of delivering and assessing the qualification as well as stimulating a realistic experience for the learners.
Opportunities for visits/engagement with local industry and employers:	Tutors should make the best use of available resources to provide learners with the opportunity to use a wide range of activities. These could include visits to exhibitions and practical training to stimulate, motivate and educate the learners.
Considerations for innovative methods of delivery:	Tutors should ensure that learners can achieve the skills outlined in Learning Outcomes 1 and 2 before delivering Learning Outcomes 3 and 4, as the former serve as natural predecessors for setting up and using woodworking machines. Health, safety and welfare issues are an important factor to consider during the delivery of this unit; therefore, strict safe working methods as outlined by legislation should be demonstrated and reinforced through close supervision of all activities. Risk assessments, method statements and COSHH assessments must be completed prior to any practical activities taking place.
Ways of ensuring content is delivered in line with current, up-to-date industry practice:	Providers should ensure adherence to current relevant regulations.
EDI or accessibility considerations:	Providers must deliver the unit in line with their EDI policy and organisational procedures. Teaching for some specific areas may need adaptation, eg PPE considerations based on religious grounds (eg headwear).
Digital initiative considerations:	None
Sustainability considerations:	Encourage paperless working practices, for example by printing materials only where necessary Providers should consider approaches to sustainability throughout the construction process in order to minimise environmental impact. These would include recycling of materials where possible, minimising waste, and reusing components for practical tasks. Waste procedures: ensure that waste is minimised and that recycling of components is in place wherever possible. Minimise water use and consider options for reuse/salvage as part of building activities wherever possible.

Books:	Colin Fearn, Mike Jones, Clayton Rudman, *Level 1 Diploma in Carpentry and Joinery* (City & Guilds) Colin Fearn, Mike Jones, Clayton Rudman, *Level 2 Diploma in Carpentry and Joinery* (City & Guilds) W.G. Nash, *Brickwork 1* (Stanley Thornes) Jon Collison, *Brickwork & Carpentry and Joinery, A DIY handbook* (Crosswood Press Ltd)
Websites:	**https://www.hse.gov.uk/pubns/books/l114.htm**

Transferable employability skills

Communication in the workplace	LO and topic
Selects appropriate formats for written communication for different purposes and audiences, in line with workplace conventions or procedures, where appropriate **(CSW1)**	**LO1: 1.2** **LO3: 3.1**
Accurately and appropriately uses terminology associated with a particular workplace or sector in written communication **(CSW5)**	**LO1: 1.1** **LO3: 3.1**
Workplace conduct	
Identifies and follows codes of conduct (eg for personal presentation, timekeeping) as appropriate to own role **(CW1)**	**LO1: 1.2** **LO3: 3.1**
Applies sufficient effort to enable them to complete tasks set to the standard required **(CW3)**	**LO3: 3.1** **LO4: 4.1, 4.2, 4.3, 4.4**
Demonstrates initiative in carrying out own role **(CW4)**	**LO1: 1.1, 1.2** **LO3: 3.1, 3.2** **LO4: 4.1, 4.2, 4.3, 4.4**
Outlines aspects of own conduct which meet expectations of a work setting **(CW5)**	**LO1: 1.2** **LO3: 3.1, 3.2** **LO4: 4.1, 4.2, 4.3, 4.4**
Problem solving	
Gathers appropriate information or advice from different sources to help solve a specific work-related problem **(PSW1)**	**LO1: 1.2** **LO3: 3.1, 3.2** **LO4: 4.1, 4.2, 4.3, 4.4**
Assesses a range of potential solutions, applying appropriate problem-solving strategies **(PSW2)**	**LO1: 1.2** **LO3: 3.1, 3.2** **LO4: 4.1, 4.2, 4.3, 4.4**
Presents a clear action plan, including tasks and timelines, for implementing a chosen solution to a specific work-related problem **(PSW4)**	**LO3: 3.1, 3.2** **LO4: 4.1, 4.2, 4.3, 4.4**
Time management skills	
Plans work: • according to priority • taking into account length of time needed to complete tasks • in order to meet deadlines **(TMS1)**	**LO1: 1.2** **LO3: 3.1, 3.2** **LO4: 4.1, 4.2, 4.3, 4.4**
Works at an appropriate pace to carry out tasks in accordance with plan **(TMS2)**	**LO3: 3.1, 3.2** **LO4: 4.1, 4.2, 4.3, 4.4**
Adjusts approach in response to any change of circumstance (eg one task over running), as appropriate, to ensure remaining time is spent effectively **(TMS3)**	**LO3: 3.1, 3.2**

Unit 217 Architectural joinery component production

Unit level:	Level 2
GLH:	90
Unit aim:	The aim of this unit is for learners to develop knowledge, skills and understanding of how to produce architectural joinery components and their associated joints. This unit will provide learners with skills related to and an understanding of joinery components, production processes and the selection of appropriate tools and machines for any joinery operation.
Assessment method:	MCQ assessment, practical assessment
Links to Occupational Standard:	Carpentry and Joinery (ST0264) See also qualification content mapping to Occupational Standard (Appendix 1)

Learning outcomes

1. Understand types of components and joints

Learning outcome 1

Understand types of components and joints

Topics	Content elements
1.1 Types of components and joints used to produce architectural joinery products	1.1.1 Components used to produce architectural joinery products Architectural joinery products a) Components: i. doors • stiles • top rail • bottom rails • middle rail • frieze rail • moulding/beading • raised and field panel • flat solid panels • manufactured panels • glazing • bolection beads. ii. door and window frames • cill • head • jambs • transom • mullion • flying mullion • opening direction • beading. iii. staircases • strings • tread • risers • newel post • balustrade • baluster/spindle • glue blocks • nosing • nosing piece • handrail • landing • step • string capping • wedges. iv. linings • cill • head • jamb • stop • architraves. v. fittings and fitments • butt hinges (washered)

Topics	Content elements
	• butt hinges (ball bearing) • stormproof hinges • friction hinges • parliament hinges • screw types and gauge • axle pulleys • casement stays • casement handles • 5-level docks • deadlocks • multipoint locks • draw runners • fitch fasteners
1.2 Types of joints used to produce architectural joinery products	1.2.1 Types of joints used to produce architectural joinery products a) Types: i. mortice and tenon ii. mitre and scribed iii. halving iv. housing v. dovetail vi. butt vii. tongue and grooved viii. loose tongued ix. dowelled x. biscuit xi. domino xii. comb xiii. handrail bolt xiv. worktop bolt xv. counter cramp xvi. bridle.
1.3 Information used when producing components for architectural joinery products	1.3.1 Information sources used when producing components for architectural joinery products a) Information Sources: i. programmes of work ii. specifications, instructions iii. job sheets iv. drawings v. cutting lists vi. fire door (firas) installers.
1.4 Jigs and templates used to produce architectural joinery products	1.4.1 Jigs and templates used to produce architectural joinery products a) Jigs and Templates: i. stair ii. dovetail (drawer sides)

Topics	Content elements
	iii. dowel iv. ironmongery • hinge • lock • letterplate.
1.5 Types of tools and machinery used to produce architectural joinery products	1.5.1 Types of hand tools used to produce architectural joinery products a) Types: i. chisels • bevel • mortice. ii. planes • smoothing • jack • block • rebate. iii. saws • tenon • hand • coping • dovetail • rip • crosscut • hack. iv. screwdrivers • flat • Phillips • posidrive • torx • hex. v. hammers • pin • claw • mallet. vi. measuring equipment • tape measure • spirit level • rule • sliding bevels • combination square • try square • framing square • marking gauge • mortice gauge

Topics	Content elements
	• marking knife. vii. cramps and gluing • sash • pipe • G • F • quick • mitre. viii. caring for hand tools • sharpening • storing • oiling • spirit level. 1.5.2 Types of power tools used to produce architectural joinery products a) Types: i. drills ii. planers iii. routers • ½ inch • ¼ inch • palm. iv. saws • jigsaws • circular saws • sabre saw. v. sanders • random orbit • belt • ½ sheet. vi. associated tooling • twist drills • router cutters • saw blades • abrasive sheets. vii. care and storage of power tools • cable defects • blade checks • bed oiling • easy adjustments if required • safe and secure storage. 1.5.3 Types of woodworking machinery used to produce architectural joinery products

Topics	Content elements
	a) band saws b) circular saws c) planers d) morticers e) tenoners (optional) f) profiling machines.
1.6 Produce architectural joinery components	1.6.1 Producing components (including dovetail, bridal, mortise and tenons and halving joints) by selecting, sharpening, maintaining and using hand tools, power tools and machinery. 1.6.2 Protecting components from damage during production. 1.6.3 Minimising and disposing of waste, including segregation of resources for reuse, recycling and disposal. 1.6.4 Complying with health and safety.

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the Level 2 'Principles of welfare, health and safety in construction environments' unit as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance eg Health and safety and Principles of working in the construction industry.
Suggestions for formative assessment opportunities, both for knowledge and for practical outcomes:	Elements of the theory, such as jointing arrangements, can be delivered as part of the practical in the workshop setting. Discourse can be had around suitability of application. Various examples of information can be used to demonstrate different iterations.
Opportunities for visits/engagement with local industry and employers:	Visit to local sawmills Visit to local builders' merchants to see variety of timber materials
Considerations for innovative methods of delivery:	Use of VR to simulate machine use prior to actual use
Ways of ensuring content is delivered in line with current, up-to-date industry practice:	Back-to-industry days Staff to carry out industry-relevant CPD on site to ensure that their skills remain current
EDI or accessibility considerations:	Digitisation of resources should be done with the correct formatting for screen readers and content in multiple formats. Ensure that course materials are available in accessible formats for students with visual or learning disabilities. Use inclusive language and explain technical terms and concepts clearly. Be aware of cultural differences and ensure that examples are culturally sensitive and inclusive. Include gender-balanced representation and avoid reinforcing stereotypes.
Digital initiative considerations:	Use VR for simulation of training on machines. Use online quiz systems to allow for self-marking and end-of-unit knowledge assessment.
Sustainability considerations:	Use digital VLE and electronic assessment to reduce paper outcomes. Use sustainably sourced materials that are FSC stamped, and resources reused where possible as well

Books:	Colin Fearn, Mike Jones, Clayton Rudman, *Level 1 Diploma in Carpentry and Joinery* (City & Guilds) Colin Fearn, Mike Jones, Clayton Rudman, *Level 2 Diploma in Carpentry and Joinery* (City & Guilds) W.G. Nash, *Brickwork 1* (Stanley Thornes) Jon Collison, *Brickwork & Carpentry and Joinery, A DIY handbook* (Crosswood Press Ltd)
Websites:	www.bmtrada.com

Transferable employability skills

Communication in the workplace	LO and topic
Selects appropriate formats for written communication for different purposes and audiences, in line with workplace conventions or procedures, where appropriate **(CSW1)**	**LO1: 1.3**
Produces documents of different types that are appropriate (eg in terms of length, style and language use) for the purpose and intended audience **(CSW2)**	**LO1: 1.3**
Accurately and appropriately uses terminology associated with a particular workplace or sector in written communication **(CSW5)**	**LO1: 1.3**
Workplace conduct	
Applies sufficient effort to enable them to complete tasks set to the standard required **(CW3)**	**LO1: 1.4**
Demonstrates initiative in carrying out own role **(CW4)**	**LO1: 1.4**
Problem solving	
Gathers appropriate information or advice from different sources to help solve a specific work-related problem **(PSW1)**	**LO1: 1.3, 1.4**
Assesses a range of potential solutions, applying appropriate problem-solving strategies **(PSW2)**	**LO1: 1.2, 1.4**
Presents a clear action plan, including tasks and timelines, for implementing a chosen solution to a specific work-related problem **(PSW4)**	**LO1: 1.4**
Time management skills	
Plans work: • according to priority • taking into account length of time needed to complete tasks • in order to meet deadlines **(TMS1)**	**LO1: 1.3, 1.6**
Works at an appropriate pace to carry out tasks in accordance with plan **(TMS2)**	**LO1: 1.6**
Adjusts approach in response to any change of circumstance (eg one task over running), as appropriate, to ensure remaining time is spent effectively **(TMS3)**	**LO1: 1.6**

Unit 218 Assembly and finishing of architectural joinery products

Unit level:	Level 2
GLH:	40
Unit aim:	The aim of this unit is for learners to develop knowledge, skills and understanding of how to work with given information to assemble and finish architectural joinery products using tools and equipment. Learners will be able to understand how to plan the sequence of assembly and finishing of surfaces prior to and after assembly. This unit will also enable learners to demonstrate how this can be undertaken through an efficient and safe procedure.
Assessment method:	MCQ assessment, practical assessment
Links to Occupational Standard:	Carpentry and Joinery (ST0264) See also qualification content mapping to Occupational Standard (Appendix 1)

Learning outcomes

1. How to assemble and finish architectural joinery products

Learning outcome 1

How to assemble and finish architectural joinery products

Topics	Content elements
1.1 Types of tools used to assemble and finish architectural joinery products	1.1.1 Types of hand and power tools used to assemble and finish architectural joinery products a) Types of hand tools: i. chisels • bevel • mortice ii. planes • smoothing • block • rebate • scraper iii. saws • tenon saw • hand saw • coping saw • dovetail • crosscut • hack iv. screwdrivers • flat screwdriver • Phillips screwdriver • posidrive screwdriver • torx screwdriver • hex screwdriver v. hammers • pin • claw • mallet vi. measuring equipment • tape measure • rule • squaring staff • sliding bevels • combination square • try square • framing square vii. cramps and gluing • sash cramp • pipe cramp • G cramp • F cramp

Topics	Content elements
	• quick cramp • mitre cramp. b) Caring for hand tools: i. sharpening ii. storing iii. oiling. c) Types of power tools: i. drills ii. sanders • random orbit • belt • ½ sheet iii. abrasive sheets.
1.2 Architectural joinery product assembly and protection techniques	1.2.1 Assembly techniques used to produce architectural joinery products and protection of finished joinery items prior to delivery a) Assembly techniques: i. doors ii. door and right-angled window frames iii. staircases iv. linings v. fittings and fitments. b) Protection techniques: i. bubble wrap ii. cardboard corners iii. clingfilm iv. transportation block.
1.3 Types of adhesives and fixings used to assemble and finish architectural joinery products	1.3.1 Types of adhesives used to assemble and finish architectural joinery products a) Types of adhesives: i. polyvinyl acetate (PVA) ii. polyurethane (PU) wood adhesive iii. synthetic resin iv. formaldehyde adhesive v. contact adhesive. 1.3.2. Different types of fixings and their characteristics a) Types: i. screws • countersunk • pan head • chipboard. ii. nails • star dowel • brad

Topics	Content elements
	• panel • domino. iii. wedges iv. biscuits • 10mm • 20mm • split. v. dowels • metal • wood. vi. mastics • polyurethane mastics • acrylic mastics • bitumen mastic • silicone mastics.
1.4 Assemble and finish architectural joinery products	1.4.1 Assembling and finishing architectural joinery products a) Assembling and finishing types: i. doors ii. door and window frames iii. staircases (including newel posts, balustrades and spindles) iv. linings v. fittings and fitments. 1.4.2 Dry assembly of architectural joinery products a) Checks: i. dry assemble components to check the product is square. ii. the product must be free from twist. iii. the overall size must meet the specification. iv. joints must be tight and flush. 1.4.3 Dismantling architectural joinery products and cleaning internal surfaces 1.4.4 Selecting adhesives and fixings for architectural joinery products 1.4.5 Assembling and finishing architectural joinery products to ensure quality of finish a) The product must be square. b) The product must be free from twist. c) The overall size must meet the specification. d) Joints must be tight and flush. e) Surfaces must be free of damage, indentations, contaminants and marks.

Topics	Content elements
	f) Surface must be prepared to receive specified finish i. Sanding: • Painting • Waxing • Polishing • Oiling • Applying preservative. 1.4.6 Complying with health and safety 1.4.7 Minimising and disposing of waste, including segregation of resources for reuse, recycling and disposal

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the Level 2 'Principles of welfare, health and safety in construction environments' unit as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance eg health and safety, Principles of working in the construction industry, Architectural joinery component production assembly and finishing of architectural joinery products.
Suggestions for formative assessment opportunities, both for knowledge and for practical outcomes:	Elements of the theory, such as jointing arrangements, can be delivered as part of the practical in the workshop setting. Discourse can be had around suitability of application. Various examples of information can be used to demonstrate different iterations.
Opportunities for visits/engagement with local industry and employers:	Visits can be made to working bespoke joinery shops that specialise in various aspects to allow the learners to see the different types of products being set out and marked out in real time.
Considerations for innovative methods of delivery:	Mixed classes, ie apprentices and full-time learners, can be used to allow the apprentices to share their experiences with the full-time learners.
Ways of ensuring content is delivered in line with current, up to date industry practice:	Staff must carry out industry-relevant CPD in joinery shops to ensure that their skills remain current.
EDI or accessibility considerations:	Digitisation of resources must be done with the correct formatting for screen readers and content in multiple formats. Ensure that course materials are available in accessible formats for students with visual or learning disabilities. Use inclusive language and explain technical terms and concepts clearly. Be aware of cultural differences and ensure that examples are culturally sensitive and inclusive. Include gender-balanced representation and avoid reinforcing stereotypes.
Digital initiative considerations:	Work with employers or industry specialists to capture time lapse videos of the various activities to show the learners various aspects of the skills being demonstrated. Use blended learning to promote key concepts. Use online quiz systems to allow for self-marking and end-of-unit knowledge assessment.
Sustainability considerations:	Use sheet material for rods to ensure that they can be cleaned down and reused or use lining paper that can be recycled.

Books:	Colin Fearn, Mike Jones, Clayton Rudman, *Level 1 Diploma in Carpentry and Joinery* (City & Guilds) Colin Fearn, Mike Jones, Clayton Rudman, *Level 2 Diploma in Carpentry and Joinery* (City & Guilds) W.G.Nash, *Brickwork 1* (Stanley Thornes) Jon Collison, *Brickwork & Carpentry and Joinery, A DIY handbook* (Crosswood Press Ltd)
Websites:	www.bwf.org.uk (Woodworking federation) www.bmtrada.com https://www.hse.gov.uk/

Transferable employability skills

Communication in the workplace	LO and topic
Selects appropriate formats for written communication for different purposes and audiences, in line with workplace conventions or procedures, where appropriate **(CSW1)**	**LO1: 1.2**
Accurately and appropriately uses terminology associated with a particular workplace or sector in written communication **(CSW5)**	**LO1: 1.2**
Workplace conduct	
Identifies and follows codes of conduct (eg for personal presentation, timekeeping) as appropriate to own role **(CW1)**	**LO1: 1.2**
Applies sufficient effort to enable them to complete tasks set to the standard required **(CW3)**	**LO1: 1.2**
Demonstrates initiative in carrying out own role **(CW4)**	**LO1: 1.2**
Outlines aspects of own conduct which meet expectations of a work setting **(CW5)**	**LO1: 1.2**
Problem solving	
Gathers appropriate information or advice from different sources to help solve a specific work-related problem **(PSW1)**	**LO1: 1.3, 1.4**
Assesses a range of potential solutions, applying appropriate problem-solving strategies **(PSW2)**	**LO1: 1.3, 1.4**
Presents a clear action plan, including tasks and timelines, for implementing a chosen solution to a specific work-related problem **(PSW4)**	**LO1: 1.3, 1.4**
Time management skills	
Plans work: • according to priority • taking into account length of time needed to complete tasks • in order to meet deadlines **(TMS1)**	**LO1: 1.2, 1.3, 1.4**
Works at an appropriate pace to carry out tasks in accordance with plan **(TMS2)**	**LO1: 1.2, 1.3, 1.4**
Adjusts approach in response to any change of circumstance (eg one task over running), as appropriate, to ensure remaining time is spent effectively **(TMS3)**	**LO1: 1.2, 1.3, 1.4**

Unit 211 Structural carpentry

Unit level:	Level 2
GLH:	90
Unit aim:	The aim of this unit is for learners to develop knowledge, skills and understanding to carry out structural carpentry in accordance with the current health, safety and building regulations in both new building projects and refurbishment works. Learners will be able to distinguish and identify flooring/roofing work, the associated components and materials and their uses in carpentry and joinery.
Assessment method:	MCQ assessment, practical assessment
Links to Occupational Standard:	Carpentry and Joinery (ST0264) See also qualification content mapping to Occupational Standard (Appendix 1)

Learning outcomes

1. Demonstrate how to construct suspended timber floors and flat roofs
2. Demonstrate how to construct trussed rafter roofing

Learning outcome 1

Demonstrate how to construct suspended timber floors and flat roofs

Topics	Content elements
1.1 Knowledge of timber flooring and flat roof components	1.1.1 Purpose of timber joists in suspended timber flooring, and types of modern solid joist alternatives, strutting and flat roof components a) Purpose of timber joists: i. common/bridging ii. trimming iii. trimmer iv. trimmed. b) Types of modern solid joist alternatives: i. I beams (eco joists) ii. metal web (truss joist). c) Types of strutting: i. solid ii. herringbone. d) Types of flat roof components: i. angle/tilt fillet ii. fascia iii. soffit iv. firrings.
1.2 Joist support methods and provision for services using sizing tables for reference	1.2.1 Methods of joist support a) Methods: i. built in ii. wall plates iii. joist hangers iv. sleeper walls v. splicing joists. 1.2.2 Factors to consider when positioning the services when constructing floors and flat roofs a) Factors: i. safe zones in joists for drilling ii. notching for services iii. sizing tables for reference.
1.3 Trimming required for openings in floors/flat roofs	1.3.1 Methods of trimming openings in floors/flat roofs a) Methods: i. service access ii. staircases iii. chimneys iv. flues v. roof lights.

Topics	Content elements
1.4 Requirements for tying floors and flat roofs to the building structure	1.4.1 Requirements of the current Building Regulations (part A) in relation to tying floors and flat roofs to the structure a) Requirements: i. maximum span (2m between strutting) ii. positioning joists.
1.5 Preparing flat roofs for waterproof covering	1.5.1 Waterproof preparation of flat roofs, including decking out and finishings with abutments and eaves a) How to deck out: i. firrings ii. panels iii. OSB iv. WBP plywood v. insulated panels. b) Finishings to abutments and eaves: i. tilt fillet ii. fascia iii. soffit iv. drips and upstands.
1.6 Ventilation and insulation requirements of flat roofs	1.6.1 Requirements of the current health and safety Building Regulations a) Requirements: i. ventilating cold and warm deck flat roofs (Parts C & F) ii. insulating cold and warm deck flat roofs (Part L).
1.7 Tools for constructing floors and flat roofs	1.7.1 Types of hand and power tools used for constructing floors and flat roofs a) Types of hand tools: i. saws ii. hammers iii. spirit level iv. calibrated laser level v. chalk lines vi. measuring tools vii. marking tools viii. chisels. b) Types of power tools: i. drills ii. saws iii. nail guns.

Topics	Content elements
1.8 Construct floors and flat roofs	1.8.1 Construct floors and flat roofs and the resources required a) Plan and construct floor and flat roof joisting arrangements to suit the following limiting factors: i. span ii. spacing of joist centres iii. openings iv. floor/flat roof coverings v. plasterboard sizes. b) Select and calculate appropriate materials in accordance with specification. c) Select and use hand and power tools d) Carry out i. cut and position of joists to form floor and flat roofs ii. trim openings iii. tye in joists iv. carry out strutting v. fix coverings vi. cut and fix angle fillets vii. cut and fix soffits and fascias to verge detailing. e) Comply with health and safety including producing and completing a risk assessment f) Minimise and dispose of waste, including segregation of resources for reuse, recycling and disposal.

Learning outcome 2

Demonstrate how to construct trussed rafter roofing

Topics	Content elements
2.1 Roof types and the components of trussed and cut roofs limited to a span of 8m, having a square gable or hipped end	2.1.1 Types of roof (limited to a span of 8m with a gable or hipped end) a) Roof types: i. mono pitch ii. duo pitched iii. lean to iv. couple v. close couple vi. collared vii. double viii. gable-ended hipped and valley ix. trusses • fan • fink • king post • attic

Topics	Content elements
	• girder • mono • diminishing. 2.1.2 Components of trussed and cut roofs a) Components: i. wall plate ii. rafters iii. struts iv. ceiling joists v. binders vi. hangers vii. noggins viii. gable ladders ix. wall straps x. truss clips xi. bracing xii. joist hangers xiii. ties xiv. chords xv. purlin xvi. ridge xvii. joints, plates and nails.
2.2 Current Building Regulations (Part A) in relation to roof anchorage	2.2.1 Compliance with current health and safety Building Regulations (part A) a) trusses to be fitted in conjunction with the manufacturer's design/drawing, which includes a bracing detail b) wallplates fixed to masonry/steel and strapped down no greater than 2m; gables strapped no greater than 2m.
2.3 Erection sequence for trussed roofing	2.3.1 Sequence of erection when constructing a trussed roof a) Sequence: i. identify tools and equipment required ii. mark out the wallplate (using a staff allowing for a 50mm services gap to the first and last truss). iii. erect first truss (temporary brace generally affixed to the scaffolding). iv. use the previously marked-out staff for placing and fixing the trusses. v. brace the trusses as per the manufacturer's drawing.
2.4 Methods of trimming roofs including fitting loft access	2.4.1 Trimming roof methods for openings a) Openings: i. chimneys ii. flues iii. roof lights

Topics	Content elements
	iv. loft access.
2.5 Requirements of the current Building Regulations (Part L) in relation to ventilating and insulating pitched roofs	2.5.1 Compliance with current health and safety Building Regulations (part L) for ventilation and insulation of pitched roofs a) Eaves (finishing of pitched roofs): i. flush ii. open iii. closed iv. sprocket. b) Verges (finishing of pitched roofs): i. projecting ii. flush.
2.6 Tools used for constructing trussed rafter roofs	2.6.1 Hand and power tools used to construct trussed rafter roofs a) Hand tools used: i. saws ii. hammers iii. levels iv. chalk lines v. measuring tools vi. marking tools. b) Power tools used: i. drills ii. saws iii. nail guns.
2.7 Construct trussed rafter roofing	2.7.1 Plan and construct trussed rafter roofing a) consult drawings for a truss rafter on a rectangular building b) Select and calculate appropriate materials in accordance with specification. c) mark out the wallplate (using a staff allowing for a 50mm services gap to the first and last truss) according to the size of plasterboard sheets. d) select and use hand and power tools. e) erect the first truss (temporary brace generally affixed to the scaffolding). f) use the previously marked-out staff for placing and fixing the trusses. g) fix bracing as per the manufacturer's drawing. h) cut and fix gable ladder; cut and fix soffit, fascias and barge board. i) comply with health and safety including producing and completing a risk assessment. j) minimise and dispose of waste, including segregation of resources for reuse, recycling and disposal.

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the Level 2 'Principles of welfare, health and safety in construction environments' unit as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance eg Health and safety, Principles of working in the construction industry, structural carpentry and First fix carpentry.
Suggestions for formative assessment opportunities, both for knowledge and for practical outcomes:	Elements of the theory, such as jointing arrangements, can be delivered as part of the practical in the workshop setting. Discourse can be had around suitability of application. Various examples of information can be used to demonstrate different iterations.
Opportunities for visits/engagement with local industry and employers:	Visits can be made to working building sites to allow the learners to see the different types of products being set out and marked out in real time.
Considerations for innovative methods of delivery:	Mixed classes, ie apprentices and full-time learners, can be used to allow the apprentices to share their experiences with the full-time learners.
Ways of ensuring content is delivered in line with current, up-to-date industry practice:	Staff can carry out industry-relevant CPD on live building sites to ensure that their skill remain current. Arrange meetings with carpentry and joinery employers.
EDI or accessibility considerations:	Digitisation of resources should be done with the correct formatting for screen readers and content in multiple formats. Ensure that course materials are available in accessible formats for students with visual or learning disabilities. Use inclusive language and explain technical terms and concepts clearly. Be aware of cultural differences and ensure that examples are culturally sensitive and inclusive. Include gender-balanced representation and avoid reinforcing stereotypes.
Digital initiative considerations:	Work with employers or industry specialist to capture time lapse videos of the various activities to show the learners various aspects of the skills being demonstrated. Use blended learning to promote key concepts. Use online quiz systems to allow for self-marking and end-of-unit knowledge assessment.

Sustainability considerations:	Use digital VLE and electronic assessment to reduce paper outcomes. Use sustainably sourced materials that are FSC stamped, and reuse resources where possible. Encourage paperless working practices by printing materials only where necessary. Learners should consider approaches to sustainability throughout the construction process in order to minimise environmental impact. These would include recycling of materials where possible, minimising waste and reusing components for practical tasks where possible. Segregate resources for reuse, recycling and disposal. Use sheet material and battens for rods to ensure that they can be cleaned down and reused or use lining paper that can be recycled.
Books:	Colin Fearn, Mike Jones, Clayton Rudman, *Level 1 Diploma in Carpentry and Joinery* (City & Guilds) Colin Fearn, Mike Jones, Clayton Rudman, *Level 2 Diploma in Carpentry and Joinery* (City & Guilds) W.G. Nash, *Brickwork 1* (Stanley Thornes) Jon Collison, *Brickwork & Carpentry and Joinery, A DIY handbook* (Crosswood Press Ltd)
Websites:	**www.bmtrada.com** **https://www.hse.gov.uk/** **www.planningportal.co.uk** (Building Regulations)

Transferable employability skills

Communication in the workplace	LO and topic
Selects appropriate formats for written communication for different purposes and audiences, in line with workplace conventions or procedures, where appropriate **(CSW1)**	**LO1: 1.4, 1.6** **LO2: 2.2**
Uses available software appropriately to present written communication, including numerical information **(CSW4)**	**LO1: 1.4, 1.6** **LO2: 2.2**
Accurately and appropriately uses terminology associated with a particular workplace or sector in written communication **(CSW5)**	**LO1: 1.4, 1.6** **LO2: 2.2**
Workplace conduct	
Identifies and follows codes of conduct (eg for personal presentation, timekeeping) as appropriate to own role **(CW1)**	**LO2: 2.2**
Demonstrates initiative in carrying out own role **(CW4)**	**LO2: 2.1, 2.3, 2.4, 2.7**
Outlines aspects of own conduct which meet expectations of a work setting **(CW5)**	**LO2: 2.1, 2.3, 2,4, 2.7**
Problem solving	
Gathers appropriate information or advice from different sources to help solve a specific work-related problem **(PSW1)**	**LO2: 2.1, 2.3, 2.4, 2.7**
Assesses a range of potential solutions, applying appropriate problem-solving strategies **(PSW2)**	**LO2: 2.1, 2.3, 2.4, 2.7**
Presents a clear action plan, including tasks and timelines, for implementing a chosen solution to a specific work-related problem **(PSW4)**	**LO2: 2.1, 2.3, 2.4, 2.7**
Time management skills	
Plans work: • according to priority • taking into account length of time needed to complete tasks • in order to meet deadlines **(TMS1)**	**LO2: 2.1, 2.3, 2.4, 2.7**
Works at an appropriate pace to carry out tasks in accordance with plan **(TMS2)**	**LO2: 2.1, 2.3, 2.4, 2.7**

Unit 212 First fix carpentry

Unit level:	Level 2
GLH:	80
Unit aim:	The aim of this unit is for learners to develop knowledge, skills and understanding related to carrying out non-structural (first fix) carpentry. Learners will be able to fix door and window frames and door linings, and position and fix partitions, stairs and floor coverings. This will be in accordance with the current health, safety and building regulations for new building projects and refurbishment works. The knowledge, understanding and skills will enable the learner to distinguish and identify non-structural carpentry work and where this occurs in the construction process.
Assessment method:	MCQ assessment, practical assessment
Links to Occupational Standard:	Carpentry and Joinery (ST0264) See also qualification content mapping to Occupational Standard (Appendix 1)

Learning outcomes

1. Install different types of floor joist coverings and their fixings
2. Install different types of stud partitions and their fixing methods
3. Install different types of frames, linings and casings
4. Position and fix a straight flight of stairs

Learning outcome 1

Install different types of floor joist coverings and their fixings

Topics	Content elements
1.1 Joist covering types and methods of fixing	1.1.1 Types of joist coverings and their suitability according to their final position a) Types of joist coverings: i. softwood ii. spruce (whitewood) iii. pine (redwood) iv. hardwood strip flooring v. oak vi. maple vii. acacia viii. square edged ix. tongued and grooved x. secretly fixed (adhesive or secret nailed). b) Types of panel joist coverings: i. plywood ii. 18mm iii. 22mm. c) Standard and MR chipboard: i. 18mm ii. 22mm. 1.1.2 Methods of fixing joist coverings a) Methods: i. floor cramps ii. folding wedges iii. nails iv. cut/floor brad v. lost head vi. annular ring shank vii. gun nails viii. screws ix. adhesives x. perimeter clearance xi. floating xii. fixing depths • secret • punch.
1.2 Install joist coverings	1.2.1 Installation of joist coverings a) Selecting the required tools (handheld and powered) and access equipment b) Fixing to given tolerances c) Select and calculate appropriate materials in accordance with specification.

Topics	Content elements
	d) Fixing the joist covering to conform to the current building regulations. i. ground floor ii. first floor iii. flat roof e) Complying with health and safety including producing and completing a risk assessment f) Minimising and disposing of waste, including segregation of resources for reuse, recycling and disposal

Learning outcome 2

Install different types of stud partitions and their fixing methods

Topics	Content elements
2.1 Stud partition types and their component parts	2.1.1 Types of stud partitions a) Types: i. timber ii. metal iii. prefabricated iv. in situ. 2.1.2 Components of stud partition a) Components: i. head ii. sole plates iii. studs iv. wall v. intermediate/common vi. door vii. noggins viii. door head ix. C studs (metal) x. U track (metal).
2.2 Commonly available stud partitioning material sizes	2.2.1 Common stud partitioning material sizes a) Sizes: i. CLS: 63, 75, 89, 95 ii. sawn timber: 75, 100 iii. metal widths: 50, 60, 70, 90 c studs and u track.
2.3 Erection sequence for stud partitions	2.3.1 Positioning of studs a) Stud positioning: i. door opening ii. internal/external corners

Topics	Content elements
	iii. centres to suit size of plasterboard sheets as specified iv. stud positioning to masonry wall at a reveal. 2.3.2 Planning of studwork arrangements a) Planning: i. internal/external corners ii. openings for doorways and hatches/borrowed lights iii. spacing of studs to suit the size of plasterboard sheets specified iv. calculating the resource requirements for materials. 2.3.3 Selecting the tools (handheld and powered) and access equipment required for erecting stud partitions a) Cutting, positioning and fixing: i. tape measure ii. pencil iii. spirit level iv. laser level v. hammers vi. measuring tools vii. marking tools viii. chalk line ix. tin snips x. crimps xi. metal files xii. drill xiii. screwdriver xiv. impact driver xv. saws xvi. nail guns xvii. chop saw xviii. hop-up xix. podium. 2.3.4 Methods of fixing of studwork to industry tolerances a) Methods i. wind/twist ii. level iii. plumb iv. dimension. 2.3.5 Timber and metal jointing methods requirements for studwork a) Timber: i. housing joint ii. butt joint iii. framing brackets. b) Metal:

Topics	Content elements
	i. wafer headed self-tappers ii. pot/pop rivets iii. crimping.
2.4 Provision for services and fixtures within stud partitions	2.4.1 Considerations when fixing stud partitions a) Considerations: i. safe zones in studs for drilling ii. notching for services and protection plates iii. provision for fixtures post plastering iv. noggins for other trades eg electrical sockets and switches.
2.5 Types of and characteristics of plasterboard coverings for stud partitions	2.5.1 Types of and characteristics of plasterboard used for stud partitioning a) Standard thickness according to current regulations: i. less than 450mm centre ii. 12.7mm square edged iii. 12.7mm tapered edged iv. greater than 450mm centre • 15mm square edged • 15 mm tapered edged. v. Foil backed vi. Fire board vii. Acoustic board viii. MR board ix. Impact resistant board x. Thermal board.
2.6 Install stud partitions	2.6.1 Installation of stud partitions a) Selecting the required tools (handheld and powered) and access equipment b) Fixing to given tolerances c) Select and calculate appropriate materials in accordance with specification. d) Fixing stud partitions to conform to the current building regulations. e) Complying with health and safety including producing and completing a risk assessment f) Minimising and disposing of waste, including segregation of resources for reuse, recycling and disposal

Learning outcome 3

Install different types of frames, linings and casings

Topics	Content elements
3.1 Different types of frames, linings and casings, their method of fixing and materials involved	3.1.1 Types of door frames a) Types: i. external ii. inward and outward opening iii. double door iv. combination (flag frame) v. storey height. 3.1.2 Types of door lining a) Types: i. single ii. double iii. hatch iv. storey height v. fire resistant. 3.1.3 Types of door casing a) Types: i. single ii. double iii. hatch iv. storey height v. fire resistant. 3.1.4 Window types a) Types: i. traditional casement ii. high performance/stormproof iii. vertically/horizontally pivoted iv. vertically/horizontally sliding sash. 3.1.5 Types of materials a) Types: i. softwood ii. hardwood iii. polyvinyl chloride unplasticised (PVC-U/uPVC) iv. aluminium. 3.1.6 Methods used to assemble door frames and linings on site a) Methods: i. screwing ii. wedging iii. brackets/straps

Topics	Content elements
	iv. frame anchors v. polyurethane fixing foam vi. vertical DPC as required by the current building regulations (generally external walls) vii. mastics • polyurethane mastics • acrylic mastics • bitumen mastics • silicone mastics 3.1.7 Tools and equipment used to install door frames, linings and casings, and how to care for them a) Hand tools: i. hammers ii. spirit level iii. laser level iv. measuring tools v. marking tools vi. chisels. b) Caring for hand tools: i. sharpening ii. storing iii. oiling. c) Power tools: i. drill ii. screwdriver iii. impact driver iv. plunge saw v. planer. d) Caring for power tools: i. cable defects ii. blade checks iii. bed oiling iv. easy adjustments if required. e) Access equipment: i. hop-up ii. podium.

Topics	Content elements
3.2 Install frames, linings and casings	3.2.1 Installation of frames, linings and casings a) Selecting the required tools (handheld and powered) and access equipment. b) Fixing to given tolerances. c) Select and calculate appropriate materials in accordance with specification. d) Install to conform to the current building regulations: i. frames ii. linings iii. casements. e) Complying with health and safety including producing and completing a risk assessment. f) Minimising and disposing of waste, including segregation of resources for reuse, recycling and disposal.

Learning outcome 4

Position and fix a straight flight of stairs

Topics	Content elements
4.1 Straight flight of stairs types and their component parts	4.1.1 Straight flights of stairs types a) Types: i. between walls ii. open well iii. independent. 4.1.2 Straight flight of stairs components a) Components: i. wall and newel strings (closed and cut) ii. bottom, top and storey newels iii. handrail and in-fills (including spindles) iv. apron lining v. balustrade vi. balusters vii. string capping and in-fills viii. treads ix. risers x. nosing xi. wedge xii. glue block xiii. newel cap/finial.
4.2 Checks required prior to assembly and fixing of a straight flight of stairs	4.2.1 Checks required prior to on-site assembly of a straight flight of stairs a) Checks: i. correct stairs delivered and not damaged ii. correct to specification • width • total rise. iii. total going iv. fixed stairs will conform to current building regulations v. headroom vi. door clearances.

Topics	Content elements
4.3 Fixing sequence for installing a straight flight of stairs	4.3.1 Factors that impact the installation sequence for straight flight of stairs a) Factors: i. weight ii. size iii. strings and newels cut to fit to the stair well iv. assembly requirements for the delivered component parts. 4.3.2 Fixings required for installing a straight flight of stairs a) Factors: i. screws and plugs ii. coach bolts and screws iii. wooden wedges.
4.4 Types of tools and equipment used for installing a straight flight of stairs	4.4.1 Tools and equipment used for installing a straight flight of stairs a) Types of hand tools used: i. saws ii. hammers iii. spirit level iv. boat level v. measuring tools vi. marking tools vii. chisels. b) Types of power tools used: i. drill ii. screwdriver iii. impact driver iv. saws. c) Types of access equipment used: i. hop-up ii. podium.

Topics	Content elements
4.5 Position and fix a straight flight of stairs	4.5.1 Demonstrate the installation of a straight flight of stairs a) Using correct sequence b) Selecting, sharpening and maintaining tools (handheld and powered) and access equipment c) Select and calculate appropriate materials in accordance with specification. d) Fixing to given tolerances: i. Level ii. Plumb. e) Fixing the balustrading to conform to the current building regulations (Part K). f) Complying with health and safety including producing and completing a risk assessment g) Minimising and disposing of waste, including segregation of resources for reuse, recycling and disposal.

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the Level 2 'Principles of welfare, health and safety in construction environments' unit as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance eg Health and safety, Principles of working in the construction industry, structural carpentry and First fix carpentry.
Suggestions for formative assessment opportunities, both for knowledge and for practical outcomes:	Elements of the theory, such as jointing arrangements, can be delivered as part of the practical in the workshop setting. Discourse can be had around suitability of application. Various examples of information can be used to demonstrate different iterations.
Opportunities for visits/engagement with local industry and employers:	Visits can be made to working building sites to allow the learners to see the different types of products being set out and marked out in real time.
Considerations for innovative methods of delivery:	Mixed classes, ie apprentices and full-time learners, can be used to allow the apprentices to share their experiences with the full-time learners.
Ways of ensuring content is delivered in line with current, up-to-date industry practice:	Staff can carry out industry-relevant CPD on live building sites to ensure that their skills remain current.
EDI or accessibility considerations:	Digitisation of resources should be done with correct formatting for screen readers and content in multiple formats. Ensure that course materials are available in accessible formats for students with visual or learning disabilities. Use inclusive language and explain technical terms and concepts clearly. Be aware of cultural differences and ensure that examples are culturally sensitive and inclusive. Include gender-balanced representation and avoid reinforcing stereotypes.
Digital initiative considerations:	Work with employers or industry specialist to capture time lapse videos of the various activities to show the learners various aspects of the skills being demonstrated. Use blended learning to promote key concepts. Use online quiz systems to allow for self-marking and end-of-unit knowledge assessment.
Sustainability considerations:	Use sheet material and battens for rods to ensure that they can be cleaned down and reused or use lining paper that can be recycled.
Books:	Colin Fearn, Mike Jones, Clayton Rudman, *Level 1 Diploma in Carpentry and Joinery* (City & Guilds) Colin Fearn, Mike Jones, Clayton Rudman, *Level 2 Diploma in Carpentry and Joinery* (City & Guilds) W.G. Nash, *Brickwork 1* (Stanley Thornes) Jon Collison, *Brickwork & Carpentry and Joinery, A DIY handbook* (Crosswood Press Ltd)

Websites:	**www.bmtrada.com** **https://www.hse.gov.uk** **www.planningportal.co.uk** (Building Regulations)

Transferable employability skills

Communication in the workplace	LO and topic
Selects appropriate formats for written communication for different purposes and audiences, in line with workplace conventions or procedures, where appropriate **(CSW1)**	**LO4: 4.2, 4.5**
Accurately and appropriately uses terminology associated with a particular workplace or sector in written communication **(CSW5)**	**LO4: 4.2, 4.5**
Workplace conduct	
Identifies and follows codes of conduct (eg for personal presentation, timekeeping) as appropriate to own role **(CW1)**	**LO2: 2.1** **LO3: 3.1** **LO4: 4.1**
Applies sufficient effort to enable them to complete tasks set to the standard required **(CW3)**	**LO4: 4.5**
Demonstrates initiative in carrying out own role **(CW4)**	**LO4: 4.5**
Outlines aspects of own conduct which meet expectations of a work setting **(CW5)**	**LO4: 4.5**
Problem solving	
Gathers appropriate information or advice from different sources to help solve a specific work-related problem **(PSW1)**	**LO2: 2.2**
Assesses a range of potential solutions, applying appropriate problem-solving strategies **(PSW2)**	**LO4: 4.5**
Presents a clear action plan, including tasks and timelines, for implementing a chosen solution to a specific work-related problem **(PSW4)**	**LO4: 4.5**
Time management skills	
Plans work: • according to priority • taking into account length of time needed to complete tasks • in order to meet deadlines **(TMS1)**	**LO4: 4.5**

Unit 213 Second fix carpentry

Unit level:	Level 2
GLH:	90
Unit aim:	The aim of this unit is for learners to develop knowledge, skills and understanding related to carrying out non-structural carpentry (second fix). This includes • hanging of doors and fitting ironmongery • fixing of standard mouldings (architrave, skirting etc) • fitting of service encasements • installing kitchen units with their worktops. Learners will develop the knowledge, skills and understanding to select appropriate tools and equipment. They will also be able to use appropriate methods for carrying out specific non-structural carpentry tasks. Learners will also be able understand how to work in accordance with the current health, safety and building regulations required for new building projects and refurbishment works.
Assessment method:	MCQ assessment, practical assessment
Links to Occupational Standard:	Carpentry and Joinery (ST0264) See also qualification content mapping to Occupational Standard (Appendix 1)

Learning outcomes

1. Hang doors and fit ironmongery
2. Fix mouldings
3. Encase services
4. Installation of kitchen units and worktops

Learning outcome 1

Hang doors and fit ironmongery

Topics	Content elements
1.1 Types of door and their components	1.1.1 Knowledge of different types of door including standard sizes and thicknesses a) Matched boarded doors: i. ledged ii. ledged and braced iii. framed, ledged and braced. b) Panelled: i. flat grooved in panel ii. flat rebated in panel iii. rise and fielded panel. c) Glazed: i. single glazed ii. double glazed iii. triple glazed iv. multi-pane (georgian bar). d) Flush: i. flat doors ii. press-panelled doors. e) Fire: i. 30-minute fire door sets ii. 60-minute fire door sets. f) Sizes (imperial, metric): i. 2'0" x 6'6" (610mm x 1981mm) ii. 2'3" x 6'6" (686mm x 1981mm) iii. 2'6" x 6'6" (762mm x 1981mm) iv. 2'9" x 6'6" (838mm x 1981mm) v. 626mm x 2040mm vi. 726mm x 2040mm vii. 826mm x 2040mm viii. 926mm x 2040mm (part m). g) Thicknesses: i. 32mm internal doors ii. 44mm external door / 30 minutes iii. 54mm external door / 60 minutes. 1.1.2 Door components a) Matched boarded doors: i. match boarding ii. ledges iii. braces iv. stiles. b) Panelled: i. stiles ii. rails iii. panels iv. mouldings. c) Glazed: i. stiles ii. rails iii. glazing bars

Topics	Content elements
	iv. panels v. mouldings. d) Flush: i. panels ii. mouldings (if vision panel is installed). e) Fire: i. panels ii. mouldings (if vision panel is installed) iii. intumescent seals.
1.2 Knowledge of the various ironmongery types	1.2.1 Ironmongery types used to hang doors a) Hinges: i. tee ii. strap iii. hook and band iv. butt • ball bearing • washered • rising. b) Locks and latches: i. rim lock ii. mortice • back set. iii. fire escape hardware • panic latch/panic bolt. iv. sash mortice • back set • spindle centres. v. euro • back set • spindle centres • length. vi. rim lock vii. digital • keypad • fingerprint • eye scanning technology. viii. tubular latch. c) Bolts: i. barrel ii. tower iii. ratchet iv. flush. d) Escutcheons e) Security viewer f) Protection plates g) Letter plates h) Knobs/lever handle furniture

Topics	Content elements
	i) Fixing screws: i. flat head ii. pozi drive iii. phillips iv. torx v. security vi. captive screws vii. nails viii. staples. 1.2.2 Considerations when selecting and fitting ironmongery a) Type of door: i. external doors • single • patio • French • bi-fold. ii. fire escape iii. main front door iv. internal door v. shared occupancy. b) Width of door stiles: i. ability to accept the lock depth ii. adequate construction (solid wood) iii. suitable mechanical fixings. c) Their position on the door: i. presence of structural joint ii. spindle height of locks and handles iii. security viewer height iv. mobility. d) Security and privacy: i. House of Multiple Occupancy (HMO) ii. flats and apartments.
1.3 The purpose of door schedules	1.3.1 The purpose of door schedules a) Purpose in terms of: i. reference numbers ii. door type iii. door width and height iv. position within the property v. direction of swing vi. fire protection.

Topics	Content elements
1.4 Types of hand and power tools	1.4.1 Types of hand tools used to hang doors a) Hand tools: i. saws ii. squares iii. sliding bevel iv. hammer v. chisels vi. planes vii. screwdriver viii. bradawl ix. door lifter. 1.4.2 Types of power tools used to hang doors a) Power tools: i. drill/driver ii. circular saws iii. planer iv. router and associated jigs.
1.5 Hang doors and fit ironmongery	1.5.1 Installation of doors and fitting of appropriate ironmongery. a) Selecting the required tools (handheld and powered) and access equipment. b) Fixing to given tolerances. c) Select appropriate materials in accordance with the door schedule. d) Hang door(s) and fit appropriate ironmongery to conform to the current building regulations: i. internal ii. external.

Learning outcome 2

Fix mouldings

Topics	Content elements
2.1 Moulding types and the materials used to manufacture mouldings	2.1.1 Types of mouldings and their purpose and positioning a) Types of mouldings: i. architrave ii. corner blocks/pateras iii. skirting iv. plinth block v. dado vi. frieze/picture vii. cornice. 2.1.2 Knowing which materials to use in the manufacture of mouldings a) Materials: i. softwood ii. hardwood iii. MDF iv. plastic.
2.2 Moulding profiles	2.2.1 Knowing the commonly used moulding profiles a) Hand tools: i. square ii. pencil round iii. splayed iv. ovolo v. ogee vi. torus vii. lambs' tongue viii. cavetto/scotia ix. chamfer/bevel.
2.3 Types of fixing tools	2.3.1 Knowing the types of hand tools used to fix mouldings a) Hand tools: i. saws ii. squares iii. levels iv. chalk line v. sliding bevel vi. hammer vii. chisels viii. planes ix. nail punch x. screwdrivers xi. coping saw. 2.3.2 Knowing the types of power tools used to fix mouldings a) Power tools: i. chop saw

Topics	Content elements
	ii. drill/driver iii. nail gun iv. circular saw.
2.4 Jointing methods	2.4.1 Jointing methods a) Methods: i. mitres and scribes ii. 90 degree iii. obtuse iv. acute v. lengthening joints vi. corner/plinth block.
2.5 Fix mouldings	2.5.1 Fix mouldings a) selecting the correct material for the environment b) selecting and using hand and power tools c) transferring levels d) cutting joints. 2.5.2 Using moulding fixings a) nails b) screws c) adhesives.

Learning outcome 3

Encase services

Topics	Content elements
3.1 Knowledge of the different service encasement construction methods	3.1.1 Methods used for service encasements a) Methods: i. design considerations ii. access requirements iii. sound proofing iv. clearance of services v. type of cladding vi. humidity levels vii. scribing around pipes. 3.1.2 Knowledge of jointing methods a) Methods: i. framed ii. butt.
3.2 Materials used in service encasement construction	3.2.1 Materials used in service encasement construction a) Framing:

Topics	Content elements
	i. timber ii. metal iii. PVC-U/uPVC. b) Cladding: i. manufactured board ii. matched boarding iii. PVC-U/uPVC profiles iv. plasterboard.
3.3 Types of tools used in service encasement construction	3.3.1 Types of hand and power tools used to encase services: a) Hand tools: i. saws ii. squares iii. sprit level iv. laser level v. hammer vi. chisels vii. planes viii. nail punch ix. screwdriver. b) Power tools: i. chop saw ii. jigsaw iii. drill/driver iv. nail gun.
3.4 Encase services	3.4.1 Encasing services: a) selecting the correct material for the environment b) selecting and using tools c) constructing framing d) installing cladding.

Learning outcome 4

Installation of kitchen units and worktops

Topics	Content elements
4.1 Types of kitchen units and worktops	4.1.1 Types of kitchen units a) wall b) base c) tower d) mid height e) corner f) appliance g) island. 4.1.2 Types of construction methods for kitchen units a) rigid b) flat pack c) pre-assembled. 4.1.3 Types of worktops a) post formed b) solid timber c) solid surface (composite) d) granite.
4.2. Considerations when fixing kitchen units	4.2.1 Considerations when fitting kitchen units a) Considerations: i. sequence of installation ii. position of services: • hidden • visible. iii. accommodation of service runs iv. type of fixings for various backgrounds v. fixing units to line, level and plumb vi. worktop fitting and fixing vii. sealing of raw cut edges of openings viii. alignment of doors and drawers ix. fixing finishing items: • dummy drawer • plinths • pelmets • cornice.

Topics	Content elements
4.3 Types of tools used to install kitchen units and fit worktops	4.3.1 Types of hand tools used to install kitchen units and fit worktops a) Hand tools: i. saws ii. squares iii. sprit level iv. laser level v. chalk line vi. hammer vii. mallet viii. chisels ix. planes x. screwdrivers. 4.3.2 Types of power tools used to install kitchen units and fit worktops a) Power tools: i. chop saw ii. jigsaw iii. biscuit jointer iv. router and jigs v. drill/driver.
4.4 Fit worktops	4.4.1 Fitting worktops a) selecting and using tools b) jointing an internal corner i. using proprietary jigs ii. using connecting bolts, joints, adhesives. c) cutting and sealing an opening for a hob or sink d) complying with health and safety e) minimising and disposing of waste, including segregation of resources for reuse, recycling and disposal.

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the Level 2 'Principles of welfare, health and safety in construction environments' unit as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance eg Health and safety, Principles of working in the construction industry, First fix, portable power tools and Second fix. Structural carpentry, First fix carpentry.
Suggestions for formative assessment opportunities, both for knowledge and for practical outcomes:	Elements of the theory, such as jointing arrangements, can be delivered as part of the practical in the workshop setting. Discourse can be had around suitability of application. Various examples of information can be used to demonstrate different iterations.
Opportunities for visits/engagement with local industry and employers:	Visits can be made to working building sites to allow the learners to see the different types of products being set out and marked out in real time.
Considerations for innovative methods of delivery:	Use mixed classes, ie apprentices and full-time learners, to allow the apprentice to share their experiences with the full-time learners.
Ways of ensuring content is delivered in line with current, up-to-date industry practice:	Staff can carry out industry-relevant CPD on live building sites to ensure that their skills remain current. Arrange meetings with carpentry and joinery employers.
EDI or accessibility considerations:	Digitisation of resources should be done with the correct formatting for screen readers and content in multiple formats. Ensure that course materials are available in accessible formats for students with visual or learning disabilities. Use inclusive language and explain technical terms and concepts clearly. Be aware of cultural differences and ensure that examples are culturally sensitive and inclusive. Include gender-balanced representation and avoid reinforcing stereotypes.
Digital initiative considerations:	Work with employers or industry specialists to capture time lapse videos of the various activities to show the learners various aspects of the skills being demonstrated. Use blended learning to promote key concepts. Use online quiz systems to allow for self-marking and end-of-unit knowledge assessment.
Sustainability considerations:	Segregate resources for reuse, recycling and disposal. Use sheet material and battens for rods to ensure that they can be cleaned down and reused or use lining paper that can be recycled.
Books:	Colin Fearn, Mike Jones, Clayton Rudman, *Level 1 Diploma in Carpentry and Joinery* (City & Guilds) Colin Fearn, Mike Jones, Clayton Rudman, *Level 2 Diploma in Carpentry and Joinery* (City & Guilds) W.G. Nash, *Brickwork 1* (Stanley Thornes) Jon Collison, *Brickwork & Carpentry and Joinery, A DIY handbook* (Crosswood Press Ltd)

Websites:	**www.bmtrada.com** **https://www.hse.gov.uk** **www.planningportal.co.uk** (Building Regulations)

Transferable employability skills

Communication in the workplace	LO and topic
Selects appropriate formats for written communication for different purposes and audiences, in line with workplace conventions or procedures, where appropriate **(CSW1)**	**LO1: 1.3**
Produces documents of different types that are appropriate (eg in terms of length, style and language use) for the purpose and intended audience **(CSW2)**	
Uses available software appropriately to present written communication, including numerical information **(CSW4)**	**LO1: 1.3**
Accurately and appropriately uses terminology associated with a particular workplace or sector in written communication **(CSW5)**	
Workplace conduct	
Identifies and follows codes of conduct (eg for personal presentation, timekeeping) as appropriate to own role **(CW1)**	**LO1: 1.3**
Applies sufficient effort to enable them to complete tasks set to the standard required **(CW3)**	**LO4: 4.2, 4.4**
Demonstrates initiative in carrying out own role **(CW4)**	**LO4: 4.2, 4.4**
Outlines aspects of own conduct which meet expectations of a work setting **(CW5)**	**LO4: 4.2, 4.4**
Problem solving	
Gathers appropriate information or advice from different sources to help solve a specific work-related problem **(PSW1)**	**LO4: 4.2, 4.4**
Assesses a range of potential solutions, applying appropriate problem-solving strategies **(PSW2)**	**LO4: 4.2, 4.4**
Presents a clear action plan, including tasks and timelines, for implementing a chosen solution to a specific work-related problem **(PSW4)**	**LO4: 4.2, 4.4**
Time management skills	
Plans work: • according to priority • taking into account length of time needed to complete tasks • in order to meet deadlines **(TMS1)**	**LO4: 4.2**

Unit 214 Circular saw

Unit level:	Level 2
GLH:	20
Unit aim:	The aim of this unit is for learners to develop the knowledge, skills and understanding required to safely use a circular saw under supervision (cross-cut saw, resaw and panel saw). Learners will be able to understand legislation and safety requirements as they develop skills to carry out safe set-up and use, including maintenance of a circular saw.
Assessment method:	MCQ assessment, practical assessment
Links to Occupational Standard:	Carpentry and Joinery (ST0264) See also qualification content mapping to Occupational Standard (Appendix 1)

Learning outcomes

1. Legislation and hazards in relation to the use of and maintenance of circular saws
2. Safely set up and use a circular saw and carry out prescribed maintenance activities

Learning outcome 1

Legislation and hazards in relation to the use of and maintenance of circular saws

Topics	Content elements
1.1 Key legislation and related information in relation to the safe use of a circular saw	1.1.1 Different sources of legislation, regulation and other sources of information relating to the safe use of circular saws a) Legislation b) HASAWA Regulations: i. Provision and Use of Work Equipment Regulations (PUWER) ii. management of Health and Safety at Work Regulations iii. The Control of Noise at Work Regulations iv. Control of Substances Hazardous to Health Regulations (COSHH) v. Personal Protective Equipment (PPE) Regulations. c) Other sources of information: i. Approved Code of Practice in the safe use of woodworking machinery (ACOP) ii. HSE woodwork information iii. BWF machine safety cards iv. manufacturer's information sheets.
1.2 Hazards and risks associated with the maintenance and use of the circular saw	1.2.1 Hazards and risks related to the safe use of circular saw operation and maintenance a) Hazards: i. dust – poor housekeeping ii. poor waste removal iii. poor/inadequate supervision iv. noise levels (action values of 80db and 85db and working exposure limits). b) Risks: i. inadequate isolation procedures ii. electrocution iii. poor supervision iv. lack of experience v. poor maintenance vi. blunt/damaged/defective tooling vii. damaged/defective/inadequate guarding viii. poor manual handling. 1.2.2 Content and purpose of risk assessment a) Content: i. persons at risk ii. risk rating iii. control measures iv. residual risk rating.

Learning outcome 2

Safely set up and use a circular saw and carry out prescribed maintenance activities

Topics	Content elements
2.1 Common types of circular saws and their uses	2.1.1 Types of circular saw machines and their uses a) Saws: i. crosscut (chop saw, radial arm) ii. rip iii. dimension. b) Uses: i. flatting ii. deeping iii. cross cutting iv. ripping sheet materials v. bevelling vi. use of saddles and wedge jigs.
2.2 Knowledge of common components and characteristics of circular saw and saw blades	2.2.1 Knowing about circular saw components a) Safety components: i. braking systems ii. on/off button iii. isolation switch iv. information plate v. safety interlocks vi. push sticks/wedges. b) Operational components of circular saw: i. blade ii. crown guards iii. extraction points iv. adjusting mechanisms (rise/fall and cant) v. fences vi. riving knife vii. bed viii. mouthpiece. 2.2.2 Types of circular saw blades a) Types: i. rip ii. crosscut iii. combination. 2.2.3 Characteristics of saw blades a) Circular saw: i. positive hook ii. negative hook iii. neutral hook iv. gullet v. kerf vi. det vii. Tungsten Carbide Tip (TCT).

Topics	Content elements
	b) Circular saw teeth: i. root ii. top iii. face iv. back v. heel. c) Peripheral speed of blades: i. peripheral speed calculations ii. manufacturer's guidance iii. saw blade diameter (minimum requirements six-tenths) iv. safety considerations.
2.3 Safe sequence for the removal and replacement of the circular saw blade whilst complying with relevant legislation	2.3.1 Removal and replacement of circular saw blades following guidance and under supervision a) Safe working procedures: i. safe isolation ii. safe isolation signage iii. set up safe work area. b) Blade removal: i. removal of crown guard ii. removal of riving knife iii. removal of mouthpiece iv. blade locking v. tools required for removal vi. counterclockwise thread vii. blade removal viii. storage. c) Maintenance operations: i. visual inspection ii. resin removal iii. greasing iv. condition-based/cyclic maintenance. d) Blade installation: i. identification of correct blade ii. visual inspections iii. correct installation of blade iv. riving knife v. mouthpiece vi. crown guard vii. fences viii. pre-start checks ix. reinstatement/final check.

Topics	Content elements
2.4 Safely using a table saw to cut a range of materials	2.4.1 Carrying out the relevant pre-start checks before using the circular saw a) Machine pre-check: i. visual inspection ii. blade condition iii. fence and guide condition iv. depth adjustment v. stop/start/emergency stop. b) Work area pre-check: i. visual inspection ii. correct use of dust extraction (local exhaust ventilation) iii. PPE. c) Complying with health and safety d) Minimising and disposing of waste, including segregation of resources for reuse, recycling and disposal. 2.4.2 Considerations when carrying out various activities using a circular saw a) Materials: i. softwoods ii. hardwoods iii. manufactured boards. b) Tasks: i. flatting ii. deeping iii. tapered firings and wedges c) Safety aids: i. push sticks ii. wedge jigs iii. saddles. iv. tilting fillet

Unit guidance for delivery

Opportunities for efficiencies in delivery across/between units:	Deliver alongside the Level 2 'Principles of welfare, health and safety in construction environments' unit as there may be efficiencies. Providers should consider candidate cohort and relevant chosen construction specialism(s) when preparing to deliver to see where contextualisation can be added to enhance relevance eg Health and safety, Principles of working in the construction industry, First fix, portable power tools and Second fix.
Suggestions for formative assessment opportunities, both for knowledge and for practical outcomes:	Elements of the theory, such as jointing arrangements, can be delivered as part of the practical in the workshop setting. Discourse can be had around suitability of application. Various examples of information can be used to demonstrate different iterations.
Opportunities for visits/engagement with local industry and employers:	Visit to local sawmills Visit to local builders' merchants to see variety of timber materials
Considerations for innovative methods of delivery:	Use VR to simulate machine use prior to actual use
Ways of ensuring content is delivered in line with current, up-to-date industry practice:	Staff can carry out industry-relevant CPD on site to ensure that their skills remain current.
EDI or accessibility considerations:	Digitisation of resources should be done with the correct formatting for screen readers and content in multiple formats. Ensure that course materials are available in accessible formats for students with visual or learning disabilities. Use inclusive language and explain technical terms and concepts clearly. Be aware of cultural differences and ensure that examples are culturally sensitive and inclusive. Include gender-balanced representation and avoid reinforcing stereotypes.
Digital initiative considerations:	Use VR for simulation of training on machines. Use online quiz systems to allow for self-marking and end-of-unit knowledge assessment. Use blended learning to promote key concepts.
Sustainability considerations:	Use digital VLE and electronic assessment to reduce paper outcomes. Use sustainably sourced materials that are FSC stamped, and reuse resources where possible.

Books:	Colin Fearn, Mike Jones, Clayton Rudman, *Level 1 Diploma in Carpentry and Joinery* (City & Guilds) Colin Fearn, Mike Jones, Clayton Rudman, *Level 2 Diploma in Carpentry and Joinery* (City & Guilds) W.G. Nash, *Brickwork 1* (Stanley Thornes) Jon Collison, *Brickwork & Carpentry and Joinery, A DIY handbook* (Crosswood Press Ltd)
Websites:	**https://ttf.co.uk/courses/timber-trade-topics/sheet-materials/** **https://ttf.co.uk/courses/timber-trade-topics/sheet-materials/**

Transferable employability skills

Communication in the workplace	LO and topic
Selects appropriate formats for written communication for different purposes and audiences, in line with workplace conventions or procedures, where appropriate **(CSW1)**	**LO1: 1.1, 1.2**
Produces documents of different types that are appropriate (eg in terms of length, style and language use) for the purpose and intended audience **(CSW2)**	**LO1: 1.1, 1.2**
Uses available software appropriately to present written communication, including numerical information **(CSW4)**	**LO1: 1.1, 1.2**
Accurately and appropriately uses terminology associated with a particular workplace or sector in written communication **(CSW5)**	**LO1: 1.1, 1.2**
Workplace conduct	
Identifies and follows codes of conduct (eg for personal presentation, timekeeping) as appropriate to own role **(CW1)**	**LO1: 1.1, 1.2**
Applies sufficient effort to enable them to complete tasks set to the standard required **(CW3)**	**LO2: 2.1, 2.2, 2.3**
Demonstrates initiative in carrying out own role **(CW4)**	**LO2: 2.1, 2.2, 2.3, 2.4**
Outlines aspects of own conduct which meet expectations of a work setting **(CW5)**	**LO2: 2.1, 2.2, 2.3, 2.4**
Problem solving	
Gathers appropriate information or advice from different sources to help solve a specific work-related problem **(PSW1)**	**LO2: 2.1, 2.2, 2.3, 2.4**
Assesses a range of potential solutions, applying appropriate problem-solving strategies **(PSW2)**	**LO2: 2.1, 2.2, 2.3, 2.4**
Presents a clear action plan, including tasks and timelines, for implementing a chosen solution to a specific work-related problem **(PSW4)**	**LO2: 2.1, 2.2, 2.3, 2.4**
Time management skills	
Plans work: • according to priority • taking into account length of time needed to complete tasks • in order to meet deadlines **(TMS1)**	**LO2: 2.4**
Works at an appropriate pace to carry out tasks in accordance with plan **(TMS2)**	**LO2: 2.4**
Adjusts approach in response to any change of circumstance (eg one task over running), as appropriate, to ensure remaining time is spent effectively **(TMS3)**	**LO2: 2.4**

Appendix 1 Qualification content mapping to Occupational Standard

The table below contains the mapping of the knowledge, skills and behaviours (KSBs) of the Occupational Standard ST0264 Carpentry and Joinery to the City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma) (7255-62).

The KSB reference to each unit in this document is not exhaustive.

Unit	KSB reference
101 Health and safety in a construction environment	K1, K2, K3
201 Principles of welfare, health and safety in construction environments	K1, K2, K3, K31 S21
202 Principles of working in the construction industry	K1, K2, K4, K5, K6, K7, K8, K10, K11, K26, K27, K28 S18, S19, S20 B4, B5, B6
210 Timber technology	K9, K10, K11
215 Planning and preparation for setting out and marking out architectural joinery	K7, K11, K12, K32, K39 S23
216 Use of woodworking machinery	K31 S26, S30
217 Architectural joinery component production	K14, K15, K16, K17, K30, K33, K35, K36 S11, S12, S24, S25, S29
218 Assembly and finishing of architectural joinery products	K11, K34, K35, K37, K38 S9, S10, S27, S28
211 Structural carpentry	K12, K25, K26, K29 S7, S15, S18, S20, S21
212 First fix carpentry	K11, K12, K15, K22, K27, K36 S7, S11, S14, S16, S19, S27
213 Second fix carpentry	K11, K16, K17, K21, K24, K28 S9, S10, S17, S20, S22
214 Circular saw	K2 S2, S12

Appendix 2 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centre document library** on **www.cityandguilds.com** or click on the links below:

Centre Handbook: Quality Assurance Standards
This document is for all approved centres and provides guidance to support their delivery of our qualifications. It includes information on:

- centre quality assurance criteria and monitoring activities
- administration and assessment systems
- centre-facing support teams at City & Guilds/ILM
- centre quality assurance roles and responsibilities.

The Centre Handbook should be used to ensure compliance with the terms and conditions of the centre contract.

This document sets out the minimum common quality assurance requirements for our regulated and non-regulated qualifications that feature centre-assessed components. Specific guidance will also be included in relevant qualification handbooks and/or assessment documentation.

It incorporates our expectations for centre internal quality assurance and the external quality assurance methods we use to ensure that assessment standards are met and upheld. It also details the range of sanctions that may be put in place when centres do not comply with our requirements or actions that will be taken to align centre marking/assessment to required standards. Additionally, it provides detailed guidance on the secure and valid administration of centre assessments.

Access arrangements: When and how applications need to be made to City & Guilds
This document provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **Centre document library** also contains useful information on such things as:

- conducting examinations
- registering learners
- appeals and malpractice.

Useful contacts

- Please visit the **Contact us** section of the City & Guilds website.

City & Guilds

For almost 150 years, we have worked with people, organisations and economies to help them identify and develop the skills they need to thrive. We understand the life-changing link between skills development, social mobility, prosperity and success. Everything we do is focused on developing and delivering high-quality training, qualifications, assessments and credentials that lead to jobs and meet the changing needs of industry.

We partner with our customers to deliver work-based learning programmes that build competency to support better prospects for people, organisations and wider society. We create flexible learning pathways that support lifelong employability because we believe that people deserve the opportunity to (re)train and (re)learn again and again – gaining new skills at every stage of life, regardless of where they start.

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