

**City & Guilds Level 3  
Technical Occupational Entry  
in Wood Occupations (Site  
Carpentry) (Diploma)  
(7255-63)**

Version 1.0 (January 2026)

**Qualification Handbook**

## Qualification at a glance

<b>Subject area</b>	Construction
<b>City &amp; Guilds number</b>	7255
<b>Age group approved</b>	16-18 and 19+
<b>Entry requirements</b>	<p>Learners seeking to undertake this qualification <b>must</b> either have</p> <ul style="list-style-type: none"> <li>• completed a Level 2 qualification in Site Carpentry such as the City &amp; Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma)</li> <li>• or, demonstrated sufficient knowledge and skills that align to the ST0264 Carpentry and Joinery Standard</li> </ul>
<b>Assessment</b>	Multiple-choice test, practical assignment
<b>Grading</b>	Pass/fail
<b>Approvals</b>	Full approval required
<b>Support materials</b>	Sample assessments, Qualification Handbook
<b>Registration and certification</b>	Consult Walled Garden/online catalogue for last dates
<b>Occupational Standard</b>	ST0263 Craft Carpentry and Joinery

Title and level	City & Guilds qualification number	Regulatory reference number	GLH	TQT
City & Guilds Level 3 Technical Occupational Entry in Wood Occupations (Site Carpentry) (Diploma)	7255-63	610/6211/X	445	525

Version and date	Change detail	Section
v1.0 January 2026	Initial version	All

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# 1 Introduction

This document tells you what you need to do to deliver the qualification:

Area	Description
Who is the qualification for?	<p>This qualification is for those individuals who wish to gain the knowledge and skills required to commence a career within the carpentry sector.</p> <p>This qualification is suitable for those aged 16-18 and 19+.</p>
What does the qualification cover?	<p>This qualification aligns with the knowledge skills and behaviours in the ST0263 Craft Carpentry and Joinery Occupational standard. Learners will gain the knowledge and skills required to commence a career as a carpenter. The qualification also covers technical knowledge of the principles of working in the carpentry and joinery sector.</p> <p><b>Note</b>, this qualification covers a basic awareness of the importance of fire door safety and basic installation principles. However, it is advised that learners undertaking this qualification should also complete a specified fire door safety knowledge qualification such as City &amp; Guilds 6581-30 Level 3 Award in Fire Door Safety. Learners who have completed this qualification will <b>not</b> be competent to install fire doors or fire door linings.</p>
What opportunities for progression are there?	Learners will have the opportunity to progress onto further study an apprenticeship or secure an entry-level role as a carpenter in the industry.
Is it part of an apprenticeship framework or initiative?	N/A

## Structure

To achieve the **City & Guilds Level 3 Technical Occupational Entry in Wood Occupations (Site Carpentry) (Diploma)**, learners must achieve all mandatory units below:

City & Guilds unit number	Unit title	GLH
<b>Mandatory units:</b>		
310	Introduction to complex carpentry & joinery	125
311	First fix	80
312	Second fix	80
313	Roofing	120
314	Maintenance and repairs	40

## Total Qualification Time (TQT)

Total Qualification Time (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:

- 1) the number of hours that an awarding organisation has assigned to a qualification for guided learning
- 2) 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 3 Technical Occupational Entry in Wood Occupations (Site Carpentry) (Diploma)	445	525

## 2 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 Assurance Standards** for further information.

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

### 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 occupational 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 Appendix 2 within this qualification handbook.

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

Qualification	Occupational Standard reference/title
City & Guilds Level 3 Technical Occupational Entry in Wood Occupations (Site Carpentry) (Diploma)	ST0263 Craft Carpentry and Joinery Occupational Standard

## Resource requirements

### Centre staffing

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

- 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 certified.

## Quality assurance

Approved centres must have effective quality assurance systems to ensure optimal 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 all verified and/or moderated assessments undertaken by City & Guilds, 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.

To carry out the quality assurance role, Internal Quality Assurers (IQAs) must:

- adhere to the requirements set out in the centre handbook
- 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. 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:

- adhere to the requirements set out in the centre handbook
- provide advice and support to centre staff
- ensure the quality and consistency of assessments and marking/grading within and between centres using systematic sampling
- provide feedback to centres and to City & Guilds.

## Learner entry requirements

Learners seeking to undertake this qualification **must** have either have

- Completed a Level 2 qualification in Site Carpentry such as the City & Guilds Level 2 Extended Technical Occupational Entry in Wood Occupations (Diploma)
- Or, have demonstrated sufficient knowledge and skills that align to the ST0264 Carpentry and Joinery standard

The requirement for needing to have sufficient knowledge and skills at Level 2 reflects the demands of this qualification and for learners to be successful in achieving it.

Centres must confirm that learners hold a relevant qualification or demonstrate the required knowledge and skills through experience as part of the recruitment/selection process for this qualification.

## Age restrictions

This qualification is approved for learners aged 16-18 and 19 or above.

## Access arrangements and reasonable adjustments

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 support fair access to assessment.

Access arrangements are adjustments that allow candidates with disabilities, special educational needs, and 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 an 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.

Special consideration is a post examination adjustment to a candidate's mark or grade to reflect temporary injury, illness or other indisposition at the time of the examination/assessment.

Please refer to the documents 'Joint Council for Qualifications (JCQ) Access Arrangements and Reasonable Adjustments', 'JCQ – A Guide to the special consideration process' and 'Access arrangements – When and how applications need to be made to City & Guilds' for more information. All of these are available on the [City & Guilds website](#)

## 3 Delivering the qualification

### 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 or 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(s), their responsibilities as a learner and the responsibilities of the centre. This information can be recorded on a learning contract.

### 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 \(cityandguilds.com\)](https://www.cityandguilds.com)**

### Sustainability

City & Guilds are committed to net zero. Our ambition is to reduce our carbon emissions by at least 50% before 2030 and develop environmentally responsible operations to achieve net zero by 2040 or sooner if we can. City & Guilds is committed to supporting qualifications that help 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 \(cityandguilds.com\)](https://www.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 and considering and investing in the use of components that can be reused, instead of the use 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 activities wherever possible.

## Support materials

The following resources are available for this qualification:

Description	How to access
Qualification handbook	<a href="http://www.cityandguilds.com">www.cityandguilds.com</a>
Sample assessments	<a href="http://www.cityandguilds.com">www.cityandguilds.com</a>

## 4 Assessment

### Assessment of the qualification

For City & Guilds Level 3 Technical Occupational Entry in Wood Occupations (Site Carpentry) (Diploma), candidates must successfully complete the following assessments:

Assessment component	Assessment method	Description and conditions
352	Externally marked MCQ exam	<p>This assessment covers unit 310.</p> <p>The multiple-choice question (MCQ) assessment is externally set and marked and will be delivered online via e-volve.</p> <p>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.</p> <p>See JCQ requirements for details: <a href="http://www.icq.org.uk/exams-office/ice---instructions-for-conducting-examinations">http://www.icq.org.uk/exams-office/ice---instructions-for-conducting-examinations</a></p> <p>The test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City &amp; Guilds website. Live assessment will be delivered by the City &amp; Guilds online platform e-volve.</p>
353	Externally marked MCQ exam	<p>This assessment covers units 311, 312, 313 and 314.</p> <p>The multiple-choice assessment is externally set and marked and will be delivered online via e-volve.</p> <p>The exam is designed to assess the candidate's depth and breadth of understanding across content in units 311, 312, 313 and 314 (and should only be attempted following learner completion of these units) using MCQs. It will be sat under invigilated examination conditions.</p> <p>See JCQ requirements for details: <a href="http://www.icq.org.uk/exams-office/ice---instructions-for-conducting-examinations">http://www.icq.org.uk/exams-office/ice---instructions-for-conducting-examinations</a></p> <p>The test specification shows the coverage of the assessment across the unit content. Sample assessment materials can be downloaded from the City &amp; Guilds website. Live assessment will be delivered by the City &amp; Guilds online platform e-volve.</p>

Assessment component	Assessment method	Description and conditions
361	Practical assignment	<p>This assessment covers units 311, 312, 313 and 314.</p> <p>The practical assignment is externally set and internally marked with external verification.</p> <p>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.</p> <p>See JCQ requirements for details:  <a href="http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations">http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations</a></p> <p>The test specification shows the coverage of the assessment across the qualification content.</p>

## Scheme of assessment overview

For City & Guilds Level 3 Technical Occupational Entry in Wood Occupations (Site Carpentry) (Diploma), candidates must successfully complete:

Assessment component	Method	Duration	Marks	Marking approach	Grading
352	On-demand e- volve online MCQ	60 minutes	36	Externally set and marked	Pass/fail
353	On-demand e- volve online MCQ	45 minutes	30	Externally set and marked	Pass/fail
361	On-demand practical assignment	18 hours	N/A	Internally marked and externally verified	Pass/fail

Candidates must pass **all** assessment components to achieve the qualification.

## Test 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: 352	Duration: 60 minutes		
Unit	Outcome	Number of questions	Percentage %
310	LO1 Understand the key health and safety requirements that must be adhered to when carrying out carpentry and joinery work	8	22%
	LO2 Understand the key construction principles and the related environmental practice when carrying carpentry and joinery work	12	33%
	LO3 Understand the key principles of supervisory and management practices associated with carrying out carpentry and joinery work.	10	28%
	LO4 Understand the key principles of mental and physical wellbeing when carrying out carpentry and joinery work.	1	3%
	LO5 Understand the selection of resources for carpentry and joinery work.	5	14%
<b>Total</b>		<b>36</b>	<b>100%</b>

**Permitted materials:** None

**Graded:** Pass/fail

**Pass mark:** The pass mark for this examination is set at approximately 66%.

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

<b>Test: 353</b>		<b>Duration: 45 minutes</b>	
<b>Unit</b>	<b>Outcome</b>	<b>Number of questions</b>	<b>Percentage %</b>
311	LO1 Understand the first fix activities and techniques involved in the erection of non-standard stud and structural partitions	6	20%
	LO2 Understand the first fix activities and techniques involved in the installation of non-standard floor coverings	4	13%
312	LO1 Know how to select appropriate resources for complex second fix activities to comply with contractual requirements	8	27%
313	LO1 Understand the components and techniques used to construct complex roofs	8	27%
314	LO1 Understand how to repair and maintain structural and non-structural carpentry	4	13%
<b>Total</b>		<b>30</b>	<b>100%</b>

**Permitted materials:** None

**Graded:** Pass/fail

**Pass mark:** The pass mark for this examination is set at approximately 67%.

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

## 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](mailto:centresupport@cityandguilds.com) for further information

The table below highlights at a high level the way that the practical assessment is covered within the **361 assessment**.

Units	Task
311	Task 1 – Planning and preparation Task 2 – First fix
312	Task 1 – Planning and preparation Task 3 – Second fix
313	Task 1 – Planning and preparation Task 4 – Roofing
314	Task 1 – Planning and preparation Task 5 – Maintenance and repairs

**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.

## Assessment objectives

The following assessment objectives are used within the **352 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
<b>AO1a</b> Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning.	14 marks – 39%
<b>AO1b</b> Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions.	22 marks – 61%
<b>AO2</b> 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 **353 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
<b>AO1a</b> Demonstrate knowledge of the content	The ability to demonstrate basic recall of relevant knowledge in response to straightforward questioning.	12 marks – 40%
<b>AO1b</b> Demonstrate understanding of the content	The ability to demonstrate understanding of principles and concepts beyond recall of definitions.	18 marks – 60%
<b>AO2</b> 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%

## Availability of assessments

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 the resubmission of evidence process can 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 partially 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.***

## **Time constraints**

Qualification registration is valid for five years.

## **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.

## 5 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 City & Guilds Level 3 Technical Occupational Entry in Wood Occupations (Site Carpentry) (Diploma)). This collaborative work is to ensure that a learner studying the City & Guilds Level 3 Technical Occupational Entry in Wood Occupations (Site Carpentry) (Diploma) has a solid foundation from which to access the best opportunities available to them as they progress through their career.

## 6 Units

### Structure of the units

These units each have the following:

- City & Guilds reference number
- title
- level
- guided learning hours (GLH)
- unit aim
- assessment type
- learning outcomes, which are comprised of a number of topics
- content elements
- supporting information
- relationship to /occupational standards including 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.

Each **learning outcome** has a set of **topics** (knowledge or skills) that are simple and concise statements that indicate 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.

#### **Content** (what needs to be covered)

The content sections define the 'depth and breadth' to which the teaching/learning must be delivered.

It is important 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.

## Unit 310 Introduction to complex carpentry and joinery

<b>Unit level:</b>	3
<b>Guided Learning Hours (GLH):</b>	125
<b>Unit aim:</b>	To explore the key principles that aid the completion of complex carpentry and joinery tasks.
<b>Assessment method:</b>	MCQ
<b>Links to Apprenticeship Standard:</b>	ST0263 Craft Carpentry and Joinery

### Learning outcomes

#### The learner will:

- LO1 Understand the key health and safety requirements that must be adhered to when carrying out carpentry and joinery work.
- LO2 Understand the key construction principles and the related environmental practice when carrying out carpentry and joinery work.
- LO3 Understand the key principles of supervisory and management practices associated with carrying out carpentry and joinery work.
- LO4 Know the key principles of mental and physical wellbeing when carrying out carpentry and joinery work.
- LO5 Understand the selection of resources for carpentry and joinery work.

### Learning outcome 1

Understand the key health and safety requirements that must be adhered to when carrying out carpentry and joinery work.

Topics	Content elements
1.1 Health and safety regulations that impact employer and employee	<p>1.1.1 Key responsibilities of employers and employees under the Health and Safety at Work Act</p> <ul style="list-style-type: none"><li>a) Employer responsibilities<ul style="list-style-type: none"><li>i. Complete risk assessments</li><li>ii. Supply Personal Protective Equipment (PPE) free of charge</li><li>iii. Provision of welfare facilities</li><li>iv. Provision of first aid</li><li>v. Provision of training</li><li>vi. Provision of health surveillance</li></ul></li><li>b) Employee responsibilities</li></ul>

Topics	Content elements
	<ul style="list-style-type: none"> <li>i. Taking reasonable care of their own health and safety</li> <li>ii. Co-operating with their employer and following instructions</li> <li>iii. Not putting others in danger</li> <li>iv. Report any hazards, illnesses or injuries immediately</li> <li>v. Follow organisational procedures, policies and practice</li> <li>vi. Work safely alongside others and other trades</li> <li>vii. Undertake required training/continued professional development (CPD) opportunities</li> </ul> <p>1.1.2 Key regulations and their impacts on health, safety, and welfare</p> <p>a) Regulations</p> <ul style="list-style-type: none"> <li>i. Provision, Use of Work Equipment Regulations (PUWER) and Approved Code of Practice (ACOP)</li> <li>ii. Reporting of Injuries Diseases and Dangerous Occurrences Regulations (RIDDOR)</li> <li>iii. Noise At Work Regulations</li> <li>iv. Control of Substances Hazardous to Health Regulations (COSHH)</li> <li>v. Working at Height Regulations (WaHR)</li> <li>vi. Construction, Design Management Regulations (CDM)</li> <li>vii. Confined Spaces Regulations</li> <li>viii. Electricity at Work Regulations (EAWR)</li> <li>ix. Management of Health, Safety and Welfare Regulations</li> <li>x. Fire Safety Legislation</li> </ul> <p>b) Impacts</p> <ul style="list-style-type: none"> <li>i. Control work practices</li> <li>ii. Reduce accidents</li> <li>iii. Reduce chance of litigation</li> <li>iv. Ensure employee safety</li> <li>v. Conformity across workplaces</li> </ul>
1.2 Control and management of typical health and safety hazards in Carpentry and Joinery	<p>1.2.1 Typical health and safety hazards that cause incidents, accidents and near misses</p> <p>a) Hazards:</p> <ul style="list-style-type: none"> <li>i. Sharp objects</li> <li>ii. Loose materials</li> <li>iii. Slips, trips and falls</li> </ul>

## Topics

## Content elements

- iv. Falls from height
- v. Lifting and carrying (manual handling)
- vi. Cuts/lacerations
- vii. Dust inhalation
- viii. Exposure to hazardous substances
- ix. Exposure to toxic woods
- x. Hand arm vibration
- xi. Asbestos

1.2.2 Control measures and how they are used to minimise or mitigate hazards.

a) Controls:

- i. PPE
- ii. Training
- iii. Toolbox talks/CPD
- iv. Good housekeeping
- v. Respiratory Protective Equipment (RPE)
- vi. Dust extraction (local exhaust ventilation (LEV))
- vii. Supervision
- viii. Use of safety signages and notices
- ix. Situational awareness
- x. Safe isolation procedures
- xi. Safe handling of hazardous materials
- xii. Safe disposal of waste
- xiii. Maintenance of equipment
- xiv. Tooling and guarding
- xv. Use of mechanical lifting aids
- xvi. Use of kinetic lifting techniques

1.2.3 Incident management techniques used in the workplace

a) Immediate response

- i) Staff trained in emergency action (evacuations, first aid, fire safety, policies and procedures in place relating to emergency services, making area safe).

b) Incident reporting

- i) Accident, incident and near miss reporting (to person responsible, in reporting book/database)
- ii) RIDDOR reportable incidents (types reportable to regulatory authorities and requirements) and timeframes (7, 10 and 15 days).

Topics	Content elements
<p>1.3 The role risk assessment plays in managing risk and the key aspects of a risk assessment</p>	<p>1.3.1 The role of risk assessments in risk management</p> <ul style="list-style-type: none"> <li>a) Purpose <ul style="list-style-type: none"> <li>i. Identify hazards</li> <li>ii. Reduce risk</li> <li>iii. Control risks</li> </ul> </li> <li>b) Use <ul style="list-style-type: none"> <li>i. Prevent accidents</li> <li>ii. Prevent near misses</li> <li>iii. Reduce risk</li> </ul> </li> <li>c) Content <ul style="list-style-type: none"> <li>i. Hazards</li> <li>ii. Persons at risk</li> <li>iii. Controls</li> <li>iv. Additional controls</li> <li>v. Risk rating</li> <li>vi. Residual risk rating</li> </ul> </li> </ul>
<p>1.4 Safety considerations when carrying out carpentry and joinery work and sources of safety information</p>	<p>1.4.1 Safety considerations when carrying out carpentry and joinery work</p> <ul style="list-style-type: none"> <li>a) General considerations <ul style="list-style-type: none"> <li>i. Safe Systems of Work (SSOW)</li> <li>ii. Safe use of equipment</li> <li>iii. Risk Assessments and Method Statements (RAMS)</li> <li>iv. Approved Codes of Practice (ACOP)</li> <li>v. Use of local exhaust ventilation (fixed and portable)</li> <li>vi. PPE</li> <li>vii. Toxic woods</li> <li>viii. Manual handling considerations</li> <li>ix. Safe storage of materials</li> <li>x. Vibration from machines (portable and fixed)</li> <li>xi. Entanglement</li> <li>xii. Electric shock</li> </ul> </li> </ul> <p>1.4.2 Information sources used for safety considerations</p> <ul style="list-style-type: none"> <li>i. Health and Safety Executive (HSE) woodwork information sheets</li> <li>ii. British Woodworking Federation (BWF) machine safety cards</li> <li>iii. Manufacturer's information sheets</li> <li>iv. Organisational policies</li> <li>v. Risk assessments and method statements</li> </ul>

<b>Topics</b>	<b>Content elements</b>
1.5 Safe systems of work	1.5.1 Requirements of SSOW <ol style="list-style-type: none"> <li>a) Key elements               <ol style="list-style-type: none"> <li>i. Complete risk assessments</li> <li>ii. Evaluate significant hazards</li> <li>iii. Establish methods to reduce level of risk</li> <li>iv. Documentation of process to meet regulatory requirements</li> <li>v. Staff training/CPD</li> <li>vi. Monitoring</li> </ol> </li> <li>b) Review of SSOW               <ol style="list-style-type: none"> <li>i. Following an incident/accidents/near miss</li> <li>ii. Cyclic review</li> <li>iii. Change in circumstances</li> </ol> </li> </ol>

## **Learning outcome 2**

Understand the key construction principles and the related environmental practice when carrying out carpentry and joinery work

<b>Topics</b>	<b>Content elements</b>
2.1 Key principles of building construction	2.1.1 Compliance with building regulations, British standards and warranty provider standards for specific carpentry and joinery tasks <ol style="list-style-type: none"> <li>a) Working to building regulations and standardised practice               <ol style="list-style-type: none"> <li>i. Approved Document Part B: Fire safety, doors and linings</li> <li>ii. Approved Document Part C: Moisture in buildings and vapour barriers</li> <li>iii. Approved Document Part E: Sound insulation in buildings</li> <li>iv. Approved Document Part F: Ventilation in buildings</li> <li>v. Approved Document Part K: Stairs and glazing in buildings</li> <li>vi. Approved Document Part L: Conserving fuel and power, thermal insulation requirements and working sustainably</li> <li>vii. Approved Document Part Q: Security requirements for doors and windows</li> <li>viii. British standards</li> <li>ix. Warranty provider standards (Local Authority Building Control (LABC))</li> </ol> </li> </ol> 2.1.2 The key considerations in relation to fire safety in buildings <ol style="list-style-type: none"> <li>a) Factors affecting fire safety within buildings</li> </ol>

## Topics

## Content elements

- i. Materials used
- ii. Position of materials
- iii. Building use (commercial, residential)
- b) Materials used to control fire within buildings
  - i. Timber fire rated door sets to BS 8214
  - ii. Fire rated door sets
  - iii. Intumescent materials
  - iv. Joinery finishes
  - v. Fire rated doorstops and ironmongery
- c) Techniques used to control fire within buildings
  - i. Use of competent persons to install fire door sets
  - ii. Certified persons to certificate installation
  - iii. Building access and egress
  - iv. Compartmentalisation

### 2.1.3 The key considerations in relation to moisture in buildings

- a) Factors affecting moisture in buildings
  - i. Climate (wet or hot conditions)
  - ii. Building design (airflow or method of removing moisture fitted)
  - iii. Building use (high moisture areas)
  - iv. Choice of materials for high humidity area
  - v. Level of ventilation (crossflow)
  - vi. Maintenance
- b) Materials and how they are used to control moisture in buildings
  - i. Damp proof membrane (DPM)
  - ii. Damp proof course (DPC)
  - iii. Breathable membranes
  - iv. Vapour barriers
- c) Techniques used to control moisture in buildings
  - i. Ventilation (crossflow ventilation for roofs and floors, trickle vents in windows)
  - ii. Airtightness (energy efficiency, Passivhaus)
  - iii. Damp proofing

### 2.1.4 The key considerations in relation to manufacturing and fitting stairs in buildings

- a) Factors affecting manufacturing and fitting stairs in buildings
  - i. Building use
    - private stairs: stairs in a dwelling that are intended for the residential occupants only

## Topics

## Content elements

- general access stairs: stairs in a public building accessed by the general public
- utility stairs: stairs used for escape and maintenance, also in basements and lofts
- ii. Location within the building: space available, design features of the building, amount of floors in building
- iii. Design principles: inform planning of stair-making
- iv. Accessibility
- v. Width and dimensions
  
- b) Materials used in manufacturing and fitting stairs in buildings
  - i. Timber (hardwood, softwood)
  - ii. Manufactured board
  - iii. Glass
  - iv. Balustrades (glazed)
  
- 2.1.5 The key considerations in relation to security requirements for external doors and windows
  - a) External doors and windows
    - i. Types of materials (durability)
    - ii. Types of ironmongery (security rated)
    - iii. Locking mechanisms (BS 7950)
    - iv. PAS 24
    - v. Installation by competent persons (FENSA)
    - vi. Glazing type (dependent on location)
  
- 2.1.6 The key considerations in relation to the installation of fire doors and fire door linings
  - a) Importance of fire doors and correct installation in relation to safety
  - b) Legislation, regulations and guidance
  - c) Purpose of key hardware in relation to fire door assemblies
    - i. Fire door leaf
    - ii. Specified ironmongery
    - iii. Intumescent strips/smoke seals
    - iv. Door locking mechanisms
  - d) Approach to pre-installation, installation and post-installation
    - i. Use of competent person
    - ii. Document checks/record keeping
    - iii. Safety checks

Topics	Content elements
<p>2.2 Principles of sustainability when undertaking carpentry and joinery work</p>	<p>2.2.1 Considerations of sustainability when undertaking carpentry and joinery work.</p> <ul style="list-style-type: none"> <li>a) Sustainable considerations <ul style="list-style-type: none"> <li>i. Use of Programme for the Endorsement of Forest Certification (PEFC) timber</li> <li>ii. Use of Forest Stewardship Council (FSC) timber</li> <li>iii. Environmental impact survey (planning permission)</li> <li>iv. British Research Establishment Environmental Assessment Method (BREEAM)</li> <li>v. Locally sourced materials (carbon footprint)</li> <li>vi. Ethically sourced materials</li> <li>vii. Compliance with statutory requirements</li> <li>viii. Timber treatments</li> <li>ix. Cradle to cradle ethos</li> <li>x. Environmental Protection Act</li> </ul> </li> </ul> <p>2.2.2 Types of pollution and control measures to limit the environmental impact of carpentry and joinery work</p> <ul style="list-style-type: none"> <li>a) Water: restrictions on disposing of substances into water course</li> <li>b) Noise: quieter working methods, reasonable opening times for sites, acoustic barriers for sites</li> <li>c) Air: restrictions on burning waste</li> <li>d) Smells: ventilation of working areas</li> <li>e) Spills: use of spill kits</li> <li>f) Control/disposal of waste/hazardous substances: <ul style="list-style-type: none"> <li>i. Use of licenced waste carriers</li> <li>ii. Waste segregation</li> <li>iii. Use of sustainable materials</li> <li>iv. Reduce, re-use, recycle (3R's)</li> <li>v. End-of-life considerations (ease of disassembly, recycling)</li> </ul> </li> </ul>
<p>2.3 Thermal performance of buildings</p>	<p>2.3.1 The importance of, considerations and factors related to thermal performance</p> <ul style="list-style-type: none"> <li>a) Importance <ul style="list-style-type: none"> <li>i. Supports energy efficiency</li> </ul> </li> <li>b) Thermal performance measures <ul style="list-style-type: none"> <li>i. R values and U values of walls, windows, doors, roofs and floors</li> <li>ii. Airtightness of building</li> <li>iii. Elimination of thermal bridging</li> </ul> </li> <li>c) Factors to consider for thermal performance <ul style="list-style-type: none"> <li>i. Thermal conductivity of materials(<math>\lambda</math>)</li> <li>ii. Installation</li> </ul> </li> </ul>

Topics	Content elements
2.4 The requirements to achieve acoustic performance within buildings	2.4.1 Building elements that affect the passage of sound. <ul style="list-style-type: none"> <li>a) Building elements               <ul style="list-style-type: none"> <li>i. Doors and windows</li> <li>ii. Partitions and walls</li> <li>iii. Flooring</li> <li>iv. Structural</li> </ul> </li> <li>b) Factors to be considered in ensuring acoustic performance               <ul style="list-style-type: none"> <li>i. Material selection appropriate for the work</li> <li>ii. Installation of building elements sequenced correctly and in correct location</li> <li>iii. Sealing and insulation appropriate for location</li> <li>iv. Regulatory compliance</li> <li>v. Building use (depending on acoustic needs)</li> </ul> </li> </ul>
2.5 The requirements when undertaking heritage building work	2.5.1 Requirements of undertaking carpentry and joinery work on heritage buildings: <ul style="list-style-type: none"> <li>a) Statutory requirements:               <ul style="list-style-type: none"> <li>i. Planning (Listed Buildings and Conservation Areas) Act</li> <li>ii. Grade 1 listed building</li> <li>iii. Grade 2 listed building</li> <li>iv. Grade 2* listed building</li> </ul> </li> <li>b) Like-for-like workmanship and materials</li> <li>c) Client requirements</li> <li>d) Organisations involved in the protection of buildings:               <ul style="list-style-type: none"> <li>i. Historic England</li> <li>ii. Local Councils</li> <li>iii. Society for the Protection of Ancient Buildings (SPAB)</li> </ul> </li> </ul>

### Learning outcome 3

Understand the key principles of supervisory and management practices associated with carrying out carpentry and joinery work

Topics	Content elements
3.1 Types of contract information, sources and how to interpret information for carrying out carpentry and joinery work	3.1.1 Sources of contract information that may be used for carrying out carpentry and joinery work <ul style="list-style-type: none"> <li>a) Job information types               <ul style="list-style-type: none"> <li>i. Client requirements: aesthetics, client choice</li> </ul> </li> </ul>

## Topics

## Content elements

- ii. Design requirements: architect choices in conjunction with client, design based on client scope
  - iii. Manufacturing process and design information: dependent on drawings and specifications for project, drawings used to determine how it can be manufactured/installed, working to client timescales
- b) Job information sources
- i. Graphical information
  - ii. Non-graphical information

### 3.1.2 Types of graphical and non-graphical information sources

- a) Different types of graphical information and common scales
- i. Concept drawings/sketches (1:50 or 1:20)
  - ii. Block/location plans (1:500, 1:1250 or 1:2500)
  - iii. Site plans (1:100, or 1:200)
  - iv. Plan drawings – floor plans, elevations, sections (1:100 or 1:50)
  - v. Room plans, interior elevations (1:50 or 1:20)
  - vi. Assembly drawings (1:10 or 1:20)
  - vii. Component drawings (1:10, 1:5 or 1:2)
- b) Different types of non-graphical information and their content
- i. Specifications: materials, sizings, workmanship required to do the joinery work
  - ii. Schedules: doors, windows, units, type and quantity of each element for joinery work
  - iii. Bill of quantities: list of materials, labour and resources with associated costs for the carpentry and joinery work
  - iv. Site surveys: measurements, location for the work, location of services, template production
  - v. Job sheets: information required for the specific carpentry and joinery task including job number, sizings, location (interior or exterior), completion date, costings, quantities, material types
  - vi. Technical and manufacturers' information: product specification, colour charts, COSHH data sheets/manual

### 3.1.3 Interpretation of graphical communication

- a) Purpose and use of building information modelling (BIM):

Topics	Content elements
	<ul style="list-style-type: none"> <li>i. Provide information to carpenter and joiner from the design process</li> <li>ii. Collaborative tool for design purposes</li> <li>iii. 3D modelling to aid production and installation</li> </ul> <p>b) Interpreting information from drawings</p> <ul style="list-style-type: none"> <li>i. Hatchings</li> <li>ii. Legend</li> <li>iii. Abbreviations</li> </ul> <p>c) Written communication</p> <ul style="list-style-type: none"> <li>i. Plain English principles for clear communication</li> </ul>
<p>3.2 Resource management considerations associated with a range of aspects of carpentry and joinery materials</p>	<p>3.2.1 Resource quantity calculation techniques for carpentry and joinery</p> <ul style="list-style-type: none"> <li>a) Quantification of materials <ul style="list-style-type: none"> <li>i. Site survey</li> <li>ii. Traditional ‘take-off’</li> <li>iii. Digital ‘take-off’</li> </ul> </li> </ul> <p>3.2.2 Costing considerations for carpentry and joinery</p> <ul style="list-style-type: none"> <li>a) Costs <ul style="list-style-type: none"> <li>i. Material</li> <li>ii. Delivery/transport/storage</li> <li>iii. Labour</li> <li>iv. Overheads (equipment hire, utilities, maintenance, subsistence, regulatory fees)</li> </ul> </li> </ul> <p>3.2.3 Considerations for wastage and recycling for carpentry and joinery</p> <ul style="list-style-type: none"> <li>a) Ordering materials with 10% allowance for waste</li> <li>b) Waste estimation during processes such as sawing, sanding, shaping and finishing</li> <li>c) Reduce, reuse, recycle, recovery of materials</li> <li>d) Waste/recycling (disposal costs)</li> </ul> <p>3.2.4 Factors to consider when using/managing existing material stock</p> <ul style="list-style-type: none"> <li>a) Factors <ul style="list-style-type: none"> <li>i. Availability of materials, considering planned work</li> <li>ii. Faulty stock (costs and lead times to replace)</li> <li>iii. Safe handling (injury and stock damage prevention)</li> <li>iv. Quality control (identification and appropriate selection of materials)</li> <li>v. Stock rotation</li> <li>vi. Returns process</li> <li>vii. Stock value (impact on job costs and turnover)</li> </ul> </li> </ul>

Topics	Content elements
<p>3.3 Type and purpose of quality activities in relation to carpentry and joinery work.</p>	<p>3.3.1 Different types of quality assurance requirements and monitoring techniques carried out in relation to carpentry and joinery work</p> <ul style="list-style-type: none"> <li>a) Different quality procedures <ul style="list-style-type: none"> <li>i. Quality assurance</li> <li>ii. Quality control</li> </ul> </li> <li>b) Quality assurance methods <ul style="list-style-type: none"> <li>i. Set high standards/expectations for outcomes and staff</li> <li>ii. Use of quality policies</li> </ul> </li> <li>c) Quality control methods <ul style="list-style-type: none"> <li>i. Regular inspection</li> <li>ii. Regular testing</li> <li>iii. Documented processes/checklists</li> <li>iv. External regulatory audits</li> </ul> </li> <li>d) Monitoring techniques <ul style="list-style-type: none"> <li>i. Random sampling (work practices, materials)</li> <li>ii. Observation of workmanship being carried out</li> <li>iii. Snagging list (itemised list of outstanding work tasks that require attention)</li> </ul> </li> <li>e) Use <ul style="list-style-type: none"> <li>i. Ensure standards of work are met</li> <li>ii. Improved quality of carpentry and joinery work</li> <li>iii. Ensure client satisfaction</li> </ul> </li> </ul>
<p>3.4 Planning, work scheduling, and time management techniques for self and others.</p>	<p>3.4.1 Tools and techniques used to plan, schedule and manage time and the factors affecting their management</p> <ul style="list-style-type: none"> <li>a) Time-management tools <ul style="list-style-type: none"> <li>i. Programme of works (Gantt charts)</li> <li>ii. Critical path</li> <li>iii. Line of balance charts</li> </ul> </li> <li>b) Aids to time management for self and others (digital and paper-based): <ul style="list-style-type: none"> <li>i. Diary</li> <li>ii. Scheduling</li> <li>iii. Gantt charts</li> <li>iv. Electronic calendars</li> </ul> </li> <li>c) Factors affecting time management <ul style="list-style-type: none"> <li>i. Project complications/over runs</li> <li>ii. Lead time for materials</li> <li>iii. Material availability</li> <li>iv. Labour availability</li> </ul> </li> </ul>

## Learning outcome 4

Understand the key principles of mental and physical wellbeing when carrying out carpentry and joinery work

Topics	Content elements
4.1 Considerations in relation to personal mental health welfare	<p>4.1.1 What is meant by 'wellbeing' – in terms of</p> <ul style="list-style-type: none"><li>i. Mental health considerations</li><li>ii. Physical health considerations</li></ul> <p>4.1.2 Methods/sources of promoting the management of good mental health/mental welfare within a carpentry and joinery work setting in self and others</p> <ul style="list-style-type: none"><li>i. Buddy systems – not working alone</li><li>ii. Providing access to support/information</li><li>iii. Providing opportunities for discussion/escalation of concerns</li></ul> <p>4.1.3 Definitions of and the importance of each of the following in a carpentry and joinery setting</p> <p>a) Definitions:</p> <ul style="list-style-type: none"><li>i. Inclusion: people are included, valued and respected regardless of their background</li><li>ii. Equity: giving people the resources or opportunities they need to achieve the same outcome, which considers their specific circumstances</li><li>iii. Diversity: the practice of including people from a range of different backgrounds, with different characteristics and experiences</li></ul> <p>b) Importance:</p> <ul style="list-style-type: none"><li>i. To remain compliant with statutory requirements in the workplace</li><li>ii. To protect employer and employees working in a carpentry and joinery setting</li><li>iii. Legal protection from discrimination in the workplace and wider society (Equality Act 2010)</li></ul>

## Learning outcome 5

Understand the selection of resources for carpentry and joinery work.

Topics	Content elements
5.1 Timber and timber-based materials used for carpentry and joinery work	<p>5.1.1 Characteristics of hardwood and softwood timbers and manufactured timber products</p> <p>a) Characteristics:</p> <ol style="list-style-type: none"><li>i. Grain (open grain: large pores, coarser timber; closed grain: small pores, finer/smoothier timber)</li><li>ii. Durability (response to weather, insect attack)</li><li>iii. Appearance (grain patterns)</li><li>iv. Workability (interlocking grains)</li><li>v. Availability (endangered, protected species)</li></ol> <p>5.1.2 Suitability of timbers and timber-based materials based on different factors for the complex architectural joinery component</p> <p>a) Factors affecting choice:</p> <ol style="list-style-type: none"><li>i. Grading of timber: strength, quality, defects (natural, seasoning), durability</li><li>ii. Appearance: colour, grain</li><li>iii. Workability: ease of use</li><li>iv. Cost: client budget</li><li>v. Contract specification: client requirements, regulation (building, planning, conservation)</li><li>vi. Availability of materials: local, national</li><li>vii. Sustainability considerations: carbon footprint, renewable, lifespan, FSC (Forest Stewardship Council)</li></ol> <p>5.1.3 Common defects of timber and timber-based materials and their causes.</p> <p>a) Seasoning/conversion defects</p> <ol style="list-style-type: none"><li>i. Cupping</li><li>ii. Winding</li><li>iii. Twisting</li><li>iv. Case hardening</li><li>v. Bowing</li><li>vi. Springing</li><li>vii. Collapse</li><li>viii. Splitting</li><li>ix. Blue staining</li></ol> <p>b) Natural defects</p> <ol style="list-style-type: none"><li>i. Sloping grain</li><li>ii. Knots</li></ol>

**Topics****Content elements**

- iii. Shakes
- iv. Upset grain
- v. Wane edge
- vi. Foreign bodies
- vii. Decay
- viii. Pith
- ix. Blue staining
- x. Resin pockets
- xi. Cellular degeneration
- c) Causes
  - i. Poor storage
  - ii. High humidity
  - iii. Moisture content
  - iv. Poor handling
  - v. Seasoning process
  - vi. Poor conversion
  - vii. Natural environment
  - viii. Insect infestation
  - ix. Fungal attack

## Unit guidance for delivery

<b>Opportunities for efficiencies in delivery across/between units:</b>	<ul style="list-style-type: none"><li>• Peer assessment: Encourage students to assess each other's work developing critical thinking and communication skills.</li><li>• Standardised templates: Develop templates for units to ensure delivery is consistent across unit where applicable.</li></ul>
<b>Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:</b>	<ul style="list-style-type: none"><li>• Practical skills: Implement short, practical assessments throughout the programme where students create small models or components using specific joinery methods.</li><li>• Knowledge checks: Integrate short quizzes or online learning checks after key theoretical concepts to ensure understanding before moving on.</li></ul>
<b>Opportunities for visits/engagement with local industry and employers:</b>	<ul style="list-style-type: none"><li>• Organise visits to joinery workshops to observe professionals working on complex projects.</li><li>• Invite local guest speakers (carpenters, joiners) to share their experiences and practical tips for tackling complex tasks.</li><li>• Partner with local businesses for project-based learning, where students design and build elements for real-world applications.</li></ul>
<b>Considerations for innovative methods of delivery:</b>	<ul style="list-style-type: none"><li>• The use of artificial intelligence (AI) to support and guide lecturers on delivery of certain topics.</li><li>• Virtual reality (VR) simulations to practise complex joinery techniques in a safe, controlled environment before working with real wood.</li><li>• The use of digital games and quizzes to enhance learning.</li></ul>
<b>Ways of ensuring content is delivered in line with current, up to date industry practice:</b>	<ul style="list-style-type: none"><li>• Integrate case studies and examples of recent advancements in joinery techniques and wood technologies.</li><li>• Encourage instructors to attend workshops and conferences to stay updated on the latest trends and best practices.</li></ul>
<b>EDI or accessibility considerations:</b>	<ul style="list-style-type: none"><li>• Ensure all learning materials are accessible in various formats (e.g., dyslexia-friendly fonts, audio recordings) to cater to diverse learning styles.</li><li>• Adapt formative assessments to accommodate different learning abilities, offering alternative ways for students to demonstrate their understanding.</li><li>• Consider offering flexible learning options to cater to students with different needs.</li><li>• 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.</li></ul>

<b>Digital initiative considerations:</b>	<ul style="list-style-type: none"> <li>• Develop online learning modules with detailed video tutorials showcasing complex joinery techniques and proper tool usage.</li> <li>• Implement the use of online classrooms and digital formats for work</li> </ul>
<b>Sustainability considerations:</b>	<ul style="list-style-type: none"> <li>• Integrate modules on sustainable wood sourcing, responsible forestry practices, and proper use of environmentally friendly finishes.</li> <li>• Encourage the use of reclaimed wood or engineered wood products with lower environmental impacts.</li> </ul>
<b>Books:</b>	<ul style="list-style-type: none"> <li>• Porter, T. (2004) <i>Wood: Identification and Use</i>. GMC Publications.</li> <li>• Kovac, K., Greeno, R. and Chudley, R. (2024) <i>Chudley and Greeno's Building Construction Handbook</i>. Routledge.</li> <li>• Tricker, R. and Alford, S. (2022) <i>Building Regulations Pocket Book, 2nd edition</i>. Routledge.</li> <li>• Burdfield, M. et al (2015) <i>Level 3 Diploma in Site Carpentry &amp; Bench Joinery</i>. City &amp; Guilds.</li> <li>• Fearn, C. et al (2014) <i>Level 2 Diploma in Site Carpentry &amp; Bench Joinery</i>. City &amp; Guilds.</li> <li>• Jones, S., Redfern, S. and Fearn, C. (2019) <i>Site Carpentry and Architectural Joinery for the Level 2 Apprenticeship (6571), Level 2 Technical Certificate (7906) &amp; Level 2 Diploma (6706)</i>. City &amp; Guilds.</li> <li>• Burdfield, M. et al (2020) <i>Site Carpentry &amp; Architectural Joinery for the Level 3 Apprenticeship (6571), Level 3 Advanced Technical Diploma (7906) &amp; Level 3 Diploma (6706)</i>. City &amp; Guilds.</li> </ul>
<b>Websites:</b>	<ul style="list-style-type: none"> <li>• Information on carpentry and joinery: <a href="https://instituteofcarpenters.com/">https://instituteofcarpenters.com/</a></li> <li>• Information on sustainable forestry practices: <a href="https://forests.org/">https://forests.org/</a></li> <li>• Health and Safety Executive: <a href="http://www.hse.gov.uk">http://www.hse.gov.uk</a></li> <li>• Planning Portal: <a href="http://www.planningportal.gov.uk">http://www.planningportal.gov.uk</a></li> <li>• Building regulations: <a href="http://www.planningportal.gov.uk">http://www.planningportal.gov.uk</a></li> </ul>

## Unit 311

## First fix

<b>Unit level:</b>	3
<b>Guided Learning Hours (GLH):</b>	80
<b>Unit aim:</b>	The aim of this unit is for learners to develop the knowledge, understanding, skills and techniques of setting out and fixing first fix site carpentry components. Learners will learn how to use tools and techniques for completing complex partitions and floor coverings to the required standards safely.
<b>Assessment method:</b>	MCQ, practical assignment
<b>Links to Apprenticeship Standard:</b>	ST0263 Craft Carpentry and Joinery

### Learning outcomes

#### The learner will:

- LO1 Understand the first fix activities and techniques involved in the erection of non-standard stud and structural partitions
- LO2 Understand the first fix activities and techniques involved in the installation of non-standard floor coverings
- LO3 Install non-standard stud partitions, structural partitions and floor coverings

## Learning outcome 1

Understand the first fix activities and techniques involved in the erection of complex non-standard stud and structural partitions

Topics	Content elements
1.1 The purpose of complex stud partitioning and structural partitions	<p>1.1.1 The purpose of, design features and installation techniques used to create complex stud partitioning and structural partitions with standard and non-standard (non-90 degree) turns</p> <ul style="list-style-type: none"><li>a) Types<ul style="list-style-type: none"><li>i. Bespoke angled stud wall</li><li>ii. Bespoke angled stud wall with doorway</li><li>iii. Bespoke angled stud wall with window aperture</li></ul></li><li>b) Purpose of complex timber partitions<ul style="list-style-type: none"><li>i. Divide an interior space with non-standard stud work:<ul style="list-style-type: none"><li>- Design aesthetics</li><li>- Conceal structural defects</li><li>- Maximise perception of room size</li></ul></li><li>ii. Accommodate non-standard building design</li></ul></li></ul> <p>1.1.2 Techniques used to install complex timber and structural partitions</p> <ul style="list-style-type: none"><li>i. Interpretation of structural engineer's information (structural partition/load-bearing)</li><li>ii. Use of appropriate fixings as per structural engineer's specification (structural partition)</li><li>iii. Bisection of angles where required when setting out and cutting of components</li></ul> <p>1.1.3 Types and purpose of complex structural partitions</p> <ul style="list-style-type: none"><li>a) Types<ul style="list-style-type: none"><li>i. Roof support</li><li>ii. Floor support</li><li>iii. Stairs support</li></ul></li><li>b) Purpose of complex structural partitions<ul style="list-style-type: none"><li>i. Supporting calculated loads</li><li>ii. Transferring live and dead loads</li></ul></li></ul> <p>1.1.4 Materials and strength grading of complex structural partitions</p> <ul style="list-style-type: none"><li>a) Materials<ul style="list-style-type: none"><li>i. Timber</li><li>ii. Laminated</li></ul></li></ul>

## Topics

## Content elements

- iii. Sheet materials (Oriented Strand Board (OSB) structural plywood)
- b) Strength gradings
  - i. C16: used for standard partitions when dividing spaces
  - ii. C24: used for structural partitions, weight-bearing, highest strength
  - iii. Structural plywood: used for additional strength, attached to face
  - iv. Engineered plywood: used for additional strength, attached to face

### 1.1.5 Elements of complex structural partitions

- a) Lintels: to transfer load over an opening
- b) Cripple studs: provide additional support to door and window openings
- c) Double studs: provide additional support to door and window openings and corners

### 1.1.6 Installation controls for complex structural partitions

- a) Sizings calculated by structural engineer
- b) 600 mm maximum centres
- c) Regulatory inspection/approval by a building control officer

## Learning outcome 2

Understand the first fix activities and techniques involved in the installation of non-standard floor coverings.

Topics	Content elements
2.1 Site carpentry techniques to install non-standard floor coverings	<p>2.1.1 Types of complex floor coverings</p> <p>a) Types</p> <ol style="list-style-type: none"><li>i. Complex angled design</li><li>ii. Acoustic</li><li>iii. Fire resistant</li><li>iv. Chemical resistant</li><li>v. Impact resistant</li></ol> <p>2.1.2 Materials used in complex floor coverings and reasons for use</p> <ol style="list-style-type: none"><li>i. Timber<ul style="list-style-type: none"><li>- Tongued and grooved: aesthetics</li><li>- Engineered: stability</li><li>- Sheet (OSB, plywood, chipboard): cost effective</li></ul></li><li>ii. Acoustic sheeting: soundproofing</li></ol> <p>2.1.3 Techniques used in fitting/installing complex floor coverings</p> <ol style="list-style-type: none"><li>i. Interpretation of manufacturer's information for floor covering product (component placement, order of components)</li><li>ii. Bisection of angles where required when setting out and cutting</li><li>iii. Use of adhesives or glues (polyurethane glue D4, PU glue)</li><li>iv. Working to complex floor layout</li></ol> <p>2.1.4 Checks required when installing complex floor coverings</p> <ol style="list-style-type: none"><li>i. Check manufacturer's moisture content values compared to the area of installation prior to installing</li><li>ii. Follow installation instructions from the manufacturer's data sheets for correct installation</li><li>iii. Use recommended insulation and membrane layers 'in accordance with manufacturer's data'</li></ol>

## Learning outcome 3

Install non-standard stud partitions, structural partitions and floor coverings

Topics	Content elements
3.1 Install a non-standard stud partition	<p>3.1.1 Review job requirements for the installation of a non-standard stud partition through:</p> <p>a) Extraction and interpretation of information from drawings, specifications and manufacturer's information, both paper-based and digital</p> <p>3.1.2 Plan and prepare for installation of a non-standard stud partition through the completion and following of:</p> <p>a) Risk assessment</p> <ul style="list-style-type: none"><li>i. Reviews potential risks and safety concerns</li><li>ii. Identification of correct PPE</li></ul> <p>b) Method statement</p> <ul style="list-style-type: none"><li>i) SSOW</li><li>ii) Safety control equipment<ul style="list-style-type: none"><li>- Dust suppression</li><li>- LEV</li><li>- RPE</li><li>- PPE</li></ul></li></ul> <p>3.1.3 Calculate resource and cost quantities from drawings for the installation of a non-standard stud partition</p> <p>3.1.4 Set out and construct the following non-standard stud partitions following the process steps:</p> <p>a) Non-standard stud partitions</p> <ul style="list-style-type: none"><li>i. Bespoke angled stud wall with doorway</li><li>ii. Bespoke angled stud wall with window aperture</li></ul> <p>b) Process steps:</p> <ul style="list-style-type: none"><li>i. Apply environmental and sustainability principles when selecting appropriate materials</li><li>ii. Mark out timber</li><li>iii. Bisect angles as per drawings</li><li>iv. Measure and cut components</li><li>v. Erect partition</li><li>vi. Select fixings according to subbase</li><li>vii. Install partition conducting quality checks for plumb, level, square and that angles are correct</li></ul>

	<p>viii. Correct disposal of waste in line with environmental and regulatory requirements</p>
3.2 Install a structural partition	<p>3.2.1 Review job requirements for the installation of a structural partition through:</p> <p>a) Extraction and interpretation of information from drawings, specifications and manufacturer's information, both paper-based and digital</p> <p>3.2.2 Plan and prepare for the installation of a structural partition through the completion and following of:</p> <p>a) Risk assessment</p> <ol style="list-style-type: none"> <li>i. Review potential risks and safety concerns</li> <li>ii. Identification of correct PPE</li> </ol> <p>b) Method statement</p> <ol style="list-style-type: none"> <li>i. SSOW</li> <li>ii. Safety control equipment <ul style="list-style-type: none"> <li>- Dust suppression</li> <li>- LEV</li> <li>- RPE</li> <li>- PPE</li> </ul> </li> </ol> <p>3.2.3 Calculate resource and cost quantities from drawings for the installation of a structural partition</p> <p>3.2.4 Set out and construct a structural partition following the process steps:</p> <ol style="list-style-type: none"> <li>a) Apply environmental and sustainability principles when selecting appropriate materials</li> <li>b) Mark out timber</li> <li>c) Bisect angles as per drawings</li> <li>d) Measure and cut components</li> <li>e) Erect structural partition</li> <li>f) Select fixings according to subbase</li> <li>g) Install a structural partition conducting quality checks for plumb, level, square and that angles are correct</li> <li>h) Correct disposal of waste in line with environmental and regulatory requirements</li> </ol>
3.3 Install non-standard floor coverings	<p>3.3.1 Review job requirements for the installation of non-standard floor coverings through:</p> <p>a) Extraction and interpretation of information from drawings, specifications and manufacturer's information, both paper-based and digital</p>

3.3.2 Plan and prepare for the installation of non-standard floor coverings through the completion and following of:

a) Risk assessment

- i. Reviews potential risks and safety concerns
- ii. Identification of correct PPE

b) Method statement

- i. SSOW
- ii. Safety control equipment
  - Dust suppression
  - LEV
  - RPE
  - PPE

3.3.3 Calculate resource and cost quantities from drawings for the installation of non-standard floor coverings

3.3.4 Set out and install non-standard floor covering following the process steps:

- a) Apply environmental and sustainability principles when selecting appropriate materials
- b) Mark out timber
- c) Bisect angles as per drawings
- d) Measure and cut components
- e) Install non-standard floor covering
- f) Select fixings according to subbase and material
- g) Install non-standard floor covering conducting quality checks for level, square and that angles are correct
- h) Correct disposal of waste in line with environmental and regulatory requirements

## Unit guidance for delivery

<b>Opportunities for efficiencies in delivery across/between units:</b>	<ul style="list-style-type: none"><li>• Peer assessment: Encourage students to assess each other's work developing critical thinking and communication skills.</li><li>• Standardised templates: Develop templates for units to ensure delivery is consistent across unit where applicable.</li></ul>
<b>Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:</b>	<ul style="list-style-type: none"><li>• Practical skills: Implement short, practical assessments throughout the programme where students create small models or components using specific joinery methods.</li><li>• Knowledge checks: Integrate short quizzes or online learning checks after key theoretical concepts to ensure understanding before moving on.</li></ul>
<b>Opportunities for visits/engagement with local industry and employers:</b>	<ul style="list-style-type: none"><li>• Organise visits to joinery workshops to observe professionals working on complex projects.</li><li>• Invite local guest speakers (carpenters, joiners) to share their experiences and practical tips for tackling complex tasks.</li><li>• Partner with local businesses for project-based learning, where students design and build elements for real-world applications.</li></ul>
<b>Considerations for innovative methods of delivery:</b>	<ul style="list-style-type: none"><li>• The use of AI to help support and guide lecturers on delivery of certain topics.</li><li>• VR simulations to practise complex joinery techniques in a safe, controlled environment before working with real wood.</li><li>• The use of digital games and quizzes to enhance learning.</li></ul>
<b>Ways of ensuring content is delivered in line with current, up to date industry practice:</b>	<ul style="list-style-type: none"><li>• Integrate case studies and examples of recent advancements in carpentry techniques and wood technologies.</li><li>• Encourage instructors to attend sites and conferences to stay updated on the latest trends and best practices.</li></ul>
<b>EDI or accessibility considerations:</b>	<ul style="list-style-type: none"><li>• Ensure all learning materials are accessible in various formats (eg dyslexia-friendly fonts, audio recordings) to cater to diverse learning styles.</li><li>• Adapt formative assessments to accommodate different learning abilities, offering alternative ways for students to demonstrate their understanding.</li><li>• Consider offering flexible learning options to cater to students with different needs.</li><li>• 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.</li></ul>

<b>Digital initiative considerations:</b>	<ul style="list-style-type: none"> <li>• Develop online learning modules with detailed video tutorials showcasing complex joinery techniques and proper tool usage.</li> <li>• Implement the use of online classrooms and digital formats for work.</li> <li>• Use digital games and quizzes to enhance learning.</li> </ul>
<b>Sustainability considerations:</b>	<ul style="list-style-type: none"> <li>• Integrate modules on sustainable wood sourcing, responsible forestry practices, and proper use of environmentally friendly finishes.</li> <li>• Encourage the use of reclaimed wood or engineered wood products with lower environmental impacts.</li> <li>• Use digital techniques where possible to reduce the use of raw materials.</li> </ul>
<b>Books:</b>	<ul style="list-style-type: none"> <li>• Goring, L. (2018) <i>Manual of First and Second Fixing Carpentry</i>. Routledge.</li> <li>• Brett, P. (2022) <i>Site Carpentry and Joinery</i>. Nelson Thornes Ltd.</li> <li>• Burdfield, M. et al (2015) <i>Level 3 Diploma in Site Carpentry &amp; Bench Joinery</i>. City &amp; Guilds.</li> <li>• Fearn, C. (2013) <i>Level 2 Diploma in Site Carpentry and Bench Joinery</i>. City &amp; Guilds.</li> </ul>
<b>Websites:</b>	<p>First fix explained:  <a href="https://www.designingbuildings.co.uk/wiki/First%20fix">https://www.designingbuildings.co.uk/wiki/First%20fix</a></p> <p>Difference between first and second fix:  <a href="https://www.self-build.co.uk/first-fix-second-fix-building-work-stages-explained/">https://www.self-build.co.uk/first-fix-second-fix-building-work-stages-explained/</a></p> <ul style="list-style-type: none"> <li>• Health and Safety Executive: <a href="http://www.hse.gov.uk">http://www.hse.gov.uk</a></li> <li>• Planning Portal: <a href="http://www.planningportal.gov.uk">http://www.planningportal.gov.uk</a></li> <li>• Building regulations: <a href="http://www.planningportal.gov.uk">http://www.planningportal.gov.uk</a></li> </ul>

## Unit 312 Second fix

<b>Unit level:</b>	3
<b>Guided Learning Hours (GLH):</b>	80
<b>Unit aim:</b>	The aim of this unit is for learners to develop the knowledge, understanding, skills and techniques of setting out and fixing second fix site carpentry components and the tools and equipment used.
<b>Assessment method:</b>	MCQ and practical assessment
<b>Links to Apprenticeship Standard:</b>	ST0263 Craft Carpentry and Joinery

### Learning outcomes

#### The learner will:

- LO1 Know how to select appropriate resources for complex second fix activities to comply with contractual requirements
- LO2 Install second fix components to comply with contractual requirements.

### Learning outcome 1

Know how to select appropriate resources for complex second fix activities to comply with contractual requirements

Topics	Content elements
1.1 The purpose of and techniques involved in complex second fix components	<p>1.1.1 Types and purpose of double sidehung doors and associated ironmongery</p> <ul style="list-style-type: none"><li>a) Types<ul style="list-style-type: none"><li>i. Rebated</li><li>ii. Non-rebated</li></ul></li> <li>b) Purpose of double sidehung doors and associated ironmongery<ul style="list-style-type: none"><li>i. Access: compliance with Part M of building regulations, use of building, client requirements</li><li>ii. Aesthetics: client preference, planning requirements</li></ul></li></ul>

c) Types of ironmongery:

- i. Hinges: parliament (to allow 180 degree opening), single-action (to allow opening one way and self-closing), double-action (to allow opening both ways and self-closing), rising butt (to lift the foot of the door upon opening and self-closing)
- ii. Locks: rebated tubular latch (to allow the latch to be fitted to a rebated door), rebated mortice sash lock (to allow the lock to be fitted to a rebated door), multi-point locking system (to provide extra security)
- iii. Security: barrel bolts (to bolt one door to another or to the ground), hinge bolts (to provide security against leverage), swan-neck bolt, flush bolt, rack bolt (to bolt the slave door to the head of the frame), door viewer (used in solid doors to observe callers)
- iv. Door closers: concealed (hidden sprung chain in hinge rebate to automatically close the door), spring (fitted on hinge side to the face of the door and frame to automatically close the door), overhead (fitted to the head of the frame to the face of the door to automatically close the door)

1.1.2 Techniques used to install double sidehung doors and associated ironmongery

- a) Interpretation of manufacturer's information
- b) Use of appropriate ironmongery as per specification

1.1.3 Types and purpose of bespoke wall and floor units and worktops with mason's mitre

a) Types

- i. Curved (internal and external)
- ii. Splayed (anything other than 90 degrees, spandrel frame, eaves storage)
- iii. Pull-outs (racks, carousels, non-standard shelving)
- iv. Purpose-made
- v. 90-degree and non-90-degree chipboard laminated worktop

b) Purpose of bespoke wall and floor units and worktops with mason's mitre

## Topics

## Content elements

- i. To meet client expectation and requirements (accessibility)
- ii. To encompass structural anomalies/fit an uneven aperture
- iii. Aesthetics
- iv. To create a working surface

### 1.1.4 Techniques used to install bespoke wall and floor units and worktops with mason's mitre

- a) Interpretation of manufacturer's information to check the sequence for installation, to identify areas for additional protection (sealing)
- b) Use of worktop jig for mason's mitres, 90- and non-90-degree turns, straight joints, radiuses, worktop connector bolts
- c) Use of biscuit jointer to join materials flush and add strength to the joint by creating a large surface area
- d) Use of complementary jointing compound to seal the joints

### 1.1.5 Types and purpose of non-standard mouldings including cornices and fitments

#### a) Types

- i. Raking mouldings
- ii. Non-90 degree (architrave and skirting)
- iii. Returns (skirting to floor and to the wall)
- iv. Skirting and dado up a staircase
- v. Cornices and pelmet
- vi. Non-standard profiles

#### b) Purpose of non-standard mouldings including cornices and fitments

- i. To meet client expectation
- ii. To encompass structural anomalies/fit an uneven aperture
- iii. Aesthetics
- iv. To match an existing moulding profile

### 1.1.6 Techniques used to install non-standard mouldings including cornices and fitments

- a) Bisection of angles
- b) Splicing to match with existing profile
- c) Developing rake moulding profiles
- d) Creation of a compound mitre

Topics	Content elements
	<p>1.1.7 Types and purpose of service encasements with access panels</p> <p>a) Types of access panel</p> <ul style="list-style-type: none"> <li>i. Removable panel</li> <li>ii. Hinge door</li> <li>iii. Pre-assembled set</li> </ul> <p>b) Purpose of service encasements with access panels</p> <ul style="list-style-type: none"> <li>i. To provide maintenance access</li> <li>ii. To provide emergency access to isolation of services</li> <li>iii. To prevent vermin access</li> <li>iv. To prevent unauthorised access</li> <li>v. Aesthetics</li> </ul> <p>1.1.8 Techniques used to install service encasements with access panels</p> <ul style="list-style-type: none"> <li>i. Fitting of pre-assembled set to manufacturer's instructions</li> <li>ii. Trimming out of opening (utilise noggins and stops)</li> <li>iii. Forming linings</li> <li>iv. Installing thermal and acoustic insulation (reduces condensation and improves soundproofing)</li> </ul>
<p>1.2 Hand and power tools required for completing second fix activities to comply with contractual requirements</p>	<p>1.2.1 Hand and power tools used for completing second fix activities and their uses</p> <p>a) Power tools</p> <ul style="list-style-type: none"> <li>i. Circular saw</li> <li>ii. Chop saw</li> <li>iii. Electric planner</li> <li>iv. Router</li> <li>v. Finishing nailer/nail gun</li> <li>vi. Jigsaws</li> <li>vii. Cordless drill driver with pilot bit and screwdriver bits</li> <li>viii. Router bits (fluted, moulding)</li> </ul> <p>b) Hand tools and jigs</p> <ul style="list-style-type: none"> <li>i. Saws (panel, tenon, coping)</li> <li>ii. Chisels</li> <li>iii. Gauges</li> <li>iv. Marking or cutting knives</li> </ul>

Topics	Content elements
	<ul style="list-style-type: none"> <li>v. Hammers/mallets</li> <li>vi. Bradawl</li> <li>vii. Screwdrivers</li> <li>viii. Square bevel</li> <li>ix. Scribing block</li> <li>x. Nails</li> <li>xi. Punches</li> <li>xii. Levels</li> </ul> <p>c) Jigs</p> <ul style="list-style-type: none"> <li>i. Worktop</li> <li>ii. Hinge</li> <li>iii. Mortice lock</li> </ul>

## Learning outcome 2

Install second fix components to comply with contractual requirements.

Topics	Content elements
2.1 Plan and prepare for the installation of second fix components	<p>2.1.1 Review job requirements for the installation of second fix components through:</p> <ul style="list-style-type: none"> <li>a) Extraction and interpretation of information from drawings, specifications and manufacturer's information, both paper-based and digital</li> </ul> <p>2.1.2 Plan and prepare for installation of second fix components through the completion and following of:</p> <ul style="list-style-type: none"> <li>a) Risk assessment <ul style="list-style-type: none"> <li>i) Review potential risks and safety concerns</li> <li>ii) Identification of correct PPE</li> </ul> </li> <li>b) Method statement <ul style="list-style-type: none"> <li>i) SSOW</li> <li>ii) Safety control equipment <ul style="list-style-type: none"> <li>- Dust suppression</li> <li>- LEV</li> <li>- RPE</li> <li>- PPE</li> </ul> </li> </ul> </li> </ul> <p>2.1.3 Calculate resource and cost quantities from drawings for the installation of second fix components.</p>

Topics	Content elements
2.2 Process of installation for second fix components	2.2.1 Safely apply a range of skills to carry out second fix tasks to contract specifications <ul style="list-style-type: none"> <li>b) Apply environmental and sustainability principles when selecting appropriate materials</li> <li>c) Measure</li> <li>d) Mark out</li> <li>e) Cut</li> <li>f) Fit components</li> <li>g) Finish</li> <li>h) Position</li> <li>i) Secure materials</li> <li>j) Correct disposal of waste in line with environmental and regulatory requirements</li> </ul>
2.3 Safely carry out a range of complex second fix tasks to given contractual requirements.	2.3.1 Safely carry out a range of second fix tasks to contract specifications <ul style="list-style-type: none"> <li>a) Install               <ul style="list-style-type: none"> <li>i. Double sidehung doors with associated ironmongery and linings</li> <li>ii. Bespoke wall and floor units and worktops with mason's mitre</li> <li>iii. Non-standard mouldings including cornices and fitments</li> <li>iv. Service encasements with access panels</li> </ul> </li> </ul> 2.3.2 Safely cut and fit a range of complex mouldings. <ul style="list-style-type: none"> <li>a) Internal angles</li> <li>b) External angles (obtuse and acute)</li> <li>c) Returns</li> </ul>

## Unit guidance for delivery

<p><b>Opportunities for efficiencies in delivery across/between units:</b></p>	<p>Tutors delivering this unit will have opportunities to use a wide range of techniques, including lectures, discussions, research, visits to exhibitions and workshop visits. Delivery should stimulate, motivate and educate the learner.</p>
<p><b>Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:</b></p>	<ul style="list-style-type: none"> <li>• Practical skills: Implement short, practical assessments throughout the programme where students create small models or components using specific joinery methods.</li> <li>• Knowledge checks: Integrate short quizzes or online learning checks after key theoretical concepts to ensure understanding before moving on.</li> </ul>
<p><b>Opportunities for visits/engagement with local industry and employers:</b></p>	<ul style="list-style-type: none"> <li>• Organise visits to joinery workshops to observe professionals working on complex projects.</li> <li>• Invite local guest speakers (carpenters, joiners) to share their experiences and practical tips for tackling complex tasks.</li> <li>• Partner with local businesses for project-based learning, where students design and build elements for real-world applications.</li> </ul>
<p><b>Considerations for innovative methods of delivery:</b></p>	<ul style="list-style-type: none"> <li>• The use of AI to help support and guide lecturers on delivery of certain topics.</li> <li>• VR simulations to practice complex joinery techniques in a safe, controlled environment before working with real wood.</li> <li>• The use of digital games and quizzes to enhance learning.</li> <li>• The use of blended learning to promote key concepts.</li> </ul>
<p><b>Ways of ensuring content is delivered in line with current, up to date industry practice:</b></p>	<p>Staff carry out industry relevant CPD on site to ensure that skills maintain currency.</p>
<p><b>EDI or accessibility considerations:</b></p>	<p>Digitisation of resources 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</p>

	include gender-balanced representation and avoid reinforcing stereotypes.
<b>Digital initiative considerations:</b>	<ul style="list-style-type: none"> <li>• Use of VR for simulation of training on machine.</li> <li>• Use of online quiz systems to allow for self-marking end of unit knowledge assessment.</li> <li>• Use of blended learning to promote key concepts.</li> </ul>
<b>Sustainability considerations:</b>	Use of digital virtual learning environment and electronic assessment to reduce paper outcomes.
<b>Books:</b>	<ul style="list-style-type: none"> <li>• Burdfield, M. et al (2015) <i>Level 3 Diploma in Site Carpentry &amp; Bench Joinery</i>. City &amp; Guilds.</li> <li>• Fearn, C. (2013) <i>Level 2 Diploma in Site Carpentry and Bench Joinery</i>. City &amp; Guilds.</li> <li>• Jones, S., Redfern, S. and Fearn, C. (2019) <i>Site Carpentry and Architectural Joinery for the Level 2 Apprenticeship (6571), Level 2 Technical Certificate (7906) &amp; Level 2 Diploma (6706)</i>. City &amp; Guilds.</li> <li>• Burdfield, M. et al (2020) <i>Site Carpentry &amp; Architectural Joinery for the Level 3 Apprenticeship (6571), Level 3 Advanced Technical Diploma (7906) &amp; Level 3 Diploma (6706)</i>. City &amp; Guilds.</li> </ul>
<b>Websites:</b>	<ul style="list-style-type: none"> <li>• Health and Safety Executive: <a href="http://www.hse.gov.uk">http://www.hse.gov.uk</a></li> <li>• Planning Portal <a href="http://www.planningportal.gov.uk">http://www.planningportal.gov.uk</a></li> <li>• Building regulations <a href="http://www.planningportal.gov.uk">http://www.planningportal.gov.uk</a></li> </ul>

## Unit 313

## Roofing

<b>Unit level:</b>	3
<b>Guided Learning Hours (GLH):</b>	120
<b>Unit aim:</b>	The aim of this unit is for learners to develop the knowledge, understanding, skills and techniques to construct complex roofs.
<b>Assessment method:</b>	MCQ and practical assessment
<b>Links to Apprenticeship Standard:</b>	ST0263 Craft Carpentry and Joinery

### Learning outcomes

#### The learner will:

- LO1 Understand the components and techniques used to construct complex roofs.
- LO2 Set out and construct a complex roof.

### Learning outcome 1

Understand the components and techniques used to construct complex roofs

Topics	Content elements
1.1 Materials used in the construction of complex roofs	<p>1.1.1 Types of timber, used in the construction of complex roofs</p> <ul style="list-style-type: none"><li>a) Common types of timber used in the construction of complex roofs:<ul style="list-style-type: none"><li>i. Hardwood</li><li>ii. Softwood</li><li>iii. Engineered timbers</li></ul></li></ul> <p>1.1.2 Strength grading of commonly used timbers in the construction of roofs</p> <ul style="list-style-type: none"><li>a) Characteristics determining strength grade:<ul style="list-style-type: none"><li>i. Appearance</li><li>ii. Moisture content</li><li>iii. Defects</li><li>iv. Durability</li></ul></li><li>b) Commonly used grading sizes (used in conjunction with standardised visual softwood structural sizing tables)<ul style="list-style-type: none"><li>i. Canadian Lumber Standard</li></ul></li></ul>

Topics	Content elements
	<ul style="list-style-type: none"> <li>ii. C16</li> <li>iii. C24</li> <li>iv. TR8</li> <li>v. TR26</li> </ul> <p>c) Purpose of using strength grading:</p> <ul style="list-style-type: none"> <li>i. Comply with building regulations (Approved Document Part A)</li> <li>ii. Suitability (correct timber for a specific role)</li> <li>iii. Environmental conditions</li> </ul> <p>1.1.3 Commonly used fixings and materials used on complex roofs and factors affecting choice</p> <p>a) Fixings</p> <ul style="list-style-type: none"> <li>i. Truss clips</li> <li>ii. Nails (twist, clout, round wire and ring shank)</li> <li>iii. Screws and wall plugs</li> <li>iv. Bolts, washers and nuts</li> <li>v. Timber connectors</li> <li>vi. Wooden dowels</li> <li>vii. Lateral restraint straps</li> </ul> <p>b) Types of materials:</p> <ul style="list-style-type: none"> <li>i. Breathable membrane</li> <li>ii. Slate</li> <li>iii. Tile</li> <li>iv. Lead</li> <li>v. Fibreglass/slab insulation</li> <li>vi. Ethylene propylene diene monomer rubber</li> <li>vii. Universal beams/Rolled Steel Joists</li> <li>viii. Corrugated sheets (metals/plastics)</li> </ul> <p>c) Factors affecting choice of materials and fixings:</p> <ul style="list-style-type: none"> <li>i. Strength</li> <li>ii. Aesthetics</li> <li>iii. Cost</li> <li>iv. Workability</li> <li>v. Durability</li> <li>vi. Final treatment</li> <li>vii. Maintenance requirements</li> <li>viii. Statutory requirements</li> <li>ix. Environmental conditions</li> </ul>

## 1.2 Types of complex roofs, their components and calculations used

### 1.2.1 Types of complex roofs, components and terminology used for setting out complex roof work

- a) Types of complex roofs
  - i. Truss
  - ii. Traditional cut
  
- b) Designs of complex roofs
  - i. Hipped and half-hipped
  - ii. Valley
  - iii. Gable
  - iv. Dormers
  - v. Box gutters
  - vi. Monopitch
  - vii. Lean-to
  - viii. Gambrel (Dutch/barn)
  - ix. Mansard
  
- c) Components of truss and traditional cut complex roofs:
  - i. Ridge board
  - ii. Rafters (common, hip, valley, crown, cripple, jack)
  - iii. Purlins
  - iv. Collar ties
  - v. Dragon ties: used to prevent spread of hip rafter
  - vi. Wall plate
  - vii. Trimmers
  - viii. Lay boards and valley boards
  - ix. Saddle board
  - x. Hip trusses
  - xi. Diminishing trusses
  - xii. Bracing (longitudinal, temporary, diagonal, wind and lateral)
  - xiii. Fascia, soffit, barge board
  - xiv. Ceiling joists
  - xv. Binders
  - xvi. Gable ladder
  - xvii. Verge
  - xviii. Eaves
  
- d) Key terms used when setting out complex roof work
  - i. Run: half of the horizontal width from eaves to eaves
  - ii. Rise: represents the vertical distance between two points on the roof surface

Topics	Content elements
	<ul style="list-style-type: none"> <li>iii. True length (common, hip, valley, crown, cripple, jack): determines the overall length of the roof rafters</li> <li>iv. Span: the overall horizontal width of the roof from eaves to eaves</li> <li>v. Pitch: indicates the angle of inclination of the roof surface</li> <li>vi. Plumb, seat and birds mouth cuts: any vertical cut to a rafter (plumb), any horizontal cut (seat), combination of the two (birds mouth)</li> </ul> <p>1.2.2 Methods of calculating roofing component lengths and angles</p> <ul style="list-style-type: none"> <li>i. Ready reckoner</li> <li>ii. Phone apps</li> <li>iii. In situ</li> <li>iv. Scale drawings</li> <li>v. Speed/roofing square</li> <li>vi. Pythagoras: <math>a^2 + b^2 = c^2</math></li> <li>vii. Trigonometry: sin-cos-tan</li> </ul>
1.3 Tools used to construct complex roofs	<p>1.3.1 Types of specific hand and power tools and their uses in constructing complex roofs</p> <p>a) Hand tools</p> <ul style="list-style-type: none"> <li>i. Sliding bevel: used to set different angles and used for marking off</li> <li>ii. Speed square/roofing square: used to calculate and set out the roof</li> <li>iii. Chalk/string line: used to transfer measurements over distance</li> <li>iv. Socket set/spanners: used to install bolts</li> <li>v. Spirit level: used to check plumb and level</li> </ul> <p>b) Power tools</p> <ul style="list-style-type: none"> <li>i. Sliding compound mitre saw: used to cut timber to correct length and angle</li> <li>ii. First fix nail gun: used to fix structural timbers</li> <li>iii. PPN (positive placement nail gun): used for attaching fixings</li> <li>iv. Multi-tool: used for various applications when constructing complex roofs</li> <li>v. Reciprocating saw: used for quick and efficient cutting of materials</li> </ul>

## Learning outcome 2

Set out and construct a complex roof.

Topics	Content elements
2.1 Plan and prepare to construct a complex roof	<p>2.1.1 Review job requirements for the construction of a complex roof:</p> <ul style="list-style-type: none"><li>a) Interpret drawings information to plan for constructing a complex roof</li><li>b) Produce relevant information:<ul style="list-style-type: none"><li>i. Risk assessment</li><li>ii. Method statement</li><li>iii. Resource list including:<ul style="list-style-type: none"><li>- Materials</li><li>- Fixings</li><li>- Tools and equipment</li><li>- PPE</li></ul></li></ul></li><li>c) Calculate costs of resources required to complete the work</li><li>d) Select and check appropriate resources to safely construct a complex roof<ul style="list-style-type: none"><li>- Hand tools</li><li>- Power tools</li><li>- PPE</li></ul></li></ul>
2.2 Construct a complex roof	<p>2.2.1 Construct a complex roof</p> <ul style="list-style-type: none"><li>a) Select materials to construct complex roofs:<ul style="list-style-type: none"><li>i. Apply environmental and sustainability principles when selecting appropriate materials</li></ul></li><li>b) Measure, mark, cut and fix a complex roof using:<ul style="list-style-type: none"><li>i. Traditional construction</li><li>ii. Truss construction</li></ul></li><li>c) Measure, mark, cut and fix a complex roof/wall plates to fit the roof footprint/fix in relation to:<ul style="list-style-type: none"><li>i. Dormer windows</li><li>ii. Truss and traditional hip roofs</li><li>iii. Valleys</li></ul></li><li>d) Process:<ul style="list-style-type: none"><li>i. Timber is marked out to correct measurements</li><li>ii. Components are measured and cut</li><li>iii. Suitable fixings used to secure roof components</li></ul></li></ul>

Topics	Content elements
	<ul style="list-style-type: none"><li data-bbox="687 203 1458 282">iv. Roof is installed, with appropriate quality checks on angles and positioning</li><li data-bbox="687 282 1458 365">v. Correctly dispose of waste in line with environmental and regulatory requirements</li></ul>

## Unit guidance for delivery

<b>Opportunities for efficiencies in delivery across/between units:</b>	<ul style="list-style-type: none"><li>• Peer assessment: Encourage students to assess each other's work, developing critical thinking and communication skills.</li><li>• Standardised templates: Develop templates for units to ensure delivery is consistent across unit where applicable.</li></ul>
<b>Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:</b>	<ul style="list-style-type: none"><li>• Practical skills: Implement short, practical assessments throughout the programme where students create small models or components using specific carpentry methods.</li><li>• Knowledge checks: Integrate short quizzes or online learning checks after key theoretical concepts to ensure understanding before moving on.</li></ul>
<b>Opportunities for visits/engagement with local industry and employers:</b>	<ul style="list-style-type: none"><li>• Organise visits to construction sites to observe professionals working on complex projects.</li><li>• Invite local guest speakers (carpenters) to share their experiences and practical tips for tackling complex tasks.</li><li>• Partner with local businesses for project-based learning, where students design and build elements for real-world applications.</li></ul>
<b>Considerations for innovative methods of delivery:</b>	<ul style="list-style-type: none"><li>• The use of AI to support and guide lecturers on delivery of certain topics.</li><li>• (VR) simulations to practise complex joinery techniques in a safe, controlled environment before working with real wood.</li><li>• The use of digital games and quizzes to enhance learning.</li></ul>
<b>Ways of ensuring content is delivered in line with current, up to date industry practice:</b>	<ul style="list-style-type: none"><li>• Integrate case studies and examples of recent advancements in joinery techniques and wood technologies.</li><li>• Encourage instructors to attend workshops and conferences to stay updated on the latest trends and best practices.</li></ul>

<b>EDI or accessibility considerations:</b>	<ul style="list-style-type: none"> <li>• Ensure all learning materials are accessible in various formats (e.g., dyslexia-friendly fonts, audio recordings) to cater to diverse learning styles.</li> <li>• Adapt formative assessments to accommodate different learning abilities, offering alternative ways for students to demonstrate their understanding.</li> <li>• Consider offering flexible learning options to cater to students with different needs.</li> <li>• 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.</li> </ul>
<b>Digital initiative considerations:</b>	<ul style="list-style-type: none"> <li>• Develop online learning modules with detailed video tutorials showcasing complex joinery techniques and proper tool usage.</li> <li>• Implement the use of online classrooms and digital formats for work</li> </ul>
<b>Sustainability considerations:</b>	<ul style="list-style-type: none"> <li>• Integrate modules on sustainable wood sourcing, responsible forestry practices, and proper use of environmentally friendly finishes.</li> <li>• Encourage the use of reclaimed wood or engineered wood products with lower environmental impacts.</li> </ul>
<b>Books:</b>	<ul style="list-style-type: none"> <li>• Mindham, C. (2006) <i>Roof Construction and Loft Conversion, 4th edition</i>. Wiley-Blackwell.</li> <li>• Burdfield, M. et al (2015) <i>Level 3 Diploma in Site Carpentry and Bench Joinery</i>. City &amp; Guilds.</li> <li>• Fearn, C. (2013) <i>Level 2 Diploma in Site Carpentry and Bench Joinery</i>. City &amp; Guilds.</li> </ul>
<b>Websites:</b>	<p>NHBC Standards: <a href="https://nhbc-standards.co.uk/7-roofs/7-2-pitched-roofs/">https://nhbc-standards.co.uk/7-roofs/7-2-pitched-roofs/</a></p> <p>Roof structures explained: <a href="https://www.homebuilding.co.uk/advice/roof-structures-explained">https://www.homebuilding.co.uk/advice/roof-structures-explained</a></p> <p>Health and Safety Executive: <a href="http://www.hse.gov.uk">http://www.hse.gov.uk</a></p>

## Unit 314

## Maintenance and repairs

<b>Unit level:</b>	3
<b>Guided Learning Hours (GLH):</b>	40
<b>Unit aim:</b>	The aim of this unit is for learners to develop the knowledge, understanding, skills and techniques of carpentry maintenance and repairs.
<b>Assessment method:</b>	MCQ and practical assessment
<b>Links to Apprenticeship Standard:</b>	ST0263 Craft Carpentry and Joinery

### Learning outcomes

#### The learner will:

- LO1 Understand how to plan and prepare for maintenance/repairs on structural and non-structural carpentry
- LO2 Carry out maintenance and repairs to carpentry components.

### Learning outcome 1

Understand how to plan and prepare for maintenance/repairs on structural and non-structural carpentry

Topics	Content elements
1.1 Reasons why and location of maintenance and repairs required for carpentry components	<ul style="list-style-type: none"><li>1.1.1 Difference between the terms 'maintenance' and 'repair'<ul style="list-style-type: none"><li>a) Maintenance: proactive</li><li>b) Repair: reactive</li></ul></li><li>1.1.2 Reasons for maintenance/repairs on carpentry components<ul style="list-style-type: none"><li>a) Dry rot</li><li>b) Wet rot</li><li>c) Insect attack (beetles, weevils, woodlice, woodworm)</li><li>d) Damage (water, fire, UV, impact, wear and tear, weather)</li><li>e) Design faults</li><li>f) Poor workmanship</li></ul></li></ul>

Topics	Content elements
	<p>1.1.3 Activities prior to undertaking maintenance/repair works and reasons for each</p> <ul style="list-style-type: none"> <li>a) Site survey: used to identify reasons for maintenance/repair</li> <li>b) Completion of a site survey checklist – used to assess different aspects in relation to the maintenance/repair <ul style="list-style-type: none"> <li>i. Structural or non-structural component</li> <li>ii. Type of repair</li> <li>iii. Causation (cause of the problem)</li> <li>iv. Location</li> <li>v. Jointing arrangement</li> <li>vi. Aesthetics</li> <li>vii. Cost</li> <li>viii. Issue or type of damage being repaired</li> <li>ix. Impact on end user</li> <li>x. Regulatory requirements/restrictions (historic buildings, compliance with building regulations)</li> <li>xi. Material types</li> </ul> </li> <li>c) Drafting of maintenance plans: to include prioritisation of task, to outline how the maintenance/repair will be undertaken</li> <li>d) Schedule maintenance/repair work: confirming when the activity will be carried out</li> </ul>
	<p>1.1.4 Location of carpentry components that may require maintenance/repair</p> <ul style="list-style-type: none"> <li>a) Internal <ul style="list-style-type: none"> <li>i. Structural: <ul style="list-style-type: none"> <li>- Joists (floors, ceilings, roof)</li> <li>- Rafters</li> <li>- Studs</li> <li>- Timber lintels</li> <li>- Staircases</li> </ul> </li> <li>ii. Non-structural: <ul style="list-style-type: none"> <li>- Mouldings</li> <li>- Doors and door casings</li> <li>- Skirting boards/architrave</li> <li>- Floorboards</li> <li>- Sash cords</li> <li>- Glazing</li> </ul> </li> </ul> </li> </ul>

Topics	Content elements
	<ul style="list-style-type: none"> <li>- Ironmongery (casement stays, hinges, locks, casement fasteners, pulleys, sash weights)</li> </ul> <p>b) External</p> <ul style="list-style-type: none"> <li>i. Structural: <ul style="list-style-type: none"> <li>- Timber lintels</li> <li>- Roofing timbers</li> </ul> </li> <li>ii. Non-structural: <ul style="list-style-type: none"> <li>- Timber guttering and fixings</li> <li>- Fascias and soffits</li> <li>- Fencing and gates</li> <li>- Windows, doors, frames and components</li> <li>- Glazing</li> <li>- Ironmongery (for example casement stays, hinges, locks, casement fasteners, pulleys, sash weights)</li> </ul> </li> </ul>
1.2 Types of maintenance and repair techniques	<p>1.2.1 Types of maintenance/repair techniques used to maintain/repair carpentry components and when each is used</p> <ul style="list-style-type: none"> <li>a) Partial replacement: complimentary, honest/transparent, like-for-like</li> <li>b) Splicing and piecing in: used on window and door frames, sills, mouldings</li> <li>c) Scarf joint: used on ridge boards and joists</li> <li>d) Splint repairs: used on joists and structural timbers to strengthen</li> <li>e) Fillers: resin, hardener, polymer, silicone and mastic, applied depending on location and type of damage</li> </ul>
1.3 Considerations when carrying out maintenance/repairs on historical buildings	<p>1.3.1 Types of historical buildings where additional requirements may be needed when undertaking maintenance/repairs</p> <ul style="list-style-type: none"> <li>a) Listed buildings (Grade 1, 2 and 2*)</li> <li>b) Heritage buildings</li> <li>c) Locally listed buildings</li> <li>d) Buildings located in conservation areas</li> <li>e) Pre-1919 buildings</li> </ul> <p>1.3.2 Considerations when preparing to undertake maintenance/repair work on historical buildings</p>

Topics	Content elements
	<ul style="list-style-type: none"> <li>a) Access to contact list for building (conservation officer)</li> <li>b) Techniques to use (considering restrictions or adaptations needed)</li> <li>c) Materials to use (considering restrictions and like for like workmanship and materials)</li> <li>d) Access requirements (restrictions for historical buildings to protect existing infrastructure)</li> <li>e) Building regulations applicable for historical and listed buildings</li> </ul>

## Learning outcome 2

Carry out maintenance and repairs to carpentry components.

Topics	Content elements
2.1 Plan and prepare in order to carry out maintenance and repairs on carpentry components	<p>2.1.1 Process stages undertaken as part of planning and preparation activities prior to maintenance/repair work</p> <ul style="list-style-type: none"> <li>a) Undertake a site survey, including completion of site survey checklist</li> <li>b) Draft maintenance plans</li> <li>c) Calculate costs of carrying out maintenance/repair works</li> <li>d) Schedule works</li> <li>e) Interpretation of drawings and information</li> <li>f) Create method statement relevant to task</li> <li>g) Undertake risk assessment relevant to task</li> <li>h) Correct disposal of waste in line with environmental and regulatory requirements</li> </ul>
2.2 Carry out repair and maintenance on structural and non-structural carpentry components	<p>2.2.1 Select materials to carry out repair and maintenance</p> <ul style="list-style-type: none"> <li>a) Apply environmental and sustainability principles when selecting appropriate materials</li> </ul> <p>2.2.2 Select appropriate tools, equipment and PPE</p> <ul style="list-style-type: none"> <li>a) Hand tools</li> <li>b) Power tools</li> </ul> <p>2.2.3 Identify and carry out repairs or maintenance on structural and non-structural carpentry components</p> <ul style="list-style-type: none"> <li>a) Joists</li> <li>b) Rafters</li> <li>c) Studs</li> </ul>

**Topics****Content elements**

- d) Frames - windows and doors
- e) Decorative mouldings
- f) Floor boards
- g) Ironmongery (casement stays, hinges, sash locks, casement fasteners, pulleys, sash weights)

## Unit guidance for delivery

<p><b>Opportunities for efficiencies in delivery across/between units:</b></p>	<ul style="list-style-type: none"> <li>• Peer assessment: Encourage students to assess each other's work, developing critical thinking and communication skills.</li> <li>• Standardised templates: Develop templates for units to ensure delivery is consistent across unit where applicable.</li> </ul>
<p><b>Suggestions for formative assessment opportunities, both for knowledge and practical outcomes:</b></p>	<ul style="list-style-type: none"> <li>• Practical skills: Implement short, practical assessments throughout the programme where students create small models or components using specific joinery methods.</li> <li>• Knowledge checks: Integrate short quizzes or online learning checks after key theoretical concepts to ensure understanding before moving on.</li> </ul>
<p><b>Opportunities for visits/engagement with local industry and employers:</b></p>	<ul style="list-style-type: none"> <li>• Organise visits to heritage buildings or renovation projects to observe professionals working on complex projects.</li> <li>• Invite local guest speakers (carpenters, joiners) to share their experiences and practical tips for tackling complex tasks.</li> <li>• Partner with local businesses for project-based learning, where students design and build elements for real-world applications.</li> </ul>
<p><b>Considerations for innovative methods of delivery:</b></p>	<ul style="list-style-type: none"> <li>• The use of AI to support and guide lecturers on delivery of certain topics.</li> <li>• VR simulations to practise complex joinery techniques in a safe, controlled environment before working with real wood.</li> <li>• The use of digital games and quizzes to enhance learning.</li> </ul>
<p><b>Ways of ensuring content is delivered in line with current, up to date industry practice:</b></p>	<ul style="list-style-type: none"> <li>• Integrate case studies and examples of recent advancements in joinery techniques and wood technologies.</li> <li>• Encourage instructors to attend workshops and conferences to stay updated on the latest trends and best practices.</li> </ul>
<p><b>EDI or accessibility considerations:</b></p>	<ul style="list-style-type: none"> <li>• Ensure all learning materials are accessible in various formats (e.g., dyslexia-friendly fonts, audio recordings) to cater to diverse learning styles.</li> <li>• Adapt formative assessments to accommodate different learning abilities, offering alternative ways for students to demonstrate their understanding.</li> <li>• Consider offering flexible learning options to cater to students with different needs.</li> </ul>

<b>Digital initiative considerations:</b>	<ul style="list-style-type: none"> <li>• Develop online learning modules with detailed video tutorials showcasing complex joinery techniques and proper tool usage.</li> <li>• Implement the use of online classrooms and digital formats for work.</li> </ul>
<b>Sustainability considerations:</b>	<ul style="list-style-type: none"> <li>• Integrate modules on sustainable wood sourcing, responsible forestry practices, and proper use of environmentally friendly finishes.</li> <li>• Encourage the use of reclaimed wood or engineered wood products with lower environmental impacts.</li> </ul>
<b>Books:</b>	<ul style="list-style-type: none"> <li>• Porter, B. and Rose, R. (2000) <i>Carpentry and Joinery Work Activities</i>. Butterworth-Heinemann.</li> <li>• Burdfield, M. et al (2015) <i>Level 3 Diploma in Site Carpentry &amp; Bench Joinery</i>. City &amp; Guilds.</li> <li>• Fearn, C. (2013) <i>Level 2 Diploma in Site Carpentry and Bench Joinery</i>. City &amp; Guilds.</li> </ul>
<b>Websites:</b>	<p><a href="#">Building Services Engineering   Historic England</a>  Health and Safety Executive: <a href="http://www.hse.gov.uk">http://www.hse.gov.uk</a>  Planning Portal: <a href="http://www.planningportal.gov.uk">http://www.planningportal.gov.uk</a>  Building regulations: <a href="http://www.planningportal.gov.uk">http://www.planningportal.gov.uk</a></p>

# Appendix 1                      Qualification content mapping to Occupational Standard(s)

The table below contains the mapping of the Occupational Standard (ST0263) KSBs to the City & Guilds Level 3 Technical Occupational Entry in Wood Occupations (Site Carpentry) (Diploma).

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

Unit	Knowledge, Skills, and Behaviours (KSBs) reference ST0263
310 – Introduction to Complex Carpentry & Joinery	K1, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11, K12, K13, K14, K15, K16, K17, K18, K19, K20, K21
311 – First Fix	K22, K24, K34, S1, S2, S3, S8, S10, S12, S13, S14, S18
312 – Second Fix	K21, K23, K25, S1, S2, S3, S4, S5, S7, S8, S9, S10, S12, S15, S16, S18
313 – Roofing	K21, K26, K28, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S12, S17, S18
314 – Maintenance and Repairs	K27, S1, S2, S3, S4, S5, S6, S8, S9, S10, S11, S12, S19

## 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 [www.cityandguilds.com](http://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.

### **Centre assessment: quality assurance standards**

This document sets out the minimum common quality assurance requirements for our qualifications that feature centre-assessed components.

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 guidance on administering portfolios and controlled assessments, including a definition of supervised conditions.

### **Access arrangements: when and how applications need to be made to City & Guilds**

This 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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