

# **Advanced Carpentry and Joinery in Construction**

## **Trailblazer Apprenticeship**

### **On-Programme Training Specification**

Sept 2018 Version 1

# **Advanced Carpentry and Joinery in Construction**

## **Employer Occupational Brief**

### **On-programme Assessment - Delivery of Training**

Although the employer is at liberty to select the way that the apprentice is trained, in most cases a suitable accredited training qualification, such as those listed below, delivered by an accredited training provider will be the best way of delivering training to an apprentice.

- Level 3 Diploma in Site Carpentry
- Level 3 Diploma in Architectural Joinery

Employers must ensure that any training delivery purchased, or delivered in-house, covers all knowledge and skills requirements detailed in the apprenticeship standard.

In order to assist employers in selecting a suitable qualification and training provider, and to help relevant organisations to develop qualifications that comply with the carpentry and joinery apprenticeship standard, detailed industry training specifications have been developed and are attached at Annex A – Site Carpenter and Annex B – Architectural Joiner of this document.

### **Delivering Consistent Assessment Judgements**

On-programme assessments will be delivered as part of a National Vocational Qualification (NVQ), awarded by an externally accredited awarding organisation, subject to monitoring and review by Ofqual.

In those rare cases where an employer chooses to deliver apprentice training in a different way, the employer must demonstrate to the assessment organisation that the apprentice has satisfied the requirements of the assessment gateway, before the apprentice is able to progress to the end point assessment. Apprenticeship Assessment organisations must ensure that end point assessments are freely available.

### **Delivering Reliable Assessment judgements**

The apprenticeship standard clearly defines the skills and knowledge requirement of the occupation and all assessment decisions are based on these standards. By including an employer occupational brief as an annex to this assessment plan, employers can ensure that any learning and assessment services procured will be in harmony with the industry training specification and the requirements of the apprenticeship standard. Independent assessment bodies will have robust systems in place to ensure that apprentices assessed in different parts of the country, by different assessors, are assessed in a consistent manner to the same standard.

## (Annex A) - Industry Training Specification – Advanced Site Carpentry

(Level 3) - Knowledge and Skills Requirements

### Core Requirements

Health, Safety and Welfare	
Skill Requirements	Knowledge Requirements
None applicable	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know the health, safety and welfare regulations, including roles and responsibilities</li> <li>• Know the requirements of the COSHH regulations</li> <li>• Know the accident and emergency procedures and reporting requirements</li> <li>• Know how to undertake hazard identification in the workplace</li> <li>• Know the principles of health and hygiene in the workplace</li> <li>• Know the procedures for the identification and removal of hazardous waste</li> <li>• Know how to handle and store materials appropriately</li> <li>• Know the principles of working at height and how to use access equipment</li> <li>• Know the principles of electrical safety in the workplace</li> <li>• Know how to use health and safety control equipment including personal protective equipment (PPE), respiratory protective equipment (RPE), local exhaust ventilation (LEV)</li> <li>• Know the fire and emergency procedures</li> <li>• Know the different workplace signs and safety notices and their meaning</li> </ul>

Construction Industry and Built Environment	
Skill Requirements	Knowledge Requirements
None applicable	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know the different activities undertaken within the construction industry and built environment</li> <li>• Know the different roles and responsibilities undertaken within the construction industry and built environment</li> <li>• Know the physical and environmental factors when undertaking a construction project</li> <li>• Know how construction projects can benefit the built environment</li> <li>• Know the basic principle of Building Information Modelling (BIM)</li> </ul>

Planning Pricing and Communication	
Skill Requirements	Knowledge Requirements
None applicable	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know the different types of drawing and information used in the construction industry</li> <li>• Know how to estimate resource quantities and price construction work</li> <li>• Know how to plan work activities for construction work</li> <li>• Know the different energy efficiency and sustainable materials for construction</li> <li>• Know communicate effectively in the workplace</li> <li>• Know the basic principles of Computer Aided Design (CAD)</li> </ul>

### Specific Requirements

Fundamentals of Site Carpentry	
Skill Requirements	Knowledge Requirements
<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Be able to develop and demonstrate a range of work skills including measuring, marking out, fitting, cutting, splicing, mitring, scribing, levelling (including laser levelling), plumb, finishing, positioning and securing.</li> </ul>	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know the characteristics , quality, uses and limitations of relevant raw materials</li> <li>• Know the different defects associated with relevant raw materials</li> <li>• Know the different types of fixings and fasteners for site carpentry work including their uses</li> </ul>

Form Advanced Woodworking Joints	
Skill Requirements	Knowledge Requirements
<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Be able to mark out advanced woodworking joints</li> <li>• Be able to select and use hand tools and materials to produce advanced woodworking joints</li> <li>• Be able to form products using advanced woodworking joints including splayed and plumb joints</li> </ul>	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know how to select and store appropriate materials</li> <li>• Know how to select and use appropriate hand tools</li> <li>• Know the resources required to mark out and form advanced woodworking joints</li> <li>• Know how to mark out advanced woodworking joints</li> <li>• Know how to form products using advanced woodworking joints including splayed and plumb joints</li> </ul>

Carry Out Complex First Fixing Work	
Skill Requirements	Knowledge Requirements
<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Be able to install complex and non-standard timber frames and linings</li> <li>• Be able to install timber coverings</li> <li>• Be able to install flat roof decking</li> <li>• Be able to erect timber stud partitions</li> <li>• Be able to install flights of stairs with turns and handrails</li> </ul>	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know how to prepare to carry out first fixing work</li> <li>• Know how to install complex and non-standard timber frames and linings</li> <li>• Know how to install timber floor coverings</li> <li>• Know how to install flat roof decking</li> <li>• Know how to erect timber stud partitions</li> <li>• Know how to install flights of stairs with turns and handrails</li> </ul>

**Carry Out Complex Second Fixing Work****Skill Requirements****The learner must:**

- Be able to install service encasements
- Be able to install cladding
- Be able to install bespoke wall and floor units and fitments
- Be able to install side hung doors
- Be able to install ironmongery
- Be able to install timber mouldings

**Knowledge Requirements****The learner must:**

- Know how to prepare to carry out second fixing work
- Know how to install service encasements
- Know how to install cladding
- Know how to install bespoke wall and floor units and fitments
- Know how to install side hung doors
- Know how to install ironmongery
- Know how to install timber mouldings

**Carry Out Complex Structural Carcassing Work****Skill Requirements****The learner must:**

- Be able to erect trussed rafter roofs
- Be able to fix verge and eave components
- Be able to install floor joists
- Be able to fit and fix joist coverings
- Be able to form dormer windows to roofs
- Be able to construct traditional cut roofs with hips and valleys

**Knowledge Requirements****The learner must be:**

- Know how to prepare for structural carcassing work
- Know how to erect trussed rafter roofs
- Know how to fix verge and eave components
- Know how to install floor joists
- Know how to fit and fix joist coverings
- Know how to form dormer windows to roofs
- Know to construct traditional cut roofs with hips and valleys

**Install and Maintain Structural and Non-structural Carpentry Components****Skill Requirements****The learner must:**

- Be able to prepare for installing and maintaining structural and non-structural components
- Be able to install and maintain structural and non-structural components
- Be able to install and maintain doors, windows and structural timbers
- Be able to replace glazing
- Be able to reinstate surfaces

**Knowledge Requirements****The learner must:**

- Know how to prepare for installing and maintaining structural and non-structural components
- Know how to install and maintain structural and non-structural components
- Know how to install and maintain doors, windows and structural timbers
- Know how to replace glazing
- Know how to reinstate surfaces

## (Annex B) - Industry Training Specification – Advanced Architectural Joinery

### Level 3 Knowledge and Skills Requirements

#### Core Requirements

Health, Safety and Welfare	
Skill Requirements	Knowledge Requirements
None applicable	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know the health, safety and welfare regulations, including roles and responsibilities</li> <li>• Know the requirements of the COSHH regulations</li> <li>• Know the accident and emergency procedures and reporting requirements</li> <li>• Know how to undertake hazard identification in the workplace</li> <li>• Know the principles of health and hygiene in the workplace</li> <li>• Know the procedures for the identification and removal of hazardous waste</li> <li>• Know how to handle and store materials appropriately</li> <li>• Know the principles of working at height and how to use access equipment</li> <li>• Know the principles of electrical safety in the workplace</li> <li>• Know how to use health and safety control equipment including personal protective equipment (PPE), respiratory protective equipment (RPE), local exhaust ventilation (LEV)</li> <li>• Know the fire and emergency procedures</li> <li>• Know the different workplace signs and safety notices and their meaning</li> </ul>
Construction Industry and Built Environment	
Skill Requirements	Knowledge Requirements
None applicable	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know the different activities undertaken within the construction industry and built environment</li> <li>• Know the different roles and responsibilities undertaken within the construction industry and built environment relevant to the role (e.g. architect, quantity surveyor, estimator)</li> <li>• Know the physical and environmental factors when undertaking a construction project</li> <li>• Know how construction projects can benefit the built environment</li> </ul>

Planning and Pricing Architectural Joinery Work	
Skill Requirements	Knowledge Requirements
None applicable	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know the different types of drawing and information used in the construction industry</li> <li>• Know how to estimate resource quantities and price construction work</li> <li>• Know how to plan work activities for construction work</li> <li>• Know the different energy efficiency and sustainable materials for construction</li> </ul>

### Specific Requirements

Fundamentals of Advanced Architectural Joinery	
Skill Requirements	Knowledge Requirements
<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Be able to develop and demonstrate a range of work skills including drawing, measuring, marking out, fitting, mitring, scribing, levelling (including laser levelling), plumb, finishing, positioning and securing.</li> </ul>	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know the characteristics, quality, uses and limitations of relevant materials including timber, glass, laminates, finishing's (paint, stains, lacquers)</li> <li>• Know the different defects associated with relevant raw materials</li> <li>• Know the different types of ironmongery products associated with architectural joinery including locks, handles etc</li> </ul>

Component Performance Requirements	
Skill Requirements	Knowledge Requirements
None applicable	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know the U-value and security requirements for doors and windows in accordance with current building and CE marking regulations</li> <li>• Know the requirements for fire doors in accordance with current building regulations</li> <li>• Know the requirements for stairs in accordance with current building regulations</li> </ul>

Advanced Architectural Joinery Technology	
Skill Requirements	Knowledge Requirements
<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Be able to apply CAD to produce architectural joinery information.</li> </ul>	<p><b>The learner must:</b></p> <ul style="list-style-type: none"> <li>• Know the basic principles of Computer Aided Design (CAD)</li> <li>• Know the basic principle of Building Information Modelling (BIM)</li> <li>• Know the purpose and capabilities of software programmes used for architectural joinery work</li> <li>• Know the process for programming, setting up and operating Computer Numerically Controlled (CNC) machinery including axis, tool holding and clamping procedures</li> </ul>

**Form Shaped Woodworking Joints****Skill Requirements****The learner must:**

- Be able to mark out for shaped woodworking joints
- Be able to form products using shaped woodworking joints

**Knowledge Requirements****The learner must:**

- Know the resources required to mark out and form shaped woodworking joints
- Know how to mark out woodworking joints for shaped work
- Know how to form products using shaped woodworking joints

**Set Out and Mark Out for Shaped Joinery Products****Skill Requirements****The learner must:**

- Be able to interpret information for producing shaped joinery product details
- Be able to prepare for producing shaped joinery product details
- Be able to set out and mark out for shaped joinery product details

**Knowledge Requirements****The learner must:**

- Know how to interpret information for producing shaped joinery product details
- Know how to prepare for producing shaped joinery product details
- Know how to set out and mark out for shaped joinery product details

**Manufacture Shaped Joinery Products****Skill Requirements****The learner must:**

- Be able to interpret information related to the manufacture of shaped joinery products
- Be able to prepare for the manufacture of shaped joinery products
- Be able to manufacture, assemble and finish shaped doors and frames
- Be able to manufacture, assemble and finish straight stairs with turns

**Knowledge Requirements****The learner must:**

- Know how to interpret information related to the manufacture of shaped joinery products
- Know how to prepare for the manufacture of shaped joinery products
- Know how to manufacture, assemble and finish shaped doors and frames
- Know how to manufacture, assemble and finish straight stairs with turns

**Site Fix Joinery Products****Skill Requirements****The learner must:**

- Be able to site fix doors, frames and windows

**Knowledge Requirements****The learner must:**

- Know how to prepare to fix joinery products
- Know the appropriate methods to fix doors, frames, windows and straight stairs with turns



**Prepare and Use Fixed Machinery to Create Shaped Work****Skill Requirements****The learner must:**

- Be able to prepare fixed machinery prior to use
- Be able to inspect and maintain fixed machinery
- Be able to develop and specialist jigs for to manufacture curved joinery products
- Be able to use a narrow bandsaw
- Be able to use a crosscut saw
- Be able to use a re-saw
- Be able to use a surface planer
- Be able to use a thicknesser
- Be able to use a morticer
- Be able to use a spindle moulder
- Be able to use a single end tenoner

**Knowledge Requirements****The learner must:**

- Know how to prepare fixed machinery prior to use, including the procedure for undertaking visual first use checks
- Know how to maintain fixed machinery
- Know the procedure for reporting defects with fixed machinery
- Know how to develop and specialist jigs for to manufacture curved joinery products
- Know how to use narrow bandsaws, crosscut saws, re-saws, surface planers, thicknessers, morticers, spindle moulders and single end tenoners
- Know the uses and limitations of narrow bandsaws, crosscut saws, re-saws, surface planers, thicknessers, morticers, spindle moulders and single end tenoners and how to apply them