QUALIFICATION HANDBOOK

Diplomas in Site Carpentry at SCQF Level 5 (6806-23/50)

February 2016 Version 2

City & Guilds

Qualifications at a glance

Subject area	Construction
City & Guilds number	6806
Age group approved	16-18, 19+
Entry requirements	None
Assessment	Multiple choice/assignment
Support materials	Centre handbook Assessor guidance Task manual
Registration and certification	Consult the Walled Garden/Online Catalogue for last dates

Title and level	**City & Guilds number**
Diploma in Site Carpentry at SCQF Level 5	6806-23
Extended Diploma in Site Carpentry at SCQF Level 5	6806-50

Version and date	**Change detail**	**Section**
V2 February 2016	Unit 201 amended	Units
	City & Guilds group statement amended	Useful contacts
	Phone numbers deleted	Useful contacts

Contents

1 Introduction

This document tells you what you need to do to deliver these qualifications:

Area	Description
Who are the qualifications for?	It is for candidates who work or want to work as a Site Carpenter in the construction sector.
What do the qualifications cover?	It allows candidates to learn, develop and practise the skills required for employment and/or career progression in Site Carpentry. It covers the following skills: • Carry out first fix flooring and roofing • Carry out first fix frames, partitions and stairs • Carry out second fixing operations • Carry out carpentry maintenance • Set up and operate a circular saw
Are the qualifications part of a framework or initiative?	The qualifications forms the technical certificate for the Construction Building Apprenticeship Framework.
What opportunities for progression are there?	They allow candidates to progress into employment or to the following City & Guilds qualification: • Diploma in Site Carpentry at SCQF Level 6

Structure

To achieve the **Diploma in Site Carpentry at SCQF Level 5 (6806-23)**, learners must achieve **52** credits from the mandatory units below.

City & Guilds unit number	Unit title	Credit value
Unit 201	Health, safety and welfare in construction	7
Unit 202	Principles of building construction, information and communication	6
Unit 207	Carry out first fix flooring and roofing	14
Unit 208	Carry out first fix frames, partitions and stairs	6
Unit 209	Carry out second fixing operations	9
Unit 210	Carry out carpentry maintenance	5
Unit 211	Set up and operate a circular saw	5

To achieve the **Extended Diploma in Site Carpentry at SCQF Level 5 (6806-50)**, learner must achieve **84** credits from the mandatory units below.

City & Guilds unit number	Unit title	Credit value
Unit 101	Principles of building construction, information and communication	6
Unit 113	Maintain and use carpentry and joinery hand tools	6
Unit 114	Prepare and use carpentry and joinery portable power tools	6

Unit 115	Produce woodworking joints	14
Unit 201	Health, safety and welfare in construction	7
Unit 202	Principles of building construction, information and communication	6
Unit 207	Carry out first fix flooring and roofing	14
Unit 208	Carry out first fix frames, partitions and stairs	6
Unit 209	Carry out second fixing operations	9
Unit 210	Carry out carpentry maintenance	5
Unit 211	Set up and operate a circular saw	5

Please Note: the Extended Diploma is for learners starting an Apprenticeship at SCQF Level 5.
Information for the SCQF Level 4 units can be found in the SCQF Level 4 Diploma in Carpentry and Joinery handbook.

2 Centre requirements

Approval

The approval process for Construction qualifications is available at our website. Please visit **www.cityandguilds.com/construction** for further information.

Resource requirements

Physical resources and site agreements

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 PAT certified. A Bench vice will be available to each candidate. Facilities for grinding and sharpening hand tools will be available. Centres will have special designated areas within Carpentry and Joinery workshop (cubicles or project areas) allowing candidates to practice the requirements of the units and carry out the Practical Assignments. There must also be a fixed or transportable circular saw, which shall be to industrial standards and comply with current regulations.

Centre staffing

All staff who assess (tutor/deliver) these qualifications must:

- have recent relevant experience in the specific area they will be teaching;
- be technically competent in the area for which they are delivering training and/or have experience of providing training;
- have a CV available demonstrating relevant experience and any qualifications held.

All staff who quality assure these qualifications must:

- have a good working knowledge and experience within the construction industry;
- have an established strategy and documentary audit trail of internal quality assurance;
- have a good working knowledge of quality assurance procedures;
- have a CV available demonstrating relevant experience and any qualifications held.

While the Assessor/Verifier (A/V) units/TAQA are valued as qualifications for centre staff, they are not currently a requirement for these SCQF qualifications. However, we encourage trainers and assessors to qualify to the current TAQA standard.

Continuing professional development (CPD)

Centres must support their staff to ensure that they have current knowledge of the occupational area, that delivery, mentoring, training, assessment and verification is in line with best practice, and that it takes account of any national or legislative developments.

Learner entry requirements

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

Age restrictions

City & Guilds cannot accept any registrations for candidates under 16 as these qualifications are not approved for under 16s.

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

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

Support materials

The following resources are available for this qualification:

Description	How to access
Assessor guidance	**www.cityandguilds.com**
Task manual	**www.cityandguilds.com**
Textbook	Can be ordered from Walled Garden, via **www.cityandguildsbookshop.com** or from your Business Manager
Qualification Approval Form	**www.cityandguilds.com**
SmartScreen	**www.smartscreen.co.uk**

4 Assessment

Unit	Title	Assessment method	Where to obtain assessment materials
201	Health, safety and welfare in construction	City & Guilds e-volve multiple choice test. The test covers all of the knowledge in the unit.	Examinations provided on e-volve.
202	Principles of building construction, information and communication	City & Guilds e-volve multiple choice test. The test covers all of the knowledge in the unit.	Examinations provided on e-volve.
207	Carry out first fix flooring and roofing	Multiple choice question paper, covering knowledge outcomes. Practical assignment , covering performance outcomes. Both assessments are set by City & Guilds, delivered and marked by the tutor/assessor, and will be externally verified by City & Guilds to make sure they are properly carried out.	**www.cityandguilds.com**
208	Carry out first fix frames, partitions and stairs	Multiple choice question paper, covering knowledge outcomes. Practical assignment , covering performance outcomes. Both assessments are set by City & Guilds, delivered and marked by the tutor/assessor, and will be externally verified by City & Guilds to make sure they are properly carried out.	**www.cityandguilds.com**

Unit	Title	Assessment method	Where to obtain assessment materials
209	Carry out second fixing operations	Multiple choice question paper, covering knowledge outcomes. Practical assignment , covering performance outcomes. Both assessments are set by City & Guilds, delivered and marked by the tutor/assessor, and will be externally verified by City & Guilds to make sure they are properly carried out.	**www.cityandguilds.com**
210	Carry out carpentry maintenance	Multiple choice question paper, covering knowledge outcomes. Practical assignment , covering performance outcomes. Both assessments are set by City & Guilds, delivered and marked by the tutor/assessor, and will be externally verified by City & Guilds to make sure they are properly carried out.	**www.cityandguilds.com**
211	Set up and operate a circular saw	Multiple choice question paper, covering knowledge outcomes. Practical assignment , covering performance outcomes. Both assessments are set by City & Guilds, delivered and marked by the tutor/assessor, and will be externally verified by City & Guilds to make sure they are properly carried out.	**www.cityandguilds.com**

Test specifications

The way the knowledge is covered by each test is laid out in the tables below:

Test 1: Unit 201 Health, safety and welfare in construction
Duration: 60 minutes

Unit	Outcome	Number of questions	%
201	1 Know the health and safety regulations, roles and responsibilities	7	17.5
	2 Know accident and emergency reporting procedures and documentation	5	12.5
	3 Know how to identify hazards in the workplace	7	17.5
	4 Know about health and welfare in the workplace	3	7.5
	5 Know how to handle materials and equipment safely	2	5
	6 Know about access equipment and working at heights	3	7.5
	7 Know how to work with electrical equipment in the workplace	4	10
	8 Know how to use personal protective equipment (PPE)	5	12.5
	9 Know the cause of fire and fire emergency procedures	4	10
	Total	**40**	**100**

Test 2: Unit 202 Principles of building construction, information and communication
Duration: 80 minutes

Unit	Outcome	Number of questions	%
202	1 Understand how to select types of building information	5	12.5
	2 Know about environmental considerations in relation to construction	5	12.5
	3 Understand the construction of foundations	7	17.5
	4 Understand construction of internal and external walls	9	22.5
	5 Know about construction of floors	4	10
	6 Know about construction of roofs	3	7.5

	7 Understand how to communicate in the workplace	7	17.5
	Total	**40**	**100**

Test 3: Unit 207 Carry out first fix flooring and roofing
Duration: 40 minutes

Unit	Outcome	Number of questions	%
207	1 Know how to construct roofing structures	9	36
	3 Know how to fix verge and eave components	4	16
	5 Know how to lay floor joists	8	32
	7 Know how to fit and fix joist coverings	4	16
	Total	**25**	**100**

Test 4: Unit 208 Carry out first fix frames, partitions and stairs
Duration: 40 minutes

Unit	Outcome	Number of questions	%
208	1 Know how to fix frames and linings	10	40
	3 Know how to construct stud partitions	9	36
	5 Know how to fix a straight flight of stairs	6	24
	Total	**25**	**100**

Test 5: Unit 209 Carry out second fixing operations
Duration: 40 minutes

Unit	Outcome	Number of questions	%
209	1 Know how to install doors and ironmongery	6	24
	3 Know how to fix mouldings	7	28
	5 Know how to install service encasements and cladding	5	20
	7 Know how to install kitchen units, worktops and fitments	7	28
	Total	**25**	**100**

Test 6: Unit 210 Carry out carpentry maintenance
Duration: 30 minutes

Unit	Outcome	Number of questions	%
210	1 Know how to repair mouldings, doors and windows	9	45
	3 Know how to replace gutters and downpipes	5	25
	5 Know how to replace sash cords	6	30
	Total	**20**	**100**

Test 5: Unit 211 Set up and operate a circular saw
Duration: 45 minutes

Unit	Outcome	Number of questions	%
211	1 Know the principles of using circular saws safely	11	36
	2 Know how to change circular saw blades	8	27
	4 Know timber, timber products and processes	6	20
	5 Know how to cut timber and manufactured boards	5	17
	Total	**30**	**100**

5 Units

Structure of units

These units each have the following:

- City & Guilds reference number
- title
- level
- credit value
- unit aim
- learning outcomes which are comprised of a number of assessment criteria.

Range explained
Range gives further scope on what areas within assessment criteria must be covered. The range in a unit **must** be taught to learners and parts of the range will be assessed.

Glossary of terms

Term	Definition
Baluster/Spindle	The vertical member, plain or decorative, that acts as the infill between the handrail and baserail.
Blue stain	A blue fungal discolouration in the sapwood, which does not reduce its strength.
Bolection moulding	A moulding projecting beyond the surface of the work which it decorates, such as on panel doors.
Bowing	A board that is lying flat, with one or both ends slightly lifted off the ground forming a curve or bow.
Built in-situ'	Erected in the position it will occupy permanently.
Cold roof	A roof with its insulation near the ceiling and a ventilated space above it.
Collapse	Irregular or excessive shrinkage during the drying of timber.
Combination planes	A woodworking plane that has interchangeable cutters of various shapes.
Combination square	A square that measures both 90 degree and 45 degree angles.
Common rafters	Similar to joists but inclined rising from the eaves to the ridge.
Contact adhesive	An adhesive which sticks immediately the two coated surfaces are brought together.

Cornice	A decorative moulding to hide the joint between the wall and the ceiling.
Crown/top saw guard	A guard on a table saw that covers the top of the saw blade.
Cupping	A deviation in the face of a piece of timber where the edges curve in towards or away from one another.
Dado	A border or panelling over the lower half of a wall, from the top of the skirting to the dado rail.
Datum	A datum is a fixed point for reference levels from, they may be permanent Ordnance Bench Marks (OBMs) or Temporary Bench Marks (TBMs)
Deadlock	Similar to the mortice dead latch but only having a deadbolt and no latch.
Diminishing shoulder	Used for a door stile which is narrowed (Diminished) from the lock rail upwards to give more space for glazing.
Dry rot	Fungal timber decay occurring in poorly ventilated conditions in buildings, resulting in cracking and powdering of the wood.
Eaves	This is the lower edge of the roof surface that overhangs the walls. Eaves can be open, closed or flush.
Escutcheon	Door furniture that surrounds a keyhole or lock cylinder
Euro locks	Euro cylinder locks are widely used in modern doors including uPVC, double glazed doors and patio doors.
Firrings	Tapered lengths of timber fixed below roof boarding on the top the joists to provide drainage falls
Formaldehyde glue	The glue can be used in veneer and lamination work. Industrial formaldehyde can also be used on oily woods, to which other adhesives may not bond. While this glue may have a long working time, it can easily and quickly be cured when heat is used.
Frieze rail	Frieze rail intermediate
Gable end	Triangular upper part of wall at the end of a ridge roof
Gable ladders	The roof extends over the gable wall to give a suitable overhang. To achieve this is a simple frame called a ladder frame is constructed.
Gap filling cartridge adhesive	A high strength adhesive that eliminates the need for nails and screws in many DIY and repair jobs. Extremely versatile and adheres to most building materials.
Gent saw	Very similar to a dovetail saw, a gent saw is a small hand saw with a turned handle used for cutting joinery.

Girder truss	A trussed rafter, usually of timbers thicker than standard size that supports other roof members.
Gullet	The gap between the teeth of a saw
Heading joint	A joint between two pieces of timber which are joined in a straight line, end to end.
Hipped roof	A roof with four roof planes coming together at a peak and four separate hip legs.
Intumescent strips	Fitted to fire doors/frames that swell during a fire to seal the door to frame gap.
Isolation switch	Isolates the power to the machine
Jambs	The upright side members of a door or window frame
Joist hangers	These are metal hangers by which ceiling joists are fixed to the wall plate.
Kerf	The gap left when material is removed by a saw.
King-post truss	A traditional timber roof truss with a vertical post from the apex to the centre of the bottom tie beam
Lean to roof	A roof with one slope only that is built against a higher wall
Marking gauge	A tool for scribing a line parallel to an edge, used in marking out.
Moisture content	The amount of moisture in a material expressed as a percentage
Mullion	A vertical dividing member of a window frame that separates the lights from each other.
Muntin	A vertical member in a panelled door framed into the rails, separating the panels.
Outfeed table	This is an extension table, fitted to protect the person taking cut material off from the rear of the saw.
Pitched roof	A common roof design, usually one with two slopes meeting at the central ridge.
Pith	The heart centre of the timber, consisting chiefly of soft tissue.
Plinth block	A block at the foot of a door architrave against which the skirting board also fits
Pressure treatment	Wood impregnated with preserving and/or fire retarding chemicals under pressure.
PU	Polyurethane glue (High strength, multi-purpose, quick grab building adhesive) is becoming increasingly popular. They bond to textile fibres, metals, plastics, glass, sand, ceramics, and rubber, in addition to wood.
Push stick	A push stick is used for safety reasons when guiding wood being cut through a circular saw.
PVA	Polyvinyl Acetate wood glue.
Resin pockets	Resin pockets are formed in the growing tree as a result of damage. The pocket can contain

	liquid resin, which flows out readily when the pocket is sawn through.
Rim locks	A rim lock is a locking device that attaches to the surface of a door
Riving knife	Installed at the rear of the saw blade, this safety device reduces the risk of 'kick back' and accidental contact with the back of the saw blade.
Sash cords	A braided rope nailed to the sides of the sashes. They pass over a top pulley and are attached to a hidden weight in a traditional sash window
Sash window	A window with two sashes that open by sliding vertically passed each other.
Scribed joint	A joint between two mouldings; one moulding is cut to the profile of the second.
Secret nailing	Nailing which is not seen on the surface
Shakes	Shakes are cracks in the timber which appear due to excessive heat, frost or twisting due to wind or poor nutrient content of the soil during the growth of a tree. Shakes can also be a result of seasoning. Depending upon the shape and the positions shakes can be classified as star shake, cup shake, ring shakes and heart shakes.
Sliding bevel	A tool which can be set to different angles to aid marking out.
Sloping grain	If conversion is not parallel to the axis of tree, sloping grains occur which reduces timber's bending strength.
Soffit	This is the underside of the eaves that is fixed to the back of the fascia and the wall. It forms an enclosed element all around the building.
Springing	Is distortion along the length, while the board or plank remains flat.
Stair string	An inclined board each side of the stair to carry the treads and risers
Storm proof window	A window with additional protection against driving rain from double rebates, weather strips, throating or grooving of the frame and sash.
Strutting herringbone	Cross bracing used between floor joists to increase stiffness
Transom	A timber bar separating the sashes of a window or separating a door from a fanlight over it.
Try square	A square with a steel tongue in a wooden handle.
Trussed rafter	A prefabricated truss made of light timbers joined with nail plates and used in most new domestic roofs
Upsets	This type of defect is due to excessive compression in the tree when it was young.

	Upset is an injury by crushing. This is also known as rupture.
Valley	This is the line formed at the internal intersection of two sloping surfaces. It runs from the ridge to the eaves.
Wall plate	Timber along the top of the wall at eaves level that carries the rafters or joists
Wall strap	Metal straps that help tie the wall plate to the walls.
Warm Deck	A flat roof with external insulation on the top of the supporting deck.
Warm roof	A pitched roof with heat insulation above the roof space.
Wet rot	Decay of timber by fungi that attack wood having high moisture content
Winding or twist	Spiral or corkscrew distortion in a longitudinal direction of the board.

Unit 201 Health, safety and welfare in construction

Level:	5
Credit value:	7
Aim:	The aim of this unit is to provide the learner with the knowledge to carry out safe working practices in construction, in relation to sourcing relevant safety information and using the relevant safety procedures at work

Learning outcome
The learner will: 1. know the health and safety regulations, roles and responsibilities
Assessment criteria
The learner can: 1.1 identify **health and safety legislation** relevant to and used in the construction environment 1.2 state **employer and employee responsibilitie**s under the Health and Safety at Work Act (HASWA) 1.3 state **roles and responsibilities** of the Health and Safety Executive (HSE) 1.4 identify **organisations** providing relevant health and safety information 1.5 state the importance of holding on-site safety inductions and toolbox talks.

Range
Health and safety legislation Health and Safety at Work Act, Reporting Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR), Control of Substances Hazardous to Health (COSHH), Construction, Design and Management (CDM) regulations , Provision and Use of Work Equipment Regulations (PUWER), manual handling operations Regulations, Personal Protective Equipment (PPE) at Work Regulations, Work at Height Regulations, Control of Noise at Work Regulations, Control of Vibration at Work Regulations , Electricity at Work Regulations, Lifting operations and Lifting Equipment Regulations (LOLER) **Employer responsibilities** Safe working environment, adequate staff training, health and safety information, site inductions, toolbox talks, risk assessment, supervision, PPE, reporting hazards, accidents and near misses,

sections 2 to 9 of Health and Safety at Work Act, CDM reg's, construction phase plans, welfare, display public liability Insurance and health and safety law poster.

Employee responsibilities

Working safely, working in partnership with the employer, reporting hazards, accidents and near misses, following organisational procedures as per Sections 2 to 9 of Health and Safety at Work Act.

Roles and responsibilities:

Enforcement (including fees for intervention), legislation and advice, inspection, investigation eg site investigations.

Organisations

Health and Safety Executive (HSE) website, Institute of Occupational Safety and Health, British Safety Council, 'manufacturer', ROSPA.

Learning outcome
The learner will: 2. know accident and emergency reporting procedures and documentation
Assessment criteria
The learner can: 2.1 state legislation used for reporting accidents 2.2 state major **types of emergencies** that could occur in the workplace 2.3 identify reportable injuries, diseases and dangerous occurrences as per RIDDOR 2.4 state main types of **records** used in the event of an accident, emergency and near miss and reasons for reporting them 2.5 identify **authorised personnel** involved in dealing with accident and emergency situations 2.6 state **actions** to take when discovering an accident.

Range
Types of emergencies Fires, security incidents, gas leaks. **Records**: Accident book, first aid records, organisational records and documentation. **Authorised personnel** First aiders, supervisors/managers, health and safety executive, emergency services, safety officer. **Actions** Area made safe, call for help, emergency services.

Learning outcome
The learner will: 3. know how to identify hazards in the workplace
Assessment criteria
The learner can: 3.1 state the importance of **good housekeeping** 3.2 state reasons for risk assessments and method statements 3.3 identify **types of hazards** in the workplace 3.4 state the importance of the correct storage of combustibles and chemicals on site 3.5 identify different **signs and safety notices** used in the workplace.

Range
Good housekeeping: Cleanliness, tidiness, use of skips and chutes, segregation of materials, clear access to fire escapes, clear access to fire extinguishers. **Types of hazards:** Fires, slips, trips and falls, hazardous substances (relating to inhalation, absorption, exposure, ingestion, cross-contamination), electrical, asbestos, manual handling, plant and vehicle movement, adverse weather. **Signs and safety notices:** Prohibition, mandatory, warning, safe condition, supplementary.

Learning outcome
The learner will: 4. know about health and welfare in the workplace
Assessment criteria
The learner can: 4.1 identify requirements for welfare facilities in the workplace as per Construction Design Management (CDM) 4.2 state health effects of noise and **precautions** that can be taken 4.3 state **risks** associated with drugs, alcohol and medication which could affect performance in the workplace.

Range
Precautions Reducing noise at source, PPE, isolation, exposure time. **Risks** Reduced risk perception, loss of concentration, balance problems, absenteeism and reduced productivity.

Learning outcome
The learner will: 5. know how to handle materials and equipment safely
Assessment criteria
The learner can: 5.1 identify legislation relating to safe handling of materials and equipment 5.2 state procedures for safe lifting and manual handling activities in accordance with guidance and legislation 5.3 state the importance of using **lifting aids** when handling materials and equipment.

Range
Lifting aids Wheelbarrow, sack barrow, mechanical lifting aids, pallet truck.

Learning outcome
The learner will: 6. know about access equipment and working at heights
Assessment criteria
The learner can: 6.1 identify legislation relating to working at heights 6.2 identify types of **access equipment** 6.3 state **safe methods** of use for **access equipment** 6.4 identify **dangers** of working at height.

Range
Access equipment: Stepladders, ladders (pole, extension), trestles, hop-ups, proprietary scaffolding, podium, stilts **Safe methods** Regular inspection, check for broken, damaged or missing components, responsible use, consideration of adverse weather conditions, good housekeeping **Dangers** Falling tools, falling equipment, falling materials, persons falling from height (injuries to themselves and others).

Learning outcome
The learner will: 7. know how to work with electrical equipment in the workplace
Assessment criteria
The learner can: 7.1 state **precautions** to take to avoid risks to self and others when working with electrical equipment 7.2 state **dangers** of using electrical equipment 7.3 identify **voltages** and voltage colour coding that are used in the workplace 7.4 state **methods** of storing electrical equipment.

Range
Precautions Check leads, check plugs, use of cable hangers, check tools and equipment, current valid PAT certificate **Dangers**: Burns, electrocution, fire. **Voltages** Battery powered, 110/115 volts, 230/240 volts and 415 volts. **Methods** Components present, equipment cleaned, checked for damage, stored in a clean and secure location.

Learning outcome
The learner will: 8. know how to use Personal Protective Equipment (PPE)
Assessment criteria
The learner can: 8.1 state the legislation governing use of Personal Protective Equipment (PPE) 8.2 state **types of PPE** used in the workplace 8.3 state the importance of PPE 8.4 state why it is important to store, maintain and use PPE correctly 8.5 state the importance of checking and reporting damaged PPE.

Range
PPE: Head protection, eye protection, ear protection, face/dust masks, breathing apparatus, high visibility clothing, safety footwear, gloves, sun protection, barrier cream, water proofs, knee pads, overalls/disposable clothing

Learning outcome
The learner will: 9. know the cause of fire and fire emergency procedures
Assessment criteria
The learner can: 9.1 state **elements** essential to creating a fire 9.2 identify methods of fire prevention 9.3 state actions to be taken on discovering a fire 9.4 state **types of fire extinguishers** and their uses.

Range
Elements Oxygen, fuel, heat. **Types of fire extinguishers:** Water, foam, CO2, dry powder.

Unit 202 Principles of building construction, information and communication

Level:	5
Credit value:	6
Aim:	The aim of this unit is to provide the learner with the knowledge of building methods and construction technology in relation to: • understanding a range of building materials used within the construction industry and their suitability to the construction of modern buildings. • source relevant information and apply it to relevant tasks • calculating the resources from required drawings and specifications.

Learning outcome
The learner will: 1. understand how to select types of building information.
Assessment criteria
The learner can: 1.1 interpret **information sources** used in construction 1.2 interpret scale, **symbols and hatchings** on a working drawing 1.3 explain the purpose of **benchmarks** used in construction.

Range
Information sources Drawings , schedules, specifications, programme of work, organisational chart, method statements, risk assessment, manufacturers' technical information, bill of quantities, order requisitions, delivery notes, variation orders, permits to work, signs and notices. **Symbols** WC, sink, bath, door, window **Hatchings** Brickwork, timber (wrot and unwrot), blockwork, concrete, hardcore, sub soil, insulation, damp proof course (DPC), damp proof membrane (DPM) **Benchmarks** Site datums, temporary bench marks (TBM), ordnance bench marks (OBM).

Learning outcome
The learner will: 2. know about environmental considerations in relation to construction.
Assessment criteria
The learner can: 2.1 describe thermally insulated **materials** 2.2 describe **methods** of making buildings water efficient 2.3 describe **methods** of making buildings energy efficient 2.4 state environmental-friendly **building materials** 2.5 state **procedures** for waste management.

Range
Materials Polyisocyanurate (PIR), Expanded Polystyrene (EP), fibre glass, mineral wool, double glazed units, multi-foil insulation. **Methods (2.2)** Efficient sanitary ware, water harvesting. **Methods (2.3)** Low energy lighting, automatic movement sensors, solar panels, wind turbines, heat source, biomass heating. **Building materials** Locally sourced, managed timber (FSC), lime, sheep wool, recycled materials, straw. **Procedures**: Segregation and recycling of waste, safe disposal of hazardous materials, Local Exhaust Ventilation (LEV).

Learning outcome
The learner will: 3. understand the construction of foundations.
Assessment criteria
The learner can: 3.1 describe **factors** to be considered when selecting **foundations** 3.2 describe **materials** and mix-ratios used in concrete foundations 3.3 explain how to **set out** foundations 3.4 explain **factors** to consider when excavating foundations 3.5 describe methods of transferring datums 3.6 calculate the volume of concrete used in pile foundation.

Range
Factors (3.1) Ground conditions (subsoil), strength, types of building. **Foundations**

Strip, raft, pile, pad.

Materials:
Course aggregate, fine aggregate, cement, water, steel reinforcement, sulphate-resisting cement, ordinary portland cement, frost proofing, accelerators, retardants.

Set out:
3:4:5 method, diagonals, profiles, builder's square.

Factors (3.4)
Underground services, proximity to neighbouring buildings, tree roots, ground conditions.

Methods:
Optical/laser level, straight edge and spirit level

Learning outcome
The learner will: 4. understand construction of internal and external walls.
Assessment criteria
The learner can: 4.1 describe **wall components** 4.2 explain the importance of a Damp Proof Course (DPC) 4.3 calculate the area of a gable 4.4 identify **additives** used in mortar 4.5 identify different types of **bonding** 4.6 describe the differences between load-bearing and non-load-bearing internal walls 4.7 calculate the volume of paint required to cover a wall area.

Range
Wall components Brick, block, insulation, Damp Proof Course (DPC), lintels, wall ties, airbrick and liner, cavity closures, stud partition, light density blocks, plasterboard, plaster. **Additives**: Retardant, accelerant, frost inhibitor, cement dyes, plasticiser. **Bonding**: Stretcher, English, Flemish.

Learning outcome
The learner will: 5. know about construction of floors.
Assessment criteria
The learner can: 5.1 describe **floor components**

5.2	calculate the linear quantity of floor boarding to cover an irregular shaped area
5.3	calculate additional quantities of wastage using percentage.

Range
Floor components: Hardcore, blinding sand, Damp Proof Membrane (DPM), insulation, oversite concrete, block and beam, pre-cast floor panels, screed (dry, self-levelling) sleeper walls, wall plates, DPC, joists, joist hangers, floor covering.

Learning outcome
The learner will: 6. know about construction of roofs.
Assessment criteria
The learner can: 6.1 describe **types** of roofs 6.2 describe **roof components**.

Range
Types Gable-ended, flat, hipped, lean-to. **Roof components** Purlins, rafters, truss rafters, ridge, batten/lathe, fascia, soffit, barges, valleys, wall plate, flashings, felt, slate/tile, insulation, joists, wall plate straps.

Learning outcome
The learner will: 7. understand how to communicate in the workplace.
Assessment criteria
The learner can: 7.1 describe **job roles** within building teams 7.2 explain **key personnel** involved in day to day communication 7.3 state **information** needed when requesting materials 7.4 identify methods of communication used to relay information to colleagues and others 7.5 describe advantages and disadvantages of **methods of communication** 7.6 state **occasions** when clear communication is vital in the workplace 7.7 explain **benefits** of positive communication with colleagues and others.

Range
Job roles Professional, technician, trade, general operative. **Key personnel** Site manager, supervisors, fellow operatives. **Information** Dimensions, quantities, type, when and where required, contact name and details. **Methods of communication (7.4)** Letters, emails, telephone, memos, verbal, posters, signs, meetings, radio, text messages **Methods of communication (7.5)** Written, verbal **Occasions** Changes to risk assessments, work restrictions, changes to method statement, permits to work, changes to legislation. **Benefits** Improved motivation, avoid conflict, complying with equality and diversity, meeting deadlines.

Unit 207 Carry out first fix flooring and roofing

Level:	5
Credit value:	14
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to carry out first fix flooring and roofing work, in accordance with the current health and safety and Building Regulations in both new building projects and refurbishment works. The knowledge acquired by the learner will enable them to distinguish and identify flooring and roofing work, the associated components and materials, and its uses in carpentry and joinery. The skills developed by the learner will include: • the use of woodworking hand tools and powered hand tools • their associated practical uses in flooring and roofing work to including erecting roofing structures, verge and eaves and installing floor joists.

Learning outcome
The learner will: 1. know how to construct roofing structures
Assessment criteria
The learner can: 1.1 identify **types** of roofing structures 1.2 identify **construction types** of roofing structures 1.3 identify **component parts** of roofing structures 1.4 explain methods of anchoring the roof in accordance with building regulations 1.5 describe the sequence of erecting component parts of **roofing structures** 1.6 describe the methods of constructing tank stands 1.7 identify **tools** and **fixings** used to erect roofing structures 1.8 describe safe methods of using **access equipment** 1.9 describe the importance of following regulations when using access equipment.

Range
Types Flat, lean to, gable ended, pitched, hipped and valley, cold and warm deck **Construction types** Trussed rafters (fan, fink, king post and attic, girder, mono, diminishing), common rafters. **Component parts** Wall plate, rafters, struts, ceiling joists, binders, firrings, noggins, decking, gable ladders, wall straps, truss clips, bracing, joist hangers, ties, chords, purlin. **Roofing structures** Gable ended pitched roof, flat roof. **Tools** Hammers, screwdrivers, chop saw, handsaw, chisels, drill bits, drills, nail guns, spirit level, plumb bob, try squares. **Fixings** Screws, nails and proprietary brackets/hangers. **Access equipment** Proprietary tower, trestles, independent and putlog, proprietary tower scaffold, ladders, platforms/podiums.

Learning outcome
The learner will: 2. be able to construct roofing structures
Assessment criteria
The learner can: 2.1 carry out risk assessment for constructing roofing structures 2.2 select **tools** and **fixings** used to construct roofing structures 2.3 select and use **access equipment** as appropriate for the given task in accordance with current regulations 2.4 erect **roofing structures** to given specifications 2.5 install timber bracing to given **specifications** 2.6 follow current environmental and relevant health and safety **regulations** relevant to constructing roofing structures.

Range
Tools Hammers, screwdrivers, chop saw, handsaw, chisels, drill bits, drills, nail guns, spirit level, plumb bob, try and roofing square. **Fixings** Screws, nails and proprietary brackets/hangers.

Access equipment
Proprietary tower scaffold, ladders, platforms/podiums.

Roofing structures
Gable ended trussed roof.

Specifications
Working drawings, given instructions.

Regulations
Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Working at Height Regulations, current environmental

Learning outcome
The learner will: 3. know how to fix verge and eave components
Assessment criteria
The learner can: 3.1 identify **component parts** of verges and eaves 3.2 describe **methods of finishing** gable ends 3.3 describe **methods of finishing** eaves 3.4 identify **tools** used to fix gable and eaves finishes.

Range
Component parts Fascia, soffit and barge boards, ventilation, tilt fillet, bracketing. **Methods of finishing (AC3.2)** Flush, overhanging verge. **Methods of finishing (AC3.3)** Open, closed, flush and projecting. **Tools** Hammers, screwdrivers, chop saw, handsaw, chisels, drill bits, drills, nail guns, spirit level, plumb bob, try and roofing square, string line.

Learning outcome
The learner will: 4. be able to fix verge and eave components
Assessment criteria
The learner can: 4.1 carry out risk assessment for fixing verge and eave components 4.2 select **tools** to fix verge and eave components

4.3 select and use **access equipment** as appropriate for the given task in accordance with current regulations
4.4 construct and fix gable ladders to given **specifications**
4.5 fix verge and eave **components** to given specifications
4.6 follow current environmental and relevant health and safety **regulations** relating to fixing verge and eave components.

Range

Tools
Hammers, screwdrivers, chop saw, handsaw, chisels, drill bits, drills, nail guns, spirit level, plumb bob, try and roofing square, string line

Access equipment
Proprietary tower scaffold, ladders, platforms/podiums

Specifications
Working drawings, given instructions

Components
Fascia, soffit and barge boards, ventilation, tilt fillet, bracketing

Regulations
Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Working at Height Regulations, current environmental.

Learning outcome

The learner will:
5. know how to lay floor joists

Assessment criteria

The learner can:
5.1 identify flooring **components**
5.2 identify methods of **supporting joists**
5.3 describe methods used to form an **opening** in a floor
5.4 describe methods of **tying** the floor in accordance with building regulations
5.5 describe **types of strutting** used in floor construction and their purpose
5.6 identify safe zones in joists for drilling and notching for **services**
5.7 describe **ways** of protecting joists from moisture and decay
5.8 identify **tools** used to lay floor joists.

Range
Components Joists (common/bridging, trimming, trimmer, trimmed), strutting, I beams **Supporting** Built in, wall plates and on joist hangers, sleeper walls **Joists** I-beams, pozi joists, stress graded timber joists **Openings** Service access, staircases, chimneys and flues **Tying** Lateral restraint straps, anchor straps **Types of strutting** Solid, herringbone and galvanised steel (proprietary). **Services** Gas, water and waste pipes, electric cables and telecommunications. **Ways** Ventilation, wrapping joist ends, DPC, treated timber. **Tools** Hammers, screwdrivers, chisels, drill bits, drills, spirit level, try squares, straight edge.

Learning outcome
The learner will: 6. be able to lay floor joists
Assessment criteria
The learner can: 6.1 carry out risk assessment for laying floor joists 6.2 select **tools** to lay floor joists to given **specifications** 6.3 lay floor joists to given specifications 6.4 fix **strutting** to given specifications 6.5 trim joists to form a stairwell opening 6.6 follow current environmental and relevant health and safety **regulations** relating to laying floor joists.

Range
Tools Hammers, screwdrivers, chisels, drill bits, drills, spirit level, try squares, straight edge

Specifications
Working drawings, given instructions

Strutting
Herringbone

Regulations
Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Working at Height Regulations, current environmental.

Learning outcome
The learner will: 7. know how to fix and fit joist coverings
Assessment criteria
The learner can: 7.1 identify **types of joist coverings** 7.2 describe **methods** of fixing joist coverings 7.3 state the method of fixing joist coverings to access **services** 7.4 identify **tools** for fixing joist coverings.

Range
Types of joist coverings Timber (softwood, hardwood, tongued and grooved), manufactured flooring panels **Methods** Gluing, screwing, nailing, face fixing, secret fixing **Services** Gas, water and waste pipes, electric cables and telecommunications **Tools** Hand saws, hammers, tape measure, drills, nail punch, screwdrivers, circular saw.

Learning outcome
The learner will: 8. be able to fit and fix joist coverings
Assessment criteria
The learner can: 8.1 carry out risk assessment for fitting and fixing joist coverings 8.2 select **tools** to fit and fix joist coverings 8.3 fit and fix joist coverings to given **specifications** 8.4 follow current environmental and relevant health and safety **regulations** relating to fitting and fixing joist coverings.

Range
Tools hand saws, hammers, tape measure, drills, nail punch, screwdrivers **Specifications** Working drawings, given instructions **Regulations** Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Working at Height Regulations, current environmental.

Unit 208 Carry out first fix frames, partitions and stairs

Level:	5
Credit value:	6
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to: carry out first fix carpentry and joinery work on frames, partitions and stairs in accordance with the current health and safety and Building Regulations in new building projects and refurbishment works. The knowledge acquired by the learner will enable them to distinguish and identify first fix work and its uses in carpentry and joinery. The skills developed by the learner will include: • the use of woodworking hand tools and powered hand tools • their associated practical uses in joinery first fix work including frames and linings, stud partitions and straight flights of stairs and handrails

Learning outcome
The learner will: 1. know how to fix frames and linings
Assessment criteria
The learner can: 1.1 identify types of **door frames and door linings** 1.2 identify types of **window frames** 1.3 identify **materials** used to manufacture door and window frames 1.4 describe **methods** of fixing frames and linings 1.5 describe **timber defects** 1.6 state **tools** used to install door frames and linings.

Range
Door frames and door linings Internal, external, fire, double **Window frames** Traditional, storm proof, sliding slash and pivot. **Materials** Plastic, hardwood, softwood, aluminium. **Methods** Screwing, wedging, using brackets/straps, frame anchors, using polyurethane fixing foam, DPC **Timber defects** Splits in timber, waney edge, fungal attack, damage caused it transit, knots and shakes, resin pockets **Tools** Saws, hammers, chisels, screwdrivers, spirit levels, drills.

Learning outcome
The learner will: 2. be able to fix frames and linings
Assessment criteria
The learner can: 2.1 carry out risk assessment for fixing **frames and linings** 2.2 select **tools** for fixing frames and linings 2.3 select the **fixing materials** 2.4 **fix** frames and linings to given **specifications** 2.5 work to drawings and schedules 2.6 follow current environmental and relevant health and safety **regulations** relating to fixing frames and linings.

Range
Frames and linings Door lining, window frame **Tools** Saws, hammers, chisels, screwdrivers, spirit levels, drills. **Fixing materials** Screws, wedges, brackets, frame anchors, polyurethane fixing foam, DPC **Fix** Out of wind, out of twist, square within 2 mm, no bows 2 mm and plumb within 2 mm.

Specifications
Working drawings, given instructions.

Regulations
Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Working at Height Regulations, current environmental.

Learning outcome
The learner will: 3. know how to construct stud partitions
Assessment criteria
The learner can: 3.1 identify **types** of stud partition walling 3.2 identify **component parts** used in stud partition construction 3.3 identify **sizes** of timber to be used to construct a partition wall 3.4 describe **properties** of **materials** used to cover a partition wall 3.5 describe methods of constructing **openings** within a partition wall 3.6 describe methods of constructing internal, external corners and junctions within a partition wall 3.7 describe ways of accommodating **services** within a partition wall 3.8 identify types of **fixings** used to construct partition walls 3.9 describe **ways** of erecting stud partitions.

Range
Types Metal, timber **Component parts** Metal or timber head plates, sole plates, studs, noggins, door head, puncheon **Sizes** Standard lengths and sectional sizes **Properties** Fire and sound resistance **Materials** Plasterboard and plywood, insulation **Openings** Doors, windows, hatches **Services** Gas, water and waste pipes, electric cables and telecommunications

Fixings
Nails, plugs, screws

Ways
Prefabricated, built in situ'.

Learning outcome
The learner will: 4. be able to construct stud partitions
Assessment criteria
The learner can: 4.1 carry out risk assessment for constructing stud partitions 4.2 select **tools**, **materials and fixings** for erecting stud partitions 4.3 construct a timber stud partition to given **specifications** 4.4 form a door opening in a partition wall to given specifications 4.5 construct internal and external corners within a partition wall to given specifications 4.6 construct the partition framework to suit the type of covering within given specifications 4.7 follow current environmental and relevant health and safety **regulations** relating to constructing stud partitions.

Range
Tools Spirit level, hammer, hand saws, tape measure, chop saw, try square, sliding bevel, drill and chisels. **Materials and fixings** Timber, plugs, screws, nails. **Specifications** Working drawings, given instructions **Regulations** Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Working at Height Regulations, current environmental.

Learning outcome
The learner will: 5. know how to fix a straight flight of stairs
Assessment criteria
The learner can: 5.1 identify **components** used to form a staircase and balustrade 5.2 describe how to **install** a staircase and balustrade

5.3 identify **tools and equipment** needed to fix a straight flight of stairs.

Range

Components

Treads, strings, risers, handrail, wedges, glue blocks, cappings, nosing, newels and balusters/spindles, base rail

Install

Cutting of the strings to ground and first floor level, fitting top newel and nosing to trimmer, fixing bottom newel, handrail and any shaped bottom step

Tools and equipment

Spirit level, hammer, hand saws, tape measure, chop saw, try square, sliding bevel, drill and chisels.

Learning outcome

The learner will:

6. be able to fix a straight flight of stairs

Assessment criteria

The learner can:

6.1 carry out risk assessment for fixing straight flights of stairs

6.2 select **tools and equipment** needed to fix a straight flight of stairs

6.3 fix stairs, newels, handrails and balustrade to given **specifications**

6.4 follow current environmental and relevant health and safety **regulations** relating to fixing a straight flight of stairs.

Range

Tools and equipment

Spirit level, hammer, hand saws, tape measure, chop saw, try square, sliding bevel, drill and chisels.

Specifications

Working drawings, given instructions.

Regulations

Health and Safety at Work act, Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Manual Handling Regulations, Working at Height Regulations, current environmental.

Unit 209 Carry out second fixing operations

Level:	5
Credit value:	9
Aim:	The aim of this unit is to provide the learner with the knowledge to carry out second fix carpentry and joinery work in accordance with the current health and safety and Building Regulations in new building projects and refurbishment works. The knowledge acquired by the learner will enable them to distinguish and identify second fix work, the associated components and materials, and its uses in carpentry and joinery. The skills developed by the learner will include: • the use of woodworking hand tools and powered hand tools • their associated practical uses in carpentry and joinery second fix work including doors and ironmongery, mouldings, service encasements and cladding, kitchen units, worktops and fitments.

Learning outcome
The learner will: 1. know how to install doors and ironmongery
Assessment criteria
The learner can: 1.1 describe the **characteristics** of internal, external and fire rated doors 1.2 identify **door ironmongery** 1.3 explain the importance of working drawings and schedules 1.4 identify **tools** used to install doors and fit ironmongery.

Range
Characteristics Standard sizes and thicknesses, panelled, glazed, flush (veneered), fire, match boarded, stable. **Door ironmongery**

Butts (brass, steel, cast), tee-hinges, tubular latch, mortice latch, door closers, dead locks, rim locks, cylindrical, Euro locks, three/five levers (mortice sash lock), security bolts, barrel bolts, escutcheons, intumescent strips, weather seals, letter plates, view holes, door protection plates, threshold cill, screws (brass, steel, slot, pozi, Philips), lever /knob handles.

Tools

Cordless drills, square, chisels, saws, hammers, screwdrivers, spirit level, drill bits, electric router, mallets, marking gauges, holding device, jig saw, and electric drill.

Learning outcome
The learner will: 2. be able to install doors and ironmongery
Assessment criteria
The learner can: 2.1 carry out risk assessment for installing **doors** and **ironmongery** 2.2 prepare doors for hanging 2.3 hang doors and fit ironmongery to given **specifications** 2.4 follow current environmental and relevant health and safety and fire **regulations** relating to installing doors and ironmongery.

Range
Doors Internal, external and fire rated **Door ironmongery** Butts (steel), tee-hinges, tubular latch, mortice latch, door closers, dead locks, rim locks, cylindrical lock, Euro locks, three/five levers, intumescent strips, letter plates, screws (brass, steel, slot, pozi, Philips), lever /knob handles **Specifications** Working drawings, schedules, given instructions **Regulations** Health and Safety at Work act, Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Manual Handling Regulations, current environmental.

Learning outcome
The learner will: 3. know how to fix mouldings
Assessment criteria
The learner can: 3.1 describe **methods of transferring datums** 3.2 identify **types** and purpose of **mouldings** 3.3 identify **tools** and materials used to fix mouldings 3.4 describe **methods of jointing** and scribing mouldings 3.5 describe **methods of fixing** mouldings.

Range
Methods of transferring datums Using laser, spirit level, straight edge **Types** Picture rail, cornice, skirting board, dado rail, architrave, plinth block, corbels, hardwood, softwood, medium density fibreboard (MDF) **Mouldings** Square, pencil round, torus, bull nose, splayed, ogee **Tools** Saws, hammers, mallets, chisels, screwdrivers, marking gauges, square, combination square, sliding bevel, profile combs, spirit level, laser level, nail gun, holding devices, cordless drills, drill bits and chop saw, coping saw, block plane, nail punch, scribes; materials – nails, screws, adhesives **Methods of jointing** Mitring (45 degrees, bi-section), heading joints, using hand and power tools **Methods of fixing** Using nails, screws, adhesives.

Learning outcome
The learner will: 4. be able to fix mouldings
Assessment criteria
The learner can: 4.1 carry out risk assessment for fixing **mouldings** 4.2 transfer datum points 4.3 cut, scribe, mitre and fix mouldings to given **specifications** 4.4 follow current environmental and relevant health and safety **regulations** relating to installing mouldings 4.5 use access equipment in accordance with current legislation.

Range
Mouldings Skirting, architrave, dado and picture rail **Specifications** Working drawings, given instructions, schedules, methods of jointing (mitring (45 degrees, bi-section), heading joints, using hand and power tools) **Regulations** Health and Safety at Work act, Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Manual Handling Regulations, current environmental.

Learning outcome
The learner will: 5. know how to install service encasements and cladding
Assessment criteria
The learner can: 5.1 describe **methods** of encasing **services** 5.2 identify types of **cladding** 5.3 describe **methods** of fixing cladding 5.4 identify **tools** and **fixing materials** used to fix cladding.

Range
Methods (AC 5.1) Using timber framed and solid panels, means of access **Services** Pipes, baths **Cladding** Solid, plywood, tongue and groove, horizontal and vertical boarding, plastic, shiplap **Methods (AC 5.3)** Use of brackets, clips, secret nailing, built-up frames, fixing battens **Tools** Saws, hammers, mallets, chisels, screwdrivers, marking gauges, square, spirit level, laser level, holding devices, cordless drills, drill bits and chop saw **Fixing materials** Nails, screws, adhesives, bolts, cover caps, fixing plugs.

Learning outcome
The learner will: 6. be able to install service encasements and cladding
Assessment criteria
The learner can: 6.1 carry out risk assessment for installing service encasements and cladding 6.2 transfer datum points 6.3 **fix service encasements** and cladding to given **specifications** 6.4 follow current environmental and relevant health and safety **regulations** relating to installing service encasements and cladding 6.5 use access equipment in accordance with current legislation.

Range
Specifications Working drawings, given instructions **Fix** Plumb, level, secure **Service encasements** Pipe boxing and bath panels **Regulations** Health and Safety at Work act, Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Manual Handling Regulations, current environmental.

Learning outcome
The learner will: 7. know how to install kitchen units, worktops and fitments
Assessment criteria
The learner can: 7.1 describe the method of assembling wall and floor units 7.2 describe the **process** of installing wall and floor units 7.3 describe **methods** of jointing worktops 7.4 describe the method of forming openings in **worktops** for hobs and sinks 7.5 describe the method of installing **fitments** 7.6 describe the purpose of manufacturers' instructions and design schedules 7.7 describe methods of detecting **services** whilst fitting wall and floor units.

Range
Process Position, level, fix (to hollow and solid wall), scribe to wall **Methods** Use of jointing strip, mitre joints, biscuit jointing and connecting bolts, butt and scribe, using sealants **Worktops** Post-formed and solid timber **Fitments** Pelmets, end panels, plinths and cornice to units, handles, drawers, drawer runners, door hinges **Services** Electric, gas and water pipes.

Learning outcome
The learner will: 8. be able to install kitchen units, worktops and fitments
Assessment criteria
The learner can: 8.1 carry out risk assessment for installing kitchen units, worktops and fitments 8.2 assemble wall and floor units using appropriate **tools** and **fixings** according to the manufacturers' instructions 8.3 **install** wall and floor units to the given design schedule 8.4 install post-formed worktops using appropriate **tools** to given **specifications** 8.5 form openings in worktops for hobs and sinks using appropriate **tools** to given specifications 8.6 install **fitments** using appropriate **tools** to given **specifications** 8.7 follow current environmental and relevant health and safety **regulations** relating to installing wall, floor units and fitments 8.8 use access equipment in accordance with current legislation.

Range
Tools (AC 8.2) Cordless drills, set square, chisels, saws, hammers, screwdrivers, spirit and laser level, drill bits, mallets, holding devices, and electric hammer/SDS drill, G/F clamps, quick release clamps **Fixings (AC 8.2)** Connecting bolts, screws, adhesives, sealants **Install** Butt and scribe, jointing strip

Tools (AC 8.4, 8.5, 8.6)

Circular saw, cordless drills, set square, chisels, saws, hammers, screwdrivers, spirit level, drill bits, electric router, mallets, marking gauges, holding device, and electric hammer/SDS drill, worktop jointing jig, biscuit jointer, jig saw, chop saw

Fitments (AC8.6)

Pelmets, end panels, plinths and cornice to units, handles, drawers, drawer runners, door hinges

Specifications

Working drawings, given instructions

Regulations

Health and Safety at Work act, Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Manual Handling Regulations, current environmental.

Unit 210 Carry out carpentry maintenance

Level:	5
Credit value:	5
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to carry out maintenance work, in accordance with the current health and safety and Building Regulations on refurbishment works. The knowledge acquired by the learner will enable them to distinguish and identify maintenance work, the associated components and materials, and its uses in carpentry. The skills developed by the learner will include: • the use of woodworking hand tools and powered hand tools • their associated practical uses in maintenance work including repairs to mouldings, doors and windows, replacing gutters, downpipes and sash cords.

Learning outcome
The learner will: 1. know how to repair mouldings, doors and windows
Assessment criteria
The learner can: 1.1 describe **types** of timber decay 1.2 describe **methods** of eradicating timber decay 1.3 describe **methods** of disposing of affected timber 1.4 describe **methods** of applying **preservatives** to timber 1.5 describe how to **make good** repaired surfaces.

Range
Types Rot (wet, dry), insect infestations (woodworm, powder post beetle, common furniture and death watch beetle). **Methods (AC 1.2)** Cutting out, specialist timber treatment.

Methods (AC 1.3)
Specialist disposal, environmentally friendly disposal.

Methods (AC 1.4)
Pressure treatment and injection method, dip, spray, brush.

Preservatives
Water-based, solvent-based, oil-based.

Make good
Fill, smooth, seal, prime, paint, splice/piece.

Learning outcome
The learner will: 2. be able to repair mouldings, doors and window sills
Assessment criteria
The learner can: 2.1 protect surrounding work areas from damage 2.2 replace damaged timber in doors and window sills 2.3 splice new sections into **mouldings**, doors and window sills using **hand tools** 2.4 **prepare** surfaces for applying finishes 2.5 follow current environmental and relevant health and safety **regulations** relating to repairing mouldings, doors and window sills.

Range
Mouldings Skirtings, architraves, picture and dado rails (shaped in-situ or manufactured) **Hand tools** Saws, hammer, tape measure, spirit level, chisels, mallet, hammer, square, marking gauge, planes, cordless drill, hammer drill and router **Prepare** Use of punch nails, counter bore and wood plugs, fillers, smooth and without gaps **Regulations** Health and Safety at Work act, Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Manual Handling Regulations, current environmental.

Learning outcome
The learner will: 3. know how to replace gutters and downpipes

Assessment criteria
The learner can: 3.1 identify **damage** to gutters and downpipes 3.2 identify **materials** used to make gutters and downpipes 3.3 identify guttering and downpipe **profiles** 3.4 describe **components** used to make up downpipes and guttering.

Range
Damage Breakages, split, erosion, leakage, perished seals, wood decay **Materials** Plastic, cast iron, wood **Profiles** Square, round, half round and ogee **Components** Pipe, shoe, joint, hopper, elbow, offset, gutter, clips, brackets, running outlet, stop end, 135° bend, swan neck, union.

Learning outcome
The learner will: 4. be able to replace gutters and downpipes
Assessment criteria
The learner can: 4.1 carry out risk assessment for replacing gutters and downpipes 4.2 joint and fix new guttering to existing guttering using appropriate **tools** 4.3 joint and fix new downpipes to existing guttering using appropriate **tools** 4.4 follow current environmental and relevant health and safety **regulations** relating to replacing gutters and downpipes 4.5 use access equipment in accordance with current legislation.

Range
Tools Hack saw, screwdriver, cordless drill, plumb bob, drill bits, file **Regulations** Health and Safety at Work act, Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Manual Handling Regulations, current environmental.

Learning outcome
The learner will:

5. know how to replace sash cords
Assessment criteria
The learner can: 5.1 identify **components** of box sash windows 5.2 identify potential **damage** to sash cords 5.3 describe the **process** of replacing sash cords.

Range
Components Pocket, parting bead, staff bead, pulley wheels, sill, pulley stiles, weights, sliding sash, sash cord, wag tail, meeting rails, glazing bars, spiral spring balancers. **Damage** Perishing, fraying, broken **Process** Remove components, replace sash cords

Learning outcome
The learner will: 6. be able to replace sash cords
Assessment criteria
The learner can: 6.1 carry out risk assessment for replacing sash cords 6.2 remove box sash window **components** to expose the weights 6.3 attach new sash cords to the required length 6.4 reassemble box sash window components 6.5 follow current environmental and relevant health and safety **regulations** relating to replacing sash cords 6.6 use access equipment in accordance with current legislation.

Range
Components Pocket, parting bead, staff bead, weights, sliding sash, sash cord **Regulations** Health and Safety at Work act, Provision and Use of Work Equipment Regulations (PUWER), Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Vibration at Work Regulations, Control of Noise at Work Regulations, Manual Handling Regulations, current environmental.

Unit 211 Set up and operate a circular saw

Level:	5
Credit value:	5
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to use a circular saw to cut wood, wood products and non-ferrous metals. The knowledge acquired by the learner will enable them to understand how the relevant law and good practice relating to circular saw usage is important. The skills developed by the learner include the ability to maintain, use and change tooling on fixed and transportable circular saws.

Learning outcome
The learner will: 1. know the principles of using circular saws safely
Assessment criteria
The learner can: 1.1 state **current legislation** applicable to **circular saws** 1.2 identify **components** of a circular saw 1.3 state potential **faults** in relation to circular saws 1.4 describe the procedure to follow on identification of faults 1.5 describe **types** of dust extraction for circular saws 1.6 state the importance of dust extraction on circular saws 1.7 identify **sawing safety aids** used in conjunction with circular saws 1.8 state **safety features** of a circular saw.

Range
Current legislation Provision and Use of Work Equipment Regulations (PUWER), Approved Code of Practice (ACoP), Health and Safety at Work Act, Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Electricity at Work Act, Abrasive Wheels Regulations, Vibration at Work Regulations, Control of Noise at Work Regulations, current environmental regulations

Circular saws
Fixed and transportable

Components
Guards, extraction points, fences, riving knife, bed, blade, information plate, mouth piece, on/off button, adjusting mechanisms

Faults
Missing or damaged guards, faulty or incorrectly fitted tooling and damage to equipment, riving knife (thickness, distance, height)

Types
Fixed and transportable

Sawing safety aids
Push sticks, jigs (saddle, wedge, taper)

Safety features
Crown/top saw guard, riving knife, braking systems, isolation switch, outfeed table.

Learning outcome
The learner will: 2. know how to change circular saw blades
Assessment criteria
The learner can: 2.1 state the **sequence** of changing circular **saw blades** 2.2 state the importance of the minimum saw blade diameter in relation to peripheral speed 2.3 state the importance of fitting correct circular saw blades 2.4 identify **features** of a circular saw blade 2.5 describe **effects** of timber and sheet **material** on circular saw blades 2.6 describe the use of lubricants on circular saw blades.

Range
Sequence Consult the risk assessment, isolate, remove guarding, riving knife, saw blade, clean down, replace saw blade, riving knife and guarding, undergo pre-start checks **Saw blades** Rip saw, crosscut and combination **Features** Root, top, face, back, point, heel, positive, negative and neutral hook, gullet, tip, kerf

Effects

Abrasion, resin build up, overheating

Material

Softwoods and hardwoods, manufactured boards (Plywood, chipboard, MDF)

Learning outcome
The learner will: 3. be able to change circular saw blades
Assessment criteria
The learner can: 3.1 carry out risk assessment for changing circular saw blades 3.2 follow the **sequence** for changing circular saw blades using manufacturers' **tools** in accordance with their instructions and current legislation 3.3 select appropriate types of **saw blades** for the operations being carried out 3.4 inspect saw blades for **damage** and potential hazards 3.5 follow current environmental and relevant health and safety **legislation** relating to changing circular saw blades.

Range
Sequence Consult the risk assessment, isolate, remove guarding, riving knife, saw blade, clean down, replace saw blade, riving knife and guarding, undergo pre-start checks **Tools** Spanners, allen keys and mallet **Saw blade** Rip saw, crosscut and combination **Damage** Missing or damaged teeth, warping **Current legislation** Provision and Use of Work Equipment Regulations (PUWER), Approved Code of Practice (ACoP), Health and Safety at Work Act, Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Electricity at Work Act, Abrasive Wheels Regulations, Vibration at Work Regulations, Control of Noise at Work Regulations, current environmental regulations

Learning outcome
The learner will: 4. know timber, timber products and processes
Assessment criteria
The learner can: 4.1 identify different **types** of timber 4.2 identify **methods** of timber conversion 4.3 describe **defects** found in timber 4.4 state **methods** of **drying** timber 4.5 identify types of **manufactured boards**.

Range
Types Softwoods (European red wood, white wood, Douglas fir) and hardwoods (oak, mahogany, beech, ash) **Methods (AC 4.2)** Quarter sawn, through and through, tangential, boxed heart **Defects** Natural (sloping grain, knots, shakes, upset, waney edge, resin pockets, foreign bodies, decay, pith, blue stain, insect infestation), seasoning (cupping, winding, twist, case hardening, bowing, springing, collapse) **Methods (AC 4.4)** Air and kiln drying **Drying** Moisture content **Manufactured boards** Medium density fibre board (MDF), plywood, orientated strand board (OSB), chipboard, hardboard.

Learning outcome
The learner will: 5. know how to cut timber and manufactured boards
Assessment criteria
The learner can: 5.1 describe the type of **information** recorded on a cutting list 5.2 state the **requirements** for setting guards, saw blades and fences 5.3 state the **requirements** for adjusting the circular saw 5.4 state **methods** of supporting materials during cutting.

Range
Information Description of the item, quantity, material, length, width, thickness (sawn and planed), remarks, contract details **Requirements** According to current legislation and approved code of practice **Methods** Use of the outfeed table, rollers, additional manual support.

Learning outcome
The learner will: 6. be able to cut timber and manufactured boards
Assessment criteria
The learner can: 6.1 carry out risk assessment for cutting timber and manufactured boards 6.2 check circular saws for **faults** 6.3 select material for cutting 6.4 set guards according to current legislation 6.5 set fences and adjust saw blades according to given specifications 6.6 identify **defects** and cut materials appropriately 6.7 cut materials according to given **specifications** 6.8 use appropriate **sawing safety aids** to specifications 6.9 follow current environmental and relevant health and safety **legislation** relating to cutting timber and manufactured board.

Range
Faults Missing or damaged guards, faulty or incorrectly fitted tooling and damage to equipment, riving knife (thickness, distance) material: softwood, manufactured board **Defects** Natural (sloping grain, knots, shakes, upset, waney edge, resin pockets, foreign bodies, decay, pith, blue stain, insect infestation), seasoning (cupping, winding, twist, case hardening, bowing, springing, collapse) **Specification** Working drawings, cutting lists and given instructions **Sawing safety aids** Push sticks, jigs (saddle, wedge, taper) **Legislation**

Provision and Use of Work Equipment Regulations (PUWER), Approved Code of Practice (ACoP), Health and Safety at Work Act, Personal Protective Equipment at Work (PPE), Control of Substances Hazardous to Health (COSHH), Electricity at Work Act, Abrasive Wheels Regulations, Vibration at Work Regulations, Control of Noise at Work Regulations, current environmental regulations, Manual Handling Regulations

Appendix 1 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on **www.cityandguilds.com**.

Centre Manual - Supporting Customer Excellence contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve 'approved centre' status, or to offer a particular qualification, as well as updates and good practice exemplars for City & Guilds assessment and policy issues. Specifically, the document includes sections on:

- The centre and qualification approval process
- Assessment, internal quality assurance and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Management systems
- Maintaining records
- Assessment
- Internal quality assurance
- External quality assurance.

Access to Assessment & Qualifications 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 homepage** section of the City & Guilds website also contains useful information on such things as:

- **Walled Garden:** how to register and certificate candidates on line
- **Events**: dates and information on the latest Centre events
- **Online assessment**: how to register for e-assessments.

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www.cityandguilds.com

Useful contacts

International learners General qualification information	E: **intcg@cityandguilds.com**
Centres Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	E: **centresupport@cityandguilds.com**
Single subject qualifications Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change	E: **singlesubjects@cityandguilds.com**
International awards Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	E: **intops@cityandguilds.com**
Walled Garden Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems	E: **walledgarden@cityandguilds.com**
Employer Employer solutions, Mapping, Accreditation, Development Skills, Consultancy	E: **business@cityandguilds.com**
Publications Logbooks, Centre documents, Forms, Free literature, Textbooks, Smartscreen	

About City & Guilds

As the UK's leading vocational education organisation, City & Guilds is leading the talent revolution by inspiring people to unlock their potential and develop their skills. We offer over 500 qualifications across 28 industries through 8500 centres worldwide and award around two million certificates every year. City & Guilds is recognised and respected by employers across the world as a sign of quality and exceptional training.

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