

Diploma in Maintenance Operations (Construction) at SCQF Level 5 (6811-23)

February 2016 Version 2



Qualification at a glance

Subject area	Construction
City & Guilds number	6811
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 Maintenance Operations (Construction) at SCQF Level 5	6811-23

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



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1 Introduction

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

Area	Description
Who is the qualification for?	It is for candidates that work or wish to work in a variety of roles that require knowledge of the various construction trades.
What does the qualification cover?	It covers small-scale repairs in various trades in the construction sector, for the following trades: <ul style="list-style-type: none">• building repairs (brickwork)• painting and decorating repairs• plastering repairs• plumbing repairs• carpentry repairs
Is the qualification part of a framework or initiative?	The qualification forms the technical certificate for the Construction Building Apprenticeship Framework.
What opportunities for progression are there?	It allows candidates to progress into employment

Structure

To achieve the **Diploma in Maintenance Operations at SCQF Level 5 (Construction)**, learners must achieve **54** 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 235	Carry out small-scale building repairs	10
Unit 236	Carry out small-scale painting and decorating repairs	7
Unit 237	Carry out small-scale plastering repairs	8
Unit 238	Carry out small-scale plumbing repairs	8
Unit 239	Carry out carpentry repairs	8



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 or fixed power tools that meet current industry standards. All powered equipment should be well maintained and PAT certified. Centres will have designated areas (cubicles or project areas) that support the delivery of the qualification and the assessment of the learning outcomes. Such areas will allow candidates to practice the requirements of the units and carry out the Practical Assignments. There must also be sufficient and appropriate materials and components to support the delivery of the qualification.

Centre staffing

All staff who assess (tutor/deliver) this qualification 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 this qualification 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 this SCQF qualification. 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.

Candidate entry requirements

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

Age restrictions

City & Guilds cannot accept any registrations for candidates under 16 as this qualification is 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
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.
235	Carry out small-scale building repairs	Multiple choice question paper, covering knowledge outcomes. Practical assignment , covering performance outcomes.	www.cityandguilds.com
236	Carry out small-scale painting and decorating repairs	Multiple choice question paper, covering knowledge outcomes. Practical assignment , covering performance outcomes.	www.cityandguilds.com

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.

Unit	Title	Assessment method	Where to obtain assessment materials
237	Carry out small-scale plastering repairs	<p>Multiple choice question paper, covering knowledge outcomes.</p> <p>Practical assignment , covering performance outcomes.</p> <p>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.</p>	www.cityandguilds.com
238	Carry out small-scale plumbing repairs	<p>Multiple choice question paper, covering knowledge outcomes.</p> <p>Practical assignment , covering performance outcomes.</p> <p>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.</p>	www.cityandguilds.com
239	Carry out carpentry repairs	<p>Multiple choice question paper, covering knowledge outcomes.</p> <p>Practical assignment , covering performance outcomes.</p> <p>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.</p>	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 235 Carry out small-scale building repairs
Duration: 40 minutes

Unit	Outcome	Number of questions	%
235	1 Understand which materials are used to repair building structures	8	40
	2 Understand methods for repairing and renewing building structures	12	60
	Total	20	100

Test 4: Unit 236 Carry out small-scale painting and decorating repairs
Duration: 40 minutes

Unit	Outcome	Number of questions	%
236	1 Understand which materials are required to repair wall and ceiling finishes and apply paint systems and wall coverings	9	45
	2 Understand methods for repairing wall and ceiling finishes and applying paint systems and wall coverings	11	55
	Total	20	100

Test 5: Unit 237 Carry out small-scale plastering repairs
Duration: 40 minutes

Unit	Outcome	Number of questions	%
237	1 Understand which materials are used to repair plastered surfaces	10	50
	2 Understand methods for repairing and renewing plastered surfaces	10	50
	Total	20	100

Test 6: Unit 238 Carry out small-scale plumbing repairs
Duration: 50 minutes

Unit	Outcome	Number of questions	%
238	1 Understand which materials are required to repair plumbing, sink and sanitary ware, rainwater systems and flashings	15	60
	2 Understand methods for repairing and renewing plumbing components, sink and sanitary ware, rainwater systems and flashings	10	40
Total		25	100

Test 7: Unit 239 Carry out carpentry repairs
Duration: 40 minutes

Unit	Outcome	Number of questions	%
239	1 Understand which materials are required to carry out carpentry repairs	11	55
	2 Understand working methods for carpentry repairs	9	45
Total		20	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.

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 responsibilities 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.

Level:	5
Credit value:	6
Aim:	<p>The aim of this unit is to provide the learner with the knowledge of building methods and construction technology in relation to:</p> <ul style="list-style-type: none"> • 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
<p>Wall components Brick, block, insulation, Damp Proof Course (DPC), lintels, wall ties, airbrick and liner, cavity closures, stud partition, light density blocks, plasterboard, plaster.</p> <p>Additives: Retardant, accelerant, frost inhibitor, cement dyes, plasticiser.</p> <p>Bonding: Stretcher, English, Flemish.</p>

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
<p>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.</p>

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

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 235

Carry out small-scale building repairs

Level:	5
Credit value:	10
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to carry out remedial building repair work within a 'maintenance contract' work environment.

Learning outcome
The learner will: 1. understand which materials are used to repair building structures
Assessment criteria
The learner can: 1.1 describe the application of common materials used in building maintenance 1.2 explain typical defects associated with materials used in building maintenance 1.3 explain how hazards associated with using materials and equipment can be minimised 1.4 calculate materials required for repairs.

Range
Materials (AC1.1) Ready mixed, prepared on site
Building maintenance Masonry walling, internal repair to render and plaster, internal and external floor finishes, roof coverings, drainage systems
Defects Cracking, spalling, discoloration, blistering, efflorescence, shrinkage, warping, expansion
Hazards Harmful substances, inhalation of particulates, services (electric, gas, water), fires, falling objects, manual handling, adverse weather, slips, trips, falls, plant, vehicle movement

Materials (AC1.4)

Bricks, blocks, roof tiles, floor coverings, mortar, concrete, plaster, drainage

Learning outcome

The learner will:

2. understand methods for repairing and renewing building structures

Assessment criteria

The learner can:

- 2.1 identify safety checks for **access equipment**
- 2.2 describe ways of **removing** existing materials and components from **building structures**
- 2.3 describe **hand and power tools** required for repair to building structures
- 2.4 describe **preparation and mixing techniques** used when laying and fixing replacement materials and components
- 2.5 describe **drainage systems**
- 2.6 explain reasons and **methods** used to protect completed work.

Range**Access equipment**

Stepladders, ladders, extension ladders, roof ladder trestles, proprietary scaffolding, towers, hop ups, scaffold battens/boards

Removal

Temporary supports and bracings, prevention of damage to services (gas, water, electric, telecoms)

Building structures

masonry walling, internal plaster, external render, internal and external floor finishes, roof coverings, drainage systems

Hand tools

Brick laying tools, plastering tools, roofing tools, groundwork, tiling tools

Power tools

Masonry saw, drill, cartridge gun, tile cutter, grinder, pneumatic breaker

Preparation for floors, walls, roofs and drainage

Access, protection, material selection, cutting out

Mixing techniques

Mortars, concrete, adhesives, grout, resins

Drainage systems

Separate, partially separate, combined, soakaway, sustainable

Methods

Coverings (plastic sheeting, hessian), clean working platforms, openings (stonework, plinths, cills, reveals), barriers to isolate work area, signage

Learning outcome

The learner will:

3. be able to remove and renew building materials

Assessment criteria

The learner can:

- 3.1 identify defective and damaged building **materials**
- 3.2 prepare **tools, equipment** and materials for removal and replacing defective building materials
- 3.3 remove and replace defective **roof coverings**
- 3.4 remove and replace **defective masonry**
- 3.5 remove and replace defective **paving**
- 3.6 remove and replace defective **drainage**
- 3.7 follow current environmental and relevant health and safety **regulations** relating to removing and renewing building materials.

Range

Materials

Roofing, masonry, internal and external flooring, walling, drainage

Tools

Hand tools, portable power tools, materials and tool requisition sheet

Equipment

Access equipment, PPE, mixers and masonry saws

Roof coverings

Slates, tiles, ridge tiles, felt, battens, wet and dry fixings, flat roofs, bitumen, verge finishes

Defective masonry

Mortar, bricks, blocks, stone, additives, coping stones, capping stones, lintels, cavity tray, Damp Proof Course (DPC), wall ties

Paving

Aggregates, precast concrete paving slabs/paviors, paving (flexible/rigid), associated drainage fixings and fittings, concrete, edgings

Drainage

<p>PVC drain pipes, clay drain pipes, gullies, frame and coverings, inspection chambers, associated fixtures and fittings, lubricants, mortar, aggregate</p> <p>Regulations</p> <p>Use and maintenance of PPE, risk assessment and method statements, COSHH guidance sheet, disposal of materials</p>
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<p>Learning outcome</p> <p>The learner will:</p> <p>4. be able to maintain a safe working environment</p>
<p>Assessment criteria</p> <p>The learner can:</p> <p>4.1 maintain a clean, safe and tidy work area and protect the surrounding area immediately adjacent to the work</p> <p>4.2 clean, check and store tools, equipment and materials after use</p> <p>4.3 dispose of waste materials safely.</p>

<p>Range</p> <p>Safe and tidy work area</p> <p>Consider public, workforce, visitors, site storage, transporting of material</p> <p>Tools and equipment</p> <p>Mixer, wheelbarrow, bucket, hand tools, power tools</p> <p>Dispose</p> <p>Recycling, segregation of waste, conform to legislation</p>

<p>Notes for guidance</p> <p>Assessment methodology:</p> <p>For outcome 3 replacing and removing should not be for a full roof/wall/drain etc – for example, patching to roof, masonry and paving and small-scale drain repairs</p> <p>Guidance:</p> <p>AC1.1 – Drainage systems to include clay, salt glazed and plastic, concrete chambers, brick bonding</p> <p>AC1.2 – Defects – to include unblocking drainage systems and incorrect gradients</p> <p>External factors – settlement, tree roots, water logged ground/poor drainage</p> <p>AC2.3 – Mixing by hand and machine</p> <p>AC2.4 – Ties and fixings in relation to proprietary wall connectors and reinforcement</p>

Unit 236

Carry out small-scale painting and decorating repairs

Level:	5
Credit value:	7
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to undertake remedial painting and decorating work within a 'maintenance contract' work environment.

Learning outcome
The learner will: 1. understand which materials are required to repair wall and ceiling finishes and apply paint systems and wall coverings
Assessment criteria
The learner can: 1.1 describe the application of common paint systems 1.2 describe the application of common wall coverings 1.3 explain typical defects associated with finishing systems 1.4 explain how hazards associated with using materials and equipment can be minimised 1.5 calculate materials required for painting repairs.

Range
Paint systems Solvent based paints, water-based paints, thinners and preparation materials (eg abrasive papers, filler, knotting)
Wall coverings The correct grade lining papers, wall coverings ie dry embossed (eg anaglypta), vinyls, lining papers, wood ingrain, adhesives
Defects (paint) Cissing, crazing, flaking, sags, curtains
Defects (wallpaper) Creases, overlapping joints, rips, tears, staining, stretching
Defects (surface) Efflorescence, bleeding, mould growth, dry rot
Materials Paints and wall coverings, thinners, solvents, adhesives, silicones,

fillers, liquid paint removers

Equipment

Trimming knife, scissors, scrapers, filling knife, step ladders

Minimised

Risk assessment, method statements, manual handling, COSHH data sheet, working at heights, toolbox talks, material checklist, PPE, specification

Calculate

Linear measurements, areas, ratios

Learning outcome

The learner will:

2. understand methods for repairing wall and ceiling finishes and applying paint systems and wall coverings

Assessment criteria

The learner can:

- 2.1 identify safety checks for **access equipment**
- 2.2 describe **methods** of preparing the work and surrounding areas
- 2.3 describe ways of removing existing **materials** and **components**
- 2.4 describe **hand and power tools** required for painting and decorating repairs
- 2.5 describe **surface** preparation techniques used for painting and decorating repairs
- 2.6 explain **reasons** and **methods** for protecting completed work

Range

Access equipment

Stepladders, extension ladders, podiums, towers, hop ups

Methods (AC 2.2)

protecting of items (self-adhesive, plastic backed sheets, cotton backed sheets), heating and ventilation of the work area, masking materials

Materials

Paints, wall coverings, adhesives, sealants

Components

Ironmongery, light switches and sockets, radiators

Hand tools

Scrapers, filling knives, brushes and associated equipment, roller and associated equipment, shave hook, dusting brushes

Power tools

Power sander, steam stripper, heat gun, needle gun

Surfaces

New and previously painted/coated surfaces , porous surfaces, non-porous surfaces, plaster, metal, timbers, sheet materials

Reasons

prevent damage, drying process

Methods (AC 2.6)

Protective coverings, signs, barriers

Learning outcome

The learner will:

3. be able to remove and repair painting and decorating finishes

Assessment criteria

The learner can:

3.1 identify defective and damaged painting and decorating finishes

3.2 **prepare** work and surrounding areas

3.3 select **tools** and **materials** used to remove and repair painting and decorating finishes

3.4 **repair** defective **surfaces** by brush and roller

3.5 **hang wall coverings**

3.6 follow current environmental and relevant health and safety **regulations** relating to removing and repairing painting and decorating finishes

Range

Prepare

Sheeting over, heating and ventilation, removing obstructions

Tools

Hand tools: scrapers, filling knives, brushes and associated equipment, roller and associated equipment, shave hook, dusting brushes;

Power tools: power sander, steam stripper, heat gun, needle gun;

Access equipment: stepladders, extension ladders, podiums, towers, hop ups

Materials

Adhesives and sealants, paint, solvents, filler, wallpaper

Repair

Filling and sanding the affected areas, applying paint systems by brush and roller to match existing finishes

Surfaces

Metal, wood, plastered surfaces, absorbent surfaces

Hang

Strip back existing papers, size the surfaces to be covered, hang wall covering, clean surface of wall coverings

Wall coverings

The correct grade lining papers, wall coverings ie dry embossed (eg anaglypta), vinyls, lining papers, wood ingrain, adhesives

Regulations

Use and maintenance of PPE, risk assessment and method statements, COSHH guidance sheet, disposal of waste

Learning outcome

The learner will:

4. be able to maintain a safe working environment

Assessment criteria

The learner can:

- 4.1 maintain a clean, **safe and tidy work area** and protect the surrounding area immediately adjacent to the work
- 4.2 clean, check and store **tools, equipment** and materials after use
- 4.3 **dispose** of waste materials safely.

Range

Safe and tidy work area

Consider public, workforce, visitors, site storage, transporting of material

Tools

Hand tools: scrapers, filling knives, brushes and associated equipment, roller and associated equipment, shave hook, dusting brushes;

Power tools: power sander, steam stripper, heat gun, needle gun;

Equipment

Access equipment: stepladders, extension ladders, podiums, towers, hop ups

Dispose

Recycling, segregation of waste, conform to legislation.

Notes for guidance

AC3.5 hang wall coverings to include trimming, cutting, pasting, aligning pattern and making joints to existing paper, reveals, internal/external angles

Unit 237

Carry out small-scale plastering repairs

Level:	5
Credit value:	8
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to undertake remedial plastering work within a 'maintenance contract' work environment.

Learning outcome
The learner will: 1. understand which materials are used to repair plastered surfaces
Assessment criteria
The learner can: 1.1 identify defective and damaged plastered surfaces 1.2 identify correct materials and their limitations used for plastering work 1.3 calculate materials required for plastering and repairs 1.4 explain how hazards associated with using materials and equipment can be minimised .

Range
Defective and damaged Water, damp, contamination, cracking, loose rendering, staining, shelling, efflorescence
Materials Plaster, lightweight backing plasters, one coat, finishing plasters, cements, sands, additives, bonding agents, salt and fungal treatments, scrim, expansion joints and various types of beads, plasterboards, insulation, galvanised fixings
Limitations Moisture, fungal infestation, efflorescence, compatibility, poor workmanship, poor drying/weather conditions
Calculate Linear measurements, areas, volumes, ratios
Minimised

Site induction, Risk assessment and method statements, toolbox talks, material checklist, manual handling training, Control of Substances Hazardous to Health (COSHH) data sheets

Learning outcome

The learner will:

2. understand methods for repairing and renewing plastered surfaces

Assessment criteria

The learner can:

- 2.1 identify safety checks for **access equipment**
- 2.2 explain **methods** for storing plastering material
- 2.3 describe ways of removing existing materials from plastered surfaces
- 2.4 describe the preparation of damaged areas for plastering
- 2.5 describe **hand and power tools** required for repair to plastered surfaces
- 2.6 describe **preparation and mixing techniques** used when plastering
- 2.7 explain **reasons** and **methods** for protecting completed work.

Range

Access equipment

Stepladders, ladders, extension ladders, trestles, proprietary scaffolding, towers, hop ups

Methods (AC2.2)

Stock rotation, air and mechanical setting, environment, Control of Substances Hazardous to Health (COSHH)

Hand tools

Plastering trowel, float, hawk, derby, bucket trowel, splash brush, claw hammer, tin snips, scarifiers/scratchers, straight/feather edge, lath axe, devil float

Power tools

Drill, whisk/paddle, cement mixer

Preparation

Control suction, fixing/securing, board fixings, patching, beading, levelling, cutting back

Mixing techniques

Adhesives, plaster, ratios, pre-mixed and powdered, by hand and with power tools

Reasons

Prevent damage, weather, setting purposes, heating and ventilation

Methods (AC 2.7)

Protective coverings, signs and barriers

Learning outcome

The learner will:

3. be able to remove and replace plastered surfaces

Assessment criteria

The learner can:

3.1 identify and **remove defective** plasterwork

3.2 select correct **tools** and **materials**

3.3 **prepare background surfaces**

3.4 **apply plasterboard**

3.5 **apply floating coat and setting coat**

3.6 follow current environmental and relevant health and safety **regulations** in relation to removing and replacing plastered surfaces.

Range

Remove

Hack out and remove

Defective

Water, damp, contamination, cracking, loose rendering, staining, shelling, efflorescence

Tools

Hand tools, portable power tools and equipment, materials and tool requisition sheet

Materials

Plaster, lightweight backing plasters, one coat, finishing plasters, cements, sands, additives, bonding agents, salt and fungal treatments, scrim, expansion joints and various types of beads, plasterboards, insulation, galvanised fixings

Prepare background surfaces

Suction tests, apply treatment/ bonding agents, fix beads, reinforcement

Apply plasterboard

Galvanised screws, nails

Apply floating coat and setting coat

Gauge and mix sand, cement mixes, use additives, lightweight plaster, one coat, make good

Regulations

Health and Safety at Work Act 1974 (HASAWA), Construction Design and Management Regulations 2007 (CDM Regs), Approved Codes of Practice (ACoPs)

Learning outcome

The learner will:

- | |
|---|
| 4. be able to maintain a safe working environment |
|---|

Assessment criteria

The learner can:

- | |
|--|
| 4.1 maintain a clean, safe and tidy work area and protect the surrounding area immediately adjacent to the work |
| 4.2 clean, check and store tools, equipment and materials after use |
| 4.3 dispose of waste materials safely. |

Range

Safe and tidy work area

Consider public, workforce, visitors, site storage, transporting of material
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Tools and equipment

Mixer, wheelbarrow, bucket, trowel, hand tools, power tools

Dispose

Recycling, segregation of waste, conform to legislation.
--

Unit 238

Carry out small-scale plumbing repairs

Level:	5
Credit value:	8
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to undertake remedial plumbing work within a 'maintenance contract' work environment.

Learning outcome
The learner will: 1. understand which materials are used to repair plumbing, sink and sanitary ware, rainwater systems and flashings
Assessment criteria
The learner can: 1.1 describe the application of common plumbing materials and components 1.2 describe the application of common sink and sanitary ware 1.3 describe the application of common rainwater components 1.4 describe the purpose of flashings 1.5 explain typical defects associated with plumbing materials 1.6 explain how hazards associated with using materials and equipment can be minimised 1.7 calculate materials required for plumbing repairs.

Range
Plumbing materials Copper and plastic pressure pipes, lead work, solder, flux
Components Compression and push fit fittings, taps, tap washers, float operated valves and cistern diaphragms, plastic, soil and waste pipes, radiator types and fixings, types of trap
Sink and sanitary ware Toilets, sinks, basins, baths, showers
Rainwater components Pipes, down pipes, hopper heads, gutters, bends (angles offset), stop-ends, shoes, running outlets and brackets, timber components, cast-iron, copper, aluminium, lead, plastic

Defects

Corrosion, systems failure, poor workmanship, poor design spec, inhibitors

Minimised

Risk assessment and method statements, material checklist, manual handling, Control of Substances Hazardous to Health (COSHH) data sheet, Hand arm vibration syndrome (HAVS), Provision and Use of Work Equipment Regulations (PUWER), Control of Noise at Work Regulations, Lifting Operations and Lifting Equipment Regulations (LOLER), Work at Height Regulations, toolbox talks

Calculate

Linear measurements, areas, volumes, ratios, perimeters, percentages.

Learning outcome

The learner will:

2. understand methods for repairing and renewing plumbing components, sink and sanitary ware, rainwater systems and flashings

Assessment criteria

The learner can:

- 2.1 identify safety checks for **access equipment**
- 2.2 describe ways of **replacing** existing **materials and components**
- 2.3 describe **hand and power tools** required for plumbing repairs
- 2.4 describe **preparation techniques** used when repairing plumbing components, sink and sanitary appliances, rainwater components and flashings
- 2.5 describe **drainage systems**
- 2.6 explain **reasons** and **methods** for protecting completed work.

Range**Access equipment**

Stepladders, ladders, extension ladders, trestles, proprietary scaffolding, towers, hop ups, roof ladders

Replacing

Remove, replace or exchange fittings and components

Materials and components

Compression and push fit fittings, capillary fittings, ceramic disc taps, tap washers, taps, float operated valves and cistern diaphragms, copper and plastic pipes, re-solder, flux residues, radiators, cover flashings

Power and hand tools

Power drill, power screwdriver, circular saw, jig saw, chisel, saw, hammer, pipe cutters, blowtorch

Preparation techniques

Safe isolation, cutting out, replacing, materials selection, cleaning

Drainage systems

Separate and combined, avoiding contamination

Reasons

Prevent damage

Methods

Protective coverings

Learning outcome

The learner will:

3. be able to repair and renew plumbing fittings and rainwater components

Assessment criteria

The learner can:

- 3.1 identify defective and damaged **plumbing components**
- 3.2 select **tools** and **materials** required to make plumbing repairs
- 3.3 remove and replace **defective plumbing and waste components**
- 3.4 remove and replace **defective rainwater components**
- 3.5 follow current environmental and relevant health and safety **regulations** in relation to repairing and renewing plumbing fittings and rainwater components.

Range**Plumbing components**

Tap washers, valves, plastic pipes, plastic traps and plastic fittings; sink and sanitary appliances: taps, compression and push-fit fittings, waste and float valves; rainwater components, radiators

Tools

Plumbing hand and power tools

Materials

Components, lubricants, sealants, sanitary appliances, pipes, connectors, valves, taps, rainwater components

Defective plumbing and waste components

Shut off and isolate water supply, greasing, tightening, loosening, sealing, bend and join copper pipes, traps and fittings, replace waste components, check for leaks

Defective rainwater components

Remove damaged/defective components, install and reconnect and check for leaks

Regulations

Use and maintenance of Personal Protective Equipment at Work (PPE), risk assessment and method statements, Control of Substances Hazardous to Health (COSHH) guidance sheet, Work at Height Regulations.

Learning outcome

The learner will:

- 4. be able to maintain a safe working environment

Assessment criteria

The learner can:

- 4.1 maintain a clean, **safe and tidy work area** and protect the surrounding area immediately adjacent to the work
- 4.2 clean, check and store **tools, equipment** and materials after use
- 4.3 **dispose** of waste materials safely.

Range

Safe and tidy work area

Consider colleagues and visitors, site storage, transporting of material

Tools and equipment

Hand tools, power tools

Dispose

Recycling, segregation of waste, conform to legislation.

Notes for guidance

AC3.4 – Correct falls maintained

Level:	5
Credit value:	8
Aim:	The aim of this unit is to provide the learner with the knowledge and skills to undertake remedial carpentry work within a 'maintenance contract' work environment

Learning outcome
The learner will:
1. understand which materials are required to carry out carpentry repairs
Assessment criteria
The learner can:
1.1 identify types of timber and their application
1.2 describe the application of common materials and related components used in carpentry repairs
1.3 explain typical defects associated with materials used in carpentry repairs
1.4 explain how hazards associated with using materials and equipment can be minimised
1.5 calculate materials required for repairs.

Range
Timber Hardwood, softwood, sheet material (Plywood, MDF, OSB, chipboard)
Materials and related components Manufactured sheet and timber, adhesives, sealants, preservatives, ironmongery (euro barrels, window locking handles, letter plates, mortice latch and lever handles), fixings, plastics and metals
Carpentry repairs Timber work, fencing repairs and ironmongery replacement
Defects knots, shakes and splits in timber, weathering, incorrect application of materials, insect infestation, wet and dry rot (moisture content), different types of fixings (screws nails)
Minimised

Risk assessment and method statements, toolbox talks, material checklist, manual handling, COSHH data sheet, compliance with current health and safety legislation and manufacturer's instructions

Calculate

Linear measurements, areas, volumes, ratios, perimeters.

Learning outcome

The learner will:

2. understand working methods for carpentry repairs

Assessment criteria

The learner can:

2.1 identify safety checks for **access equipment**

2.2 describe ways of **removing** existing carpentry **materials and components**

2.3 describe **hand and power tools** required for repair to timber

2.4 describe preparation techniques used when **repairing** timber

2.5 explain **reasons** and **methods** for protecting completed work.

Range

Access equipment

Stepladders, ladders, extension ladders, trestles, proprietary scaffolding, towers, hop ups

Removing

Either removing whole item or repairing in-situ

Materials and components

Timber and sheet materials (Timber - softwood, hardwood. Sheet material - Plywood, MDF, OSB)

Door, window and gate ironmongery

Components of doors, windows, gates, fencing, floors and roofing.

Hand tools

Saws, planes, chisels, hammer, screwdriver

Power tools

Drill/driver, chop saw, jigsaw, sander, planers

Preparation techniques

Splicing and cutting back timber, materials selection

Repairing

Fixing, adjusting, securing

Reasons

Prevent damage, security, prevention of weather damage

Methods

Protective coverings, signs and barriers.

Learning outcome

The learner will:

3. be able to remove and repair timber work, fencing and ironmongery

Assessment criteria

The learner can:

- 3.1 identify defective and damaged timber work, fencing and ironmongery
- 3.2 select **tools** and **materials** used to remove and repair timber work, fencing and ironmongery
- 3.3 remove and repair defective **timber work**
- 3.4 repair defective **fencing**
- 3.5 replace defective **ironmongery**
- 3.6 follow current environmental and relevant health and safety **regulations** relating to removing and repairing timber work, fencing and ironmongery.

Range**Tools**

Hand tools, portable power tools,

Materials

Timber, concrete

Timber work

Cut out defective and damaged timber components, easing of components, splicing and replacing defective timber and make good

Fencing

Replace gates, posts and fencing components (latches, hinges)

Ironmongery

Fit new locks, adjust door keeps and door closers, bolts and latches, fit letter plates, remove defective or damaged window ironmongery, fit replacement

Regulations

Use and maintenance of Personal Protective Equipment at Work (PPE), risk assessment and method statements, Control of Substances Hazardous to Health (COSHH) guidance sheet, in accordance with environmental responsibilities.

Learning outcome

The learner will:

4. be able to maintain a safe working environment

Assessment criteria

The learner can:

- 4.1 maintain a clean, **safe and tidy work area** and protect the surrounding area immediately adjacent to the work
- 4.2 clean, check and store **tools, equipment** and materials after use
- 4.3 **dispose** of waste materials safely.

Range

Safe and tidy work area

Consider public, workforce, visitors, site storage, transporting of material

Tools and equipment

Hand tools, power tools

Dispose

Recycling, segregation of waste, conform to legislation, manufacturer's guidelines and official guidelines.

Notes for guidance

AC 1.2 - application of materials to include moisture content, preservatives

Materials - timber work - timber, adhesives and sealants

Materials – ironmongery - euro barrels, window locking handles, letter plates, mortice latch and lever handles



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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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

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City & Guilds

1 Giltspur Street

London EC1A 9DD

www.cityandguilds.com