Level 1 Award, Certificate and Diploma in Land-based Studies (0361-12, 13, 14)

June 2024 Version 1.1

Qualification Handbook

Qualification at a glance

Industry area	Land-based
City & Guilds number	0361-12, 13, 14
Age group approved	14-16, 16-18, 19+
Entry requirements	There are no formal entry requirements for learners taking this qualification. However centres must ensure that learners have the potential and opportunity to gain evidence for assessment.
Assessment	To gain the Award qualification, learners must successfully achieve the following assessments: • One external test • One optional unit assignment To gain the Certificate qualification, learners must successfully achieve the following assessments: • One external test • Three optional unit assignments To gain the Diploma qualification, learners must successfully achieve the following assessments: • Two external tests • Five optional unit assignments
Grade	This qualification is awarded on a three grade scale: U/P/M/D The awarding of the grade will be based on the aggregation of assessment grades achieved. For more information on weighting, please see Section 6: Grading
Approvals	Fast track approval is available for this qualification.
Support materials	Assessment pack

Registration and certification	Registration and certification of this qualification is through Walled Garden, and is subject to end dates.
External Quality Assurance	External Quality Assurance

Title and level	City & Guilds number	Size	TQT	Accreditation number
Level 1 Award in Land-based Studies	0361-12	100 GLH	120	603/3595/6
Level 1 Certificate in Land-based Studies	0361-13	200 GLH	240	603/3596/8
Level 1 Diploma in Land-based Studies	0361-14	350 GLH	420	603/3597/X

Version and date	Change detail	Section
1.0 July 2018	First version	
1.1 June 2024	Update of Quality Assurance Statement	Centre Requirements

Contents

1   Introduction

Purpose statement

The following purpose is for the **Level 1 Award, Certificate and Diploma in Land-based Studies (0361-12, 13, 14)**

Area	Description
Who are these qualifications for?	These qualifications are for learners who are entering the land-based sector, either as part of a school/ college programme or as adults who are new to the sector.
What do these qualifications cover?	All three qualifications have health and safety as a mandatory unit, as this is key knowledge for working in the land-based sector. The optional units cover introductory knowledge and practical skills in agriculture and environment, animal care, floristry, horse care and horticulture.
Will the qualification lead to further learning?	Learners can progress onto the following qualifications: Level 2 Technical Certificate in Agriculture Level 2 Technical Certificate in Animal Care Level 2 Technical Certificate in Equine Care Level 2 Technical Certificate in Floristry Level 2 Technical Certificate in Forestry and Arboriculture Level 2 Technical Certificate in Horticulture Level 2 Technical Certificate in Land and Wildlife Level 2 Technical Certificate in Land-based Engineering
Further information	·· For more information on the structure of this qualification, please see **Section 1: Structure**. For more information on assessment, please see **Section 4: Assessment.** For more information on the content of the units, please see **Section 8: Units**

Qualification content

To achieve the **Level 1 Award in Land-based Studies**, learners must achieve 100 GLH from the unit content below.

Level 1 Award in Land-based Studies		
City & Guilds unit number	**Unit title**	**GLH**
Mandatory		
201	Safe and effective working practices in land-based industries	50
Optional – a minimum of 50 GLH (1 unit)		
203	Identify plants and trees	50
204	Identify common pests, diseases and disorders of plants and trees	50
205	Assist with the transport and maintenance of tools and equipment	50
206	Contribute to the establishment of plants	50
207	Contribute to the maintenance of plants	50
208	Contribute to the propagation of plants	50
209	Contribute to the establishment and maintenance of lawns	50
210	Contribute to the construction and maintenance of structures and surfaces	50
211	Carry out basic floristry tasks	50
212	Identify flowers, foliage's and plants	50
213	Produce and maintain shop displays	50
214	Produce planted designs	50
215	Assemble basic floral designs	50
216	Assist with maintaining the health and wellbeing of animals	50
217	Assist with the care of animals	50
218	Assist with the movement, handling and accommodation of animals	50
219	Introduction to crop production systems	50
220	Assist with the maintenance of structures and surfaces in the countryside	50

221	Carry out tractors operations	50
222	Introduction to wildlife and conservation	50
223	Assist with the establishment of plants and sites in the countryside	50
224	Animals in the wild and their main features	50
225	Uses and domestication of animals	50
226	Assist with feeding and watering animals	50
227	Assist with the preparation and maintenance of animal accommodation	50
228	Assist with the handling and restraint of animals	50
229	Assist with the exercise of animals	50
230	Assist with the preparation for the exercise and aftercare of horses	50
231	Exercise horses under supervision	50
232	Maintain the health of horses	50
233	Introduction to production livestock and breeds	50

To achieve the **Level 1 Certificate in Land-based Studies**, learners must achieve 200 GLH from the unit content below.

Level 1 Certificate in Land-based Studies		
City & Guilds unit number	**Unit title**	**GLH**
Mandatory		
201	Safe and effective working practices in land-based industries	50
Optional – a minimum of 150 GLH (3 units)		
203	Identify plants and trees	50
204	Identify common pests, diseases and disorders of plants and trees	50
205	Assist with the transport and maintenance of tools and equipment	50
206	Contribute to the establishment of plants	50
207	Contribute to the maintenance of plants	50
208	Contribute to the propagation of plants	50

209	Contribute to the establishment and maintenance of lawns	50
210	Contribute to the construction and maintenance of structures and surfaces	50
211	Carry out basic floristry tasks	50
212	Identify flowers, foliage's and plants	50
213	Produce and maintain shop displays	50
214	Produce planted designs	50
215	Assemble basic floral designs	50
216	Assist with maintaining the health and wellbeing of animals	50
217	Assist with the care of animals	50
218	Assist with the movement, handling and accommodation of animals	50
219	Introduction to crop production systems	50
220	Assist with the maintenance of structures and surfaces in the countryside	50
221	Carry out tractors operations	50
222	Introduction to wildlife and conservation	50
223	Assist with the establishment of plants and sites in the countryside	50
224	Animals in the wild and their main features	50
225	Uses and domestication of animals	50
226	Assist with feeding and watering animals	50
227	Assist with the preparation and maintenance of animal accommodation	50
228	Assist with the handling and restraint of animals	50
229	Assist with the exercise of animals	50
230	Assist with the preparation for the exercise and aftercare of horses	50
231	Exercise horses under supervision	50
232	Maintain the health of horses	50
233	Introduction to production livestock and breeds	50

To achieve the **Level 1 Diploma in Land-based Studies**, learners must achieve 350 GLH from the unit content below. There are six endorsed pathways.

Level 1 Diploma in Land-based Studies (non-endorsed)

City & Guilds unit number	Unit title	GLH
Mandatory		
201	Safe and effective working practices in land-based industries	50
202	Preparing to work in the land-based industries	50
Optional – a minimum of 250 GLH (5 units)		
203	Identify plants and trees	50
204	Identify common pests, diseases and disorders of plants and trees	50
205	Assist with the transport and maintenance of tools and equipment	50
206	Contribute to the establishment of plants	50
207	Contribute to the maintenance of plants	50
208	Contribute to the propagation of plants	50
209	Contribute to the establishment and maintenance of lawns	50
210	Contribute to the construction and maintenance of structures and surfaces	50
211	Carry out basic floristry tasks	50
212	Identify flowers, foliage's and plants	50
213	Produce and maintain shop displays	50
214	Produce planted designs	50
215	Assemble basic floral designs	50
216	Assist with maintaining the health and wellbeing of animals	50
217	Assist with the care of animals	50
218	Assist with the movement, handling and accommodation of animals	50
219	Introduction to crop production systems	50
220	Assist with the maintenance of structures and surfaces in the countryside	50
221	Carry out tractors operations	50

222	Introduction to wildlife and conservation	50
223	Assist with the establishment of plants and sites in the countryside	50
224	Animals in the wild and their main features	50
225	Uses and domestication of animals	50
226	Assist with feeding and watering animals	50
227	Assist with the preparation and maintenance of animal accommodation	50
228	Assist with the handling and restraint of animals	50
229	Assist with the exercise of animals	50
230	Assist with the preparation for the exercise and aftercare of horses	50
231	Exercise horses under supervision	50
232	Maintain the health of horses	50
233	Introduction to production livestock and breeds	50

Level 1 Diploma in Land-based Studies (Agriculture and Environment)

City & Guilds unit number	Unit title	GLH
Mandatory		
201	Safe and effective working practices in land-based industries	50
202	Preparing to work in the land-based industries	50
Optional – a minimum of 250 GLH (5 units)		
205	Assist with the transport and maintenance of tools and equipment	50
216	Assist with maintaining the health and wellbeing of animals	50
217	Assist with the care of animals	50
218	Assist with the movement, handling and accommodation of animals	50
219	Introduction to crop production systems	50
220	Assist with the maintenance of structures and surfaces in the countryside	50

221	Carry out tractors operations	50
222	Introduction to wildlife and conservation	50
223	Assist with the establishment of plants and sites in the countryside	50
233	Introduction to production livestock and breeds	50

Level 1 Diploma in Land-based Studies (Animal Care)

City & Guilds unit number	Unit title	GLH
Mandatory		
201	Safe and effective working practices in land-based industries	50
202	Preparing to work in the land-based industries	50
Optional – a minimum of 250 GLH (5 units)		
216	Assist with maintaining the health and wellbeing of animals	50
217	Assist with the care of animals	50
218	Assist with the movement, handling and accommodation of animals	50
222	Introduction to wildlife and conservation	50
224	Animals in the wild and their main features	50
225	Uses and domestication of animals	50
226	Assist with feeding and watering animals	50
227	Assist with the preparation and maintenance of animal accommodation	50
228	Assist with the handling and restraint of animals	50
229	Assist with the exercise of animals	50
233	Introduction to production livestock and breeds	50

Level 1 Diploma in Land-based Studies (Floristry)

City & Guilds unit number	Unit title	GLH
Mandatory		
201	Safe and effective working practices in land-based industries	50
202	Preparing to work in the land-based industries	50
211	Carry out basic floristry tasks	50
212	Identify flowers, foliage's and plants	50
213	Produce and maintain shop displays	50
214	Produce planted designs	50
215	Assemble basic floral designs	50

Level 1 Diploma in Land-based Studies (Horse care)

City & Guilds unit number	Unit title	GLH
Mandatory		
201	Safe and effective working practices in land-based industries	50
202	Preparing to work in the land-based industries	50
Optional – a minimum of 250 GLH (5 units)		
216	Assist with maintaining the health and wellbeing of animals	50
218	Assist with the movement, handling and accommodation of animals	50
226	Assist with feeding and watering animals	50
227	Assist with the preparation and maintenance of animal accommodation	50
228	Assist with the handling and restraint of animals	50
229	Assist with the exercise of animals	50
230	Assist with the preparation for the exercise and aftercare of horses	50
231	Exercise horses under supervision	50

232	Maintain the health of horses	50

Level 1 Diploma in Land-based Studies (Horticulture)

City & Guilds unit number	Unit title	GLH
Mandatory		
201	Safe and effective working practices in land-based industries	50
202	Preparing to work in the land-based industries	50
Optional – a minimum of 250 GLH (5 units)		
203	Identify plants and trees	50
204	Identify common pests, diseases and disorders of plants and trees	50
205	Assist with the transport and maintenance of tools and equipment	50
206	Contribute to the establishment of plants	50
207	Contribute to the maintenance of plants	50
208	Contribute to the propagation of plants	50
209	Contribute to the establishment and maintenance of lawns	50
210	Contribute to the construction and maintenance of structures and surfaces	50
220	Assist with the maintenance of structures and surfaces in the countryside	50
223	Assist with the establishment of plants and sites in the countryside	50

Certification modules

On achievement of all assessments, the applicable certification grading module must be claimed. Details on the calculation for grading is in section 5: Grading.

Component number	Title
915	Level 1 Award in Land-based Studies – Pass
916	Level 1 Award in Land-based Studies – Merit
917	Level 1 Award in Land-based Studies – Distinction
918	Level 1 Certificate in Land-based Studies – Pass
919	Level 1 Certificate in Land-based Studies – Merit
920	Level 1 Certificate in Land-based Studies – Distinction
921	Level 1 Diploma in Land-based Studies (Non-endorsed) – Pass
922	Level 1 Diploma in Land-based Studies (Non-endorsed) – Merit
923	Level 1 Diploma in Land-based Studies (Non-endorsed) – Distinction
924	Level 1 Diploma in Land-based Studies (Agriculture and Environment) – Pass
925	Level 1 Diploma in Land-based Studies (Agriculture and Environmental) – Merit
926	Level 1 Diploma in Land-based Studies (Agriculture and Environmental) – Distinction
927	Level 1 Diploma in Land-based Studies (Animal Care) – Pass
928	Level 1 Diploma in Land-based Studies (Animal Care) – Merit
929	Level 1 Diploma in Land-based Studies (Animal Care) – Distinction
930	Level 1 Diploma in Land-based Studies (Floristry) – Pass
931	Level 1 Diploma in Land-based Studies (Floristry) – Merit
932	Level 1 Diploma in Land-based Studies (Floristry) – Distinction
933	Level 1 Diploma in Land-based Studies (Horse Care) – Pass
934	Level 1 Diploma in Land-based Studies (Horse Care) – Merit
935	Level 1 Diploma in Land-based Studies (Horse Care) – Distinction
936	Level 1 Diploma in Land-based Studies (Horticulture) – Pass
937	Level 1 Diploma in Land-based Studies (Horticulture) – Merit
938	Level 1 Diploma in Land-based Studies (Horticulture) – Distinction

Total qualification time (TQT)

Total Qualification Time (TQT) is the total amount of time, in hours, expected to be spent by a Learner to achieve a qualification. It includes both guided learning hours (which are listed separately) and hours spent in preparation, study and assessment.

Title and level	GLH	TQT
Level 1 Award in Land-based Studies	100	120
Level 1 Certificate in Land-based Studies	200	240
Level 1 Diploma in Land-based Studies	350	420

Guided Learning Hours (GLH) are defined as all times when a member of Centre staff is present to give specific guidance towards the qualification being studied. GLH include lectures, tutorials and supervised study, whether in the classroom or via open learning. GLH may also include time spent by Centre staff directly assessing a learner's competence. GLH do not include private study, homework or work-based learning. Neither do they include time spent by staff in the day-to-day marking of assignments and homework where the learner is not present nor does it include hours where supervision is of a general nature.

2   Centre requirements

Approval

If your Centre is approved to offer the qualification Level 1 Diploma in Land-based Studies (0361-11) you can apply for the new Level 1 Award/ Certificate/ Diploma in Land-based Studies (0361-12, 13, 14) approval using the **fast track approval form**, available from the City & Guilds website.

Centres should use the fast track form if:

- there have been no changes to the way the qualifications are delivered, and
- they meet all of the approval criteria in the fast track form guidance notes.

Fast track approval is available for 12 months from the launch of the qualification. After 12 months, the Centre will have to go through the standard Qualification Approval Process. The centre is responsible for checking that fast track approval is still current at the time of application.

To offer these qualifications, new centres will need to gain both centre and qualification approval. Please refer to the *City & Guilds Centre Manual* for further information.

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

Resource requirements

Centre staffing

Staff delivering these qualifications must be able to demonstrate that they meet the following occupational expertise requirements. They should:
- be occupationally competent or technically knowledgeable in the area[s] for which they are delivering training and/or have experience of providing training. This knowledge must be to the same level as the training being delivered
- have recent relevant experience in the specific area they will be assessing

While the D/A/V/TAQA/ Learning & Development SVQ units are valued as qualifications for centre staff, they are not currently a requirement for these qualifications. However, City & Guilds encourage trainers and assessors to qualify to the current D/A/V/TAQA/ Learning & Development SVQ unit standard.

Internal Quality Assurance

Internal quality assurance is key to ensuring accuracy and consistency between assessors. Internal Quality Assurers (IQAs) monitor the work of all assessors involved with a particular qualification to ensure they are applying standards consistently throughout assessment activities. IQAs must have, and maintain, an appropriate level of occupational competence and be qualified to make quality assurance decisions.

Access to equipment

Centres must be able to demonstrate that they have access to equipment and technical resources required in order to appropriately deliver these qualifications. Please see **Section 7: Units** for further detail on requirements.

Quality assurance

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

Learner entry requirements

City & Guilds does not set entry requirements for these qualifications. However, centres must ensure that all learners have the opportunity to gain the qualification and that no learners are advantaged or disadvantaged when undertaking assessment. .

Age restrictions

These qualifications are approved for pre-16 learners. City & Guilds can only accept learners aged 14 – 16, 16-18, 19+

3   Delivering the qualification

Initial assessment and induction

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

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

We recommend that centres provide an induction programme so the candidate fully understands the requirements of the qualification[s], their responsibilities as a candidate, 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
Assignment pack	Available from September 2018 on the qualification pages on the **City & Guilds Website**

4   Assessment

Summary of assessment methods

To gain the Award qualification, learners must successfully achieve the following assessments:
- One external test
- One optional unit assignment

To gain the Certificate qualification, learners must successfully achieve the following assessments:
- One external test
- Three optional unit assignments

To gain the Diploma qualification, learners must successfully achieve the following assessments:
- Two external tests
- Five optional unit assignments

Assessment Types		
Component numbers	**Description/conditions**	**Assessment method**
201, 202	These assessments are **externally set and externally marked**. The tests are taken online and will be sat under invigilated examination conditions. See JCQ requirements for details: **http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations**	External test – MCQ test online
230-233	These assessment are externally set, internally marked and are subject to external verification.	Unit assignment

Test specifications

The way the knowledge is covered in the external tests is laid out in the table below:

Assessment type: Online Multiple Choice
Grading structure: P/X
Pass mark: 12

Unit	Duration: 40 minutes		
	Outcome	**Number of marks**	**%**
201 Safe and effective working practices in the land-based industries	01 Select, use, maintain and store equipment, tools and Personal Protective Equipment (PPE)	4	23
	02 Follow safe working practices	4	23
	03 Follow emergency procedures	7	38
	04 Maintain a safe and tidy work environment	3	16
	Total	**18**	**100**

Assessment type: Online Multiple Choice
Grading structure: P/X
Pass mark: 12

Unit	Duration: 40 minutes		
	Outcome	**Number of marks**	**%**
202 Preparing to work in the land-based industries	01 Identify potential routes and career paths within the land-based industry	10	63
	02 Identify business structure employee rights and responsibilities	6	37
	Total	**16**	**100**

Time constraints

The following must be applied to the assessments of this qualification:

- Centre staff should guide learners to ensure excessive evidence gathering is avoided.
- All assignments/tasks must be completed and assessed within the learner's period of registration. Centres should advise learners of any internal timescales for the completion and marking of individual assignments.

5 Standardisation of assessment

City & Guilds' externally set assignments for qualifications are designed to draw from across the qualifications' content, and to contribute a significant proportion towards the learner's final qualification grade. They are subject to a rigorous external quality assurance process.

Supervision and authentication of internally assessed work

The Head of Centre is responsible for ensuring that internally assessed work is conducted in accordance with City & Guilds' requirements.

City & Guilds requires both tutors and candidates to sign declarations of authenticity. If the tutor is unable to sign the authentication statement for a particular candidate, then the candidate's work cannot be accepted for assessment.

Internal standardisation

For internally marked work the centre is required to conduct internal standardisation to ensure that all work at the centre has been marked to the same standard. It is the Internal Quality Assurer's (IQA's) responsibility to ensure that standardisation has taken place, and that the training includes the use of reference and archive materials such as work from previous years as appropriate.

The process must be managed through the IQA. The justification for allowing a resubmission should be recorded and made available on request. The use of this provision will be monitored by City & Guilds.

Internal appeal

Centres must have an internal process in place for candidates to appeal the marking of internally marked components, ie the assignments. This must take place before the submission of marks. The internal process must include candidates being informed of the marks (or grades) the centre has given for internally assessed components, as they will need these to make the decision about whether or not to appeal.

Centres retaining evidence

Centres must retain assessment records for each candidate for a minimum of three years. To help prevent plagiarism or unfair advantage in future versions, candidate work may not be returned to candidates. Samples may however be retained by the centre as examples for future standardisation of marking.

6   Grading

Awarding individual assessments

The online e-volve exams will be graded by City & Guilds, as Pass only. The unit assignments will be graded by the centre Pass, Merit or Distinction, and externally quality assured.

Awarding grades and reporting results

All assessments **must** be achieved at a minimum of Pass for the qualification to be awarded. Candidates who fail to reach the minimum standard for grade Pass for an assessments will not have a qualification grade awarded and will not receive a qualification certificate.

The **Level 1 Award in Land-based Studies (0361-12)** will be reported on a three grade scale: Pass/ Merit/ Distinction. Learners who fail to reach the minimum standard for grade Pass will be recorded as U (Unclassified) and will not receive a qualification certificate.

The contribution of assessment towards the overall qualification achievement grade are as follows:

Assessment method	Grade profile	% contribution
Unit assignment (203 – 233)	U/P/M/D	100%

The overall grade of the **Level 1 Award in Land-based Studies (0361-12)** will be determined using the following criteria.

The minimum points available for each assessment grade are as follows:

	Pass	Merit	Distinction
Assignment: 100%	1	2	3

The **Level 1 Certificate in Land-based Studies (0361-13)** will be reported on a three grade scale: Pass/ Merit/ Distinction. Learners who fail to reach the minimum standard for grade Pass will be recorded as U (Unclassified) and will not receive a qualification certificate.

The contribution of assessment towards the overall qualification achievement grade are as follows:

Assessment method	Grade profile	% contribution
Unit assignment (203 – 233)	U/P/M/D	33% (each unit assignment)

The overall grade of the **Level 1 Certificate in Land-based Studies (0361-13)** will be determined using the following criteria.

The minimum points available for each assessment grade are as follows:

	Pass	Merit	Distinction
Unit Assignment 1: 33%	1	2	3
Unit Assignment 2: 33%	1	2	3
Unit Assignment 3: 33%	1	2	3

The candidate's points for each assessment are added together and the conversion chart below is used to identify the candidate's final grade.

Total points from both assessments	Qualification Grade
8-9	Distinction
5-7	Merit
3-4	Pass

The **Level 1 Diploma in Land-based Studies (0361-14)** will be reported on a three grade scale: Pass/ Merit/ Distinction. Learners who fail to reach the minimum standard for grade Pass will be recorded as U (Unclassified) and will not receive a qualification certificate.

The contribution of assessment towards the overall qualification achievement grade are as follows:

Assessment method	Grade profile	% contribution
Unit assignment (203 – 233)	U/P/M/D	20% (each unit assignment)

The overall grade of the **Level 1 Diploma in Land-based Studies (0361-14)** will be determined using the following criteria.

The minimum points available for each assessment grade are as follows:

	Pass	Merit	Distinction
Unit Assignment 1: 20%	1	2	3
Unit Assignment 2: 20%	1	2	3
Unit Assignment 3: 20%	1	2	3
Unit Assignment 4: 20%	1	2	3
Unit Assignment 5: 20%	1	2	3

The candidate's points for each assessment are added together and the conversion chart below is used to identify the candidate's final grade.

Total points from both assessments	Qualification Grade
12-15	Distinction
8-11	Merit
5-7	Pass

Once all assessment have been achieved and the overall grade has been determined, centres must claim the applicable certification module, as follows:

Component number	Title
915	Level 1 Award in Land-based Studies – Pass
916	Level 1 Award in Land-based Studies – Merit
917	Level 1 Award in Land-based Studies – Distinction
918	Level 1 Certificate in Land-based Studies – Pass
919	Level 1 Certificate in Land-based Studies – Merit
920	Level 1 Certificate in Land-based Studies – Distinction
921	Level 1 Diploma in Land-based Studies (Non-endorsed) – Pass
922	Level 1 Diploma in Land-based Studies (Non-endorsed) – Merit
923	Level 1 Diploma in Land-based Studies (Non-endorsed) – Distinction
924	Level 1 Diploma in Land-based Studies (Agriculture and Environment) – Pass
925	Level 1 Diploma in Land-based Studies (Agriculture and Environmental) – Merit
926	Level 1 Diploma in Land-based Studies (Agriculture and Environmental) – Distinction
927	Level 1 Diploma in Land-based Studies (Animal Care) – Pass
928	Level 1 Diploma in Land-based Studies (Animal Care) – Merit
929	Level 1 Diploma in Land-based Studies (Animal Care) – Distinction
930	Level 1 Diploma in Land-based Studies (Floristry) – Pass
931	Level 1 Diploma in Land-based Studies (Floristry) – Merit
932	Level 1 Diploma in Land-based Studies (Floristry) – Distinction
933	Level 1 Diploma in Land-based Studies (Horse Care) – Pass
934	Level 1 Diploma in Land-based Studies (Horse Care) – Merit
935	Level 1 Diploma in Land-based Studies (Horse Care) – Distinction
936	Level 1 Diploma in Land-based Studies (Horticulture) – Pass
937	Level 1 Diploma in Land-based Studies (Horticulture) – Merit
938	Level 1 Diploma in Land-based Studies (Horticulture) – Distinction

7   Administration

Quality assurance

Approved centres must have effective quality assurance systems to ensure valid and reliable delivery and assessment of qualifications. Quality assurance includes initial centre registration by City & Guilds and the centre's own internal quality assurance procedures.

Consistent quality assurance requires City & Guilds and its associated centres to work together closely; our Quality Assurance Model encompasses both internal quality assurance (activities and processes undertaken within centres) and external quality assurance (activities and processes undertaken by City & Guilds).

Internal quality assurance
In order to carry out the quality assurance role, Internal Quality Assurers must have, and maintain, an appropriate level of occupational competence and be qualified to make quality assurance decisions. For more information on the requirements, refer to Section 2 of this handbook.

To meet the quality assurance criteria for this qualification, the centre must ensure that the following procedures are followed:

- suitable training of staff involved in the assessment of the qualification to ensure they understand the process of marking and standardisation
- completion by the person responsible for internal standardisation of the Centre Declaration Sheet to confirm that internal standardisation has taken place
- the completion by learners and supervisors/assessors of the record form for each learner's work.

External quality assurance
City & Guilds will undertake external monitoring and standardisation activities to ensure that the quality assurance criteria for this qualification are being met. These will vary depending on the form of assessment being delivered, however centres must ensure that they co-operate with City & Guilds staff and representatives when undertaking these activities.

City & Guilds requires the Head of Centre to
- facilitate any inspection of the Centre which is undertaken on behalf of City & Guilds

Verification
External quality assurance is provided by EQA's sampling learner portfolios and assessment and internal quality assurance decisions as described in Section 6. External verification of internally assessed work is carried out to ensure that assessment is valid and reliable and that assessment and internal quality assurance practice is standardised.

Assessment documentation

Centres must use the provided documentation, unless otherwise agreed, to ensure that all of the appropriate information is available for verification processes. Centres may devise additional documentation/forms to support those provided by City & Guilds.

Where learner work is selected for sampling as part of the verification process, this work must be made available for the EQA during their monitoring visit.

Malpractice

Please refer to the City & Guilds guidance notes *Managing cases of suspected malpractice in examinations and assessments*. This document sets out the procedures to be followed in identifying and reporting malpractice by learners and/or centre staff and the actions which City & Guilds may subsequently take. The document includes examples of learner and centre malpractice and explains the responsibilities of centre staff to report actual or suspected malpractice. Centres can access this document on the City & Guilds website.

Examples of learner malpractice are detailed below (please note that this is not an exhaustive list):
- falsification of assessment evidence or results documentation
- plagiarism of any nature
- collusion with others
- copying from another candidate (including the use of ICT to aid copying), or allowing work to be copied
- deliberate destruction of another's work
- false declaration of authenticity in relation to the contents of a portfolio or coursework
- impersonation.

These actions constitute malpractice, for which a penalty (eg disqualification from the examination) will be applied.

Where suspected malpractice in internally assessed work is identified by a centre after the learner has signed the declaration of authentication, the Head of Centre must submit full details of the case to City & Guilds at the earliest opportunity. Please refer to the form in the document *Managing cases of suspected malpractice in examinations and assessments*. Alternatively please complete the form, JCQ/M1. Copies of this form can be found on the JCQ website: http://www.jcq.org.uk

Malpractice in internally assessed work discovered prior to the learner signing the declaration of authentication need not be reported to City & Guilds, but should be dealt with in accordance with the centre's internal procedures. City & Guilds would expect centres to treat such cases very seriously. Details of any work which is not the learner's own must be recorded on the cover sheet or other appropriate place.

Factors affecting individual learners

If work is lost, City & Guilds should be notified immediately of the date of the loss, how it occurred, and who was responsible for the loss. Centres should use the JCQ form, JCQ/LCW, to inform City & Guilds Candidate Support of the circumstances.

Learners who move from one centre to another during the course may require individual attention. Possible courses of action depend on the stage at which the move takes place. If the move occurs early in the course, the new centre should take responsibility for assessment.

Access arrangements and special consideration

We have taken note of the provisions of equalities legislation in developing and administering this specification.

We can make arrangements so that learners with disabilities, special educational needs and temporary injuries can access the assessment. These arrangements must be made before the examination. For example, we can produce a Braille paper for a learner with visual impairment.

Please refer to the *JCQ access arrangements and reasonable adjustments and Access arrangements - when and how applications need to be made to City & Guilds* for more information. Both are available on the City & Guilds website: **http://www.cityandguilds.com/delivering-our-qualifications/centre-development/centre-document-library/policies-and-procedures/access-arrangements-reasonable-adjustments**

Special consideration

We can give special consideration to learners who have had a temporary illness, injury or indisposition at the time of the examination. Where we do this, it is given after the examination.

Applications for either access arrangements or special consideration should be submitted to City & Guilds by the Examinations Officer at the centre. For more information please consult the current version of the JCQ document, *A guide to the special consideration process*.

Language of examinations
We will provide this specification in English only.

Other issues

European Dimension
City & Guilds has taken account of the 1988 Resolution of the Council of the European Community in preparing this specification and associated specimen units.

Environmental Education

City & Guilds has taken account of the 1988 Resolution of the Council of the European Community and the Report Environmental Responsibility: An Agenda for Further and Higher Education 1993 in preparing this specification and associated specimen units.

8   Units

Availability of units

The following units can also be obtained from the Register of Regulated qualifications: **www.register.ofqual.gov.uk**

Structure of units

These units each have the following:

- City & Guilds reference number
- unit accreditation number (UAN)
- title
- level
- guided learning hours
- purpose of the unit
- learning outcomes which are comprised of a number of topics
- guidance for delivery

Unit 201   Safe and effective working practices in the land-based industries

Level:	1
GLH	50

What is this unit about?

Health and safety and its role in reducing accidents and lowering risk are a vital part of working practices. This unit is concerned with learners following the correct procedures outlined by the employer, recommended codes of practice and current legislation. It also covers reporting procedures and the correct use of personal protective equipment (PPE), other equipment and management of the workplace.

The unit should be taught using a range of situations including working with animals, plants and machinery. The delivery of this unit should include practical demonstrations where possible.

Learning outcomes

In this unit, learners will be able to

1. Select, use, maintain and store tools and equipment
2. Follow safe working practices
3. Follow emergency procedures
4. Maintain a safe and tidy work environment

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

The aim of this unit is for learners to be able to work safely at all times within their work place and during practical activities. It will enable them to recognise the potential risks within their work environment and how to minimise them. It will allow them to develop their understanding of emergency procedures along with their rights and responsibilities within relevant legislations.

Learning outcome:

1. Select, use, maintain and store tools and equipment

Topics:

1.1 Personal protective equipment (PPE)
1.2 Use, maintain and store equipment and tools safely and correctly

Topic 1.1

For this topic, learners need to be able to identify personal protective equipment (PPE) required for various situations relating to their area of work. They are then required to use the identified PPE correctly at all times while undertaking practical activities.

Identification of a range of Personal Protective Equipment (PPE):
- Eye protection
- Ear protection
- Head protection
- Body protection
- Foot protection
- Inhalation protection (where required)
- Skin protection

For each piece of equipment, uses and how they offer protection.

Topic 1.2

For the following:
- PPE
- Hand tools
- Powered equipment
- Manual handling equipment
- Materials specific to operations

How to:
- Check condition before use and what to do if faults are found
- Maintain condition during and in between use
- Safe and appropriate storage between use

Learning outcome:

    2. Follow safe working practices

Topics:

2.1 Work according to training, instructions and current legislation
2.2 Components of a risk assessment
2.3 Procedures to follow in order to work safely

Topic 2.1

For this topic, learners are required to complete a range of practical activities safely by following instructions given by their supervisor within their learning area.

Responsibilities as an employee under relevant health and safety legislation:
- Responsibility for own personal health and safety
- Co-operation with employer
- Not interfering with or misusing equipment/provisions (e.g. alarms, signage) provided for health, safety and welfare
- Lines of reporting for:
  - Accidents
  - Faults
  - Damage
- Following instructions and safe working practice – selecting and using PPE where provided
- Helping others and sharing good practice

Hazard and safety signs, particularly those displayed in working area.

Topic 2.2

The role of risk assessments within the working area.

The differences between:
- Generic risk assessments
- Site specific or task specific risk assessments
- Emergency action plans.

The process of producing of risk assessment.

Topic 2.3
How the procedures used can help with working safely:
- Safe manual handling to include safe lifting, implications and mechanical aids
- Machinery operation and maintenance

Learning outcome:

3. Follow emergency procedures

Topics:

3.1 Entry into an accident book and take appropriate action
3.2 Legislation that will require reporting procedures
3.3 Emergency procedures

Topic 3.1

Completion of an accident recording sheets including a full description of each action that was taken.

Topic 3.2

Legislation and reporting procedures (where appropriate):

* Health and Safety at Work Act (HASAW) (1974)
* The Health and Safety (First Aid) Regulations 1981
* Reporting of Injuries Diseases and Dangerous Occurrences Regulations (RIDDOR) (2013)
* Control of Substances Hazardous to Health (COSHH) Regulations (2002)
* Management of Health and Safety at Work Regulations (1999)
* Personal Protective Equipment Regulations (PPE) (1992)
* Regulatory Reform (Fire Safety) Order (2005)

Safe procedures and organisation policy for area of study or workplace.

Topic 3.3

Emergency procedures for the following:

* Wounds
* Burns
* Shock
* Unconsciousness

Principles of fire safety, procedures to follow, and fire safety equipment and their uses:

* Procedures for raising the alarm
* Evacuations and drills
* Types and uses of fire safety equipment: - Smoke detectors - Fire alarms - Fire extinguishers (water, dry powder, foam, CO2) - Fire blankets - Fire hoses
* Own limitations when responding to a potential fire emergency

Learning outcome:

4. Maintain a safe and tidy work environment

Topics:
    4.1 Maintain a safe and tidy work area
    4.2 Dispose of waste correctly

Topic 4.1

The risks of an untidy workplace to both themselves and others.

The benefits and features of a safe and tidy work environment.

Topic 4.2

Hazardous and non-hazardous waste and the possible environmental impacts they may have.

How both hazardous and non-hazardous waste found in the workplace should be disposed of in order to minimize environmental damage.

Guidance for delivery

This unit links closely with all other units and provides the basis of knowledge required to work safely on all tasks in the range of land-based environments.

Tutors should guide learners to develop their understanding of principles of health and safety required for working within the industry as learners will need to understand how these are essential for employment within the sector.

The majority of content could be delivered in a classroom environment, it is important that learners can relate this knowledge and understanding to real life working tasks and environments. Reference to this unit should be made when teaching the other practical units that make up this qualification. It is expected that a range of delivery methods will be used including presentations, classroom discussions and individual study.

There is no requirement for a detailed understanding of legislation at this level, but learners must appreciate where there is legislation, what they are and where each applies. Tutors should ensure that they keep up to date with changes and amendments to legislations covered by this unit and include delivery of locally relevant policy and standards where relevant.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Websites

Health and Safety Executive (HSE)	**www.hse.gov.uk**
Farm Safety Foundation	**www.yellowwellies.com**

Unit 202   Preparing to work in the land-based industries

Level:	1
GLH	50

What is this unit about?

The land-based sector is diverse and provides a wide range of career opportunities. It is important for those working in the industries to understand how it is organised and the professional standards required for those working in it.

This unit also enables the learner to gain experience of working within a realistic working environment in industry or at the centre whilst under supervision. It provides them with the opportunity to develop important personal skills and apply health and safety. There will be a strong bias towards learners reflecting on their progress during this work placement.

Learning outcomes

In this unit, learners will be able to

1. Identify potential routes and career paths within the land-based industries
2. Identify business structures employee rights and responsibilities
3. Prepare a *curriculum vitae* (CV) and job application for land-based industry role

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

The aim of this unit is for learners to develop an understanding of the breadth of the land-based sector and the opportunities for career progression within it. Learners will understand the structure of businesses and their own roles and responsibilities in working safely to recognised industry standards.

A minimum of **60 hours** of work-related experience is required for this unit. This can be evidenced through external placement or in a centre based Realistic Working Environment (RWE). How the work-related experience hours are achieved (eg through block placement, weekly sessions) is determined by the centre.

Learning outcome:

1. Identify potential routes and career paths within the land-based industries

Topics:

1.1 Routes within the land-based sector
1.2 Careers for each route within the land-based industries
1.3 Associated organisations/professional and trade bodies for each route within the industry

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Topic 1.1

Key characteristics of the following routes within the land-based industry:
- Agriculture eg livestock production, crop production, mixed farming, seasonal working pattern/ activities, outdoor/ indoor working
- Animal care/management eg kennels/ catteries/ boarding establishments, zoos/ wildlife parks, petting farms, veterinary care, rescue centres, animal grooming, training, working conditions (all year round etc)
- Environmental conservation/countryside eg environmental conservation, gamekeeping, fisheries, outdoor activity centres, working with the public, working conditions/ seasons
- Floristry eg shops, online companies, events/ exhibitions, specialisms (weddings etc), working with customers
- Forestry and arboriculture eg forestry, arboriculture, utility arboriculture, greenwood trades, working conditions
- Horse care/equine eg stables/ livery yards, stud farms, riding schools, racing yards, competitions/ eventing, working conditions
- Horticulture eg amenity, hard landscaping, sports turf, greenkeeping, production, retail, working conditions/ seasonality

Topic 1.2

Careers for each route (examples are given here but are not an exhaustive list):
- Agriculture – general farm worker, stockperson, tractor driver, shepherd
- Animal care/management – kennel worker, pet store assistant, rescue worker, trainee zoo keeper

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- Environmental conservation/countryside – gamekeeper, pest controller, ranger, river keeper
- Floristry – junior florist, senior florist, freelance florist
- Forestry and arboriculture – forest operative, arborist, ranger, climber, tree officer
- Horse care/equine – groom, jockey, rescue worker, exercise rider, senior groom
- Horticulture – gardener, horticulture operative, golf greenkeeper, garden centre assistant, landscape operative

Topic 1.3

Industry associated organisations for each route, (examples are given here but are not an exhaustive list):

- Agriculture - Department for Environment Food & Rural Affairs (DEFRA), National Farmers' Union (NFU)
- Animal care/management - Pet Industry Federation (PIF), British and Irish Association of Zoos and Aquariums (BIAZA), The Kennel Club, Royal Society for the Prevention of Cruelty to Animals (RSPCA)
- Environmental conservation/countryside – Environment Agency, Natural England, Wildlife Trusts
- Floristry - Institute of Professional Florists (IoPF), British Florist Association (BFA)
- Forestry and arboriculture – The Forestry Commission, The Arboricultural Association, Royal Forestry Society, Woodland Trust, Forestry Industry Safety Accord (FISA)
- Horse care/equine – British Horse Society (BHS), British Dressage, British Grooms Association, The Pony Club, Riding for the Disabled Association
- Horticulture - Royal Horticultural Society (RHS), Horticulture Trade Association (HTA), British Association of Landscape Industries (BALI)

Learning outcome:

2. Identify business structures and employer/employee rights and responsibilities

Topics:

2.1 Business types and policies
2.2 Rights and responsibilities of an employee

Topic 2.1

Definition of the business types:

- Sole trader; one owner of a business, entitled to keep all profits after tax has been paid but liable for all losses too.
- Limited company; a company whose owners are legally responsible for its debts only to the amount of money they invested.
- Partnership; two or more individuals who share management, profits and losses
- Chain; share a brand and central management, and usually have standardised business methods and practices for daily running
- Franchise; a business (franchisee) that legally uses someone else's (franchisor's) expertise, ideas and processes.

Policies that should be in place at work environment:
- Health and safety
- Complaints
- Dress code
- Use of social media
- Attendance
- Professional standards
- Data Protection

Topic 2.2
Employee Rights:
- Safe working environment
- Training
- Rest Periods
- Holidays
- Minimum wage
- Contract of employment

Employee responsibilities:
- Punctuality
- Safety of self and others
- Maintain the working environment
- Following instructions and completing tasks set

Learning outcome:

3. Prepare a *curriculum vitae* (CV) and job application for land-based industry role

Topics:

3.1 *Curriculum vitae* (CV)
3.2 Job application

Topic 3.1
Contents of a curriculum vitae (CV):
- Personal details
- Education and training
- Professional membership
- Training
- Employment history
- Qualifications held
- Skills
- General information
- Declarations

Topic 2.2
Contents of a job application:
- Suitable work experience position based on existing skills
- Experience
- Development of skills and experience to achieve future employment goals

Guidance for delivery

This unit should be delivered through classroom sessions and practical activities undertaken by the learner. Wherever practical the learner should be encouraged to complete work placement at an external organisation that has undergone appropriate health and safety checks by the centre. Where this is not appropriate for the learners or is not practical, the hours may be completed within the college under Realistic Working Environment conditions.

The hours should not be undertaken during normal timetabled sessions as they need to be representative of a work-related placement (either with an employer or in a realistic working environment at the centre).

The work-related placement experience evidence will be recorded in a portfolio.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date and relevant.

Suggested learning resources

Websites

Prospects   **www.prospects.ac.uk/careers-advice/cvs-and-cover-letters/how-to-write-a-cv**

Live Careers   **www.livecareer.co.uk**
The Apprenticeship Guide **www.apprenticeshipguide.co.uk**

Career Maps   **https://careermap.co.uk/land-based-blog-1/**
National Land-based College (NLBC) **https://nlbc.uk**

Unit 203   Identify Plants and Trees

Level:	1
GLH	50

What is this unit about?

This unit is concerned with the identification of plants, using common and botanic names, sufficient to enable learners to be aware of the variety of plants available and in use in the horticultural industry.

Learning outcomes

In this unit, learners will be able to:

1. Identify woody plants, their uses and characteristics
2. Identify herbaceous plants, their uses and characteristics

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Plants to be identified will include representatives from the following major groups:
- Trees
- Shrubs
- Hardy herbaceous perennials
- Annuals

Each group should include at least **fifteen** representatives.

Learning outcome:
1. Identify woody plants, their uses and characteristics

Topics:
1.1 Common trees, their uses and characteristics
1.2 Common shrubs, their uses and characteristics

Topic 1.1

Plant nomenclature:
- Common names
- Scientific names
- Advantages/ disadvantages of common names and scientific names for trees

Typical tree characteristics and identification features:
- Size
- Height
- Buds
- Bark
- Leaves
- Form

Identification of trees using common names appropriate to the local area (native/ naturalized).

Values for garden and landscape of trees
- Flowers
- Fragrance
- Stature
- Habitat

Topic 1.2

Plant nomenclature:
- Common names

- Scientific names
- Advantages/ disadvantages of common names and scientific names for shrubs

Typical shrub characteristics and identification features:
- Size
- Height
- Buds
- Bark
- Leaves
- Form

Identification of shrubs using common names appropriate to the local area (native/ naturalized).

Values for garden and/ or landscape of shrubs:
- Flowers
- Fragrance
- Stature
- Habitat

Learning outcome:

2. Identify herbaceous plants, their uses and characteristics

Topics:

2.1 Hardy herbaceous perennials, their uses and characteristics
2.2 Hardy and half-hardy annuals, their uses and characteristics

Topic 2.1
Characteristics of hardy perennials:
- Occasional division
- Dying back to rootstock/ bulb
- Support requirements

Typical hardy perennial characteristics and identification features:
- Size
- Height
- Buds
- Stem colour
- Leaves
- Form

Identification of hardy perennials appropriate to the local area.

Values for garden and/ or landscape of hardy perennial
- Flowers
- Fragrance
- Stature

- Habitat

Topic 2.2

Characteristics of annual plants:
- Hardy annuals
- Half- hardy annuals

Typical annual plant characteristics and identification features:
- Size
- Height
- Buds
- Bark
- Leaves
- Form

Identification of annual plants appropriate to the local area.

Values for garden and/ or landscape of annual plants
- Flowers
- Fragrance
- Stature
- Habitat

Guidance for delivery

During the delivery of this unit, learners should have access to a wide range of plants from the range. It is expected that delivery incorporate a mixture of lectures, practical activities, and visits to garden centres, arboretums, botanical gardens and / or national plant collections.

At this level, it is expected that learners develop their identification skills and an appreciation of the plant characteristics and values.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

The RHS Encyclopaedia of Gardening.	2nd Edition Surrey: Dorling Kindersley Publishers. Brickell C. 2002
Flora of the British Isles.	2nd Edition. Cambridge: Press Syndicate University of Cambridge. Clapham AR, Tutin TG and Warburg EF. 1962.
The Hillier Manual of Trees and Shrubs.	3rd Edition. Devon: David and Charles. Hillier J and Coombes A J. 2007.
Grasses: v. 1: A Guide to Their Structure, Identification, Uses and Distribution	3rd Edition. London: Penguin Books. Hubbard CE. 1992
Perennials: Early Perennials v.1: Early Perennials Vol 1.	London: Pan Books. Phillips R and Rix M. 1993.
Perennial garden plants or the Modern Florilegium.	London: Frances Lincoln Limited. ISBN: 0-71122-403-X . Thomas G. S. 2004.
A Handbook for Horticultural Students.	Rushden: Dawson. ISBN: 0-9525911-11. Dawson P. 2006

Websites

Royal Horticultural Society	**www.rhs.org.uk**

Unit 204   Identify common pests, diseases and disorders of plants and trees

Level:	1
GLH	50 GLH

What is this unit about?

This unit enables learners to recognise a healthy plant, also to identify the common pests, diseases and disorders that can affect plants. The learner will be able to state the impact of the pests ,disease and disorder on the chosen plant. The learner will know to whom the occurrence of pests or disease should be reported.

Learning outcomes

In this unit, learners will be able to

      1. Identify common pests and the procedures for dealing with pest damage

      2. Identify common diseases and disorders and the procedures for dealing with them

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. Identify common pests and the procedures for dealing with pest damage

Topics:

1.1 Common pests, symptoms and impact of pest damage
1.2 Record findings
1.3 Control measures

Topic 1.1

Common pests associated with plants and trees:
- Slugs/ snails
- Mites
- Caterpillars
- Aphids
- Other insects e.g. beetles
- Rodents/ birds

Symptoms and impacts:
- Reduced quality
- Reduced vigour
- Poor growth
- Poor appearance

Topic 1.2

Who to report findings to:
- Supervisor/ manager
- Tutor/ assessor
- Colleagues

The importance of completing records of infestations.

Topic 1.3

Control measures of common pests:
- Chemical
- Cultural
- Biological
- Exclusion

Learning outcome:

2. **Identify common diseases and disorders and the procedures for dealing with them**

Topics:
2.1 Common diseases and disorders and symptoms
2.2 Record findings
2.3 Control measures

Topic 2.1
Common diseases of plants and trees:
- Fungi
- Powdery mildew
- Rust
- Moulds

Common disorders of plants of trees:
- Wilting due to water shortage
- Scorch due to frost
- Salt and chemical damage
- Nutrient deficiency

Topic 2.2
Who to report findings to:
- Supervisor/ manager
- Tutor/ assessor
- Colleagues

The importance of completing records of diseases and disorders.

Topic 2.3
Control measures for diseases and disorders:
- Chemical
- Cultural
- Biological
- Exclusion

Guidance for delivery

Throughout this unit, the emphasis should be on the development of the learner's identification skills and scaffolding of knowledge linked to other units associated with this one. It is not a requirement for the learner to use pesticides or other approved methods of control, but they should be aware of control measures as a way of managing pests, diseases and disorders. Simulation and demonstration could be used to illustrate appropriate control methods, which are commonly used.

The assessor should use a varied range of plants and trees and link relevant pests, diseases and disorders with a focus on stating the impact of the pest, disease or disorder. Where relevant, real life examples should be used to embed and reinforce learning where classroom environments are not highly suitable. At this level, learners should be able to identify common pests, diseases and disorders and state their impact on the tree/ plant either in order to inform a suitable control measure or to inform a relevant person.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Centres are encouraged to introduce employers and specific professionals from the land- based sector to provide interesting and relevant information to the learner. Teaching would also benefit from visits to external sites where pests, diseases and disorders can be more readily available in a work environment.

Suggested learning resources

Books

Principles of Horticulture.	4th Edition. Oxford: Butterworth-Heineman. ISBN: 0- 7506-6088-0. Adams C R and Early M P. 2004.
The RHS Encyclopaedia of Gardening.	2nd Edition. Surrey: Dorling Kindersley Publishers. ISBN: 1405322270 Brickell C. 2007.
RHS Pruning and Training.	Surrey: Dorling Kindersley Publishers ISBN: 1405315265 Brickell C and Joyce D. 2006.

The Tree and Shrub Expert.	London: Transworld Publishers. ISBN: 0903505178 56 Hessayon D G. 1999.
The Hillier Manual of Trees and Shrubs.	3rd Edition. Devon: David and Charles. ISBN: 07015326640 Hillier J and Coombes A J. 2007.
A Handbook for Horticultural Students.	Rushden: Dawson. ISBN: 0-9525911-11. Dawson P. 2006

Websites

Royal Horticultural Society   **www.rhs.org.uk**

Forestry Commission   **www.forestry.gov.uk**

Unit 205   Assist with the use of transport and the maintenance of tools and equipment

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to communicate information within the workplace. This unit prepares learners to handle and maintain tools and equipment within the relevant industry choice.

Learning outcomes

In this unit, learners will be able to

1. Assist with the loading and unloading of physical resources in the workplace
2. Assist with the transport physical resources in the workplace
3. Assisting with the preparation of equipment for maintenance
4. Assisting with the maintenance of tools and equipment

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Land based industries use a wide range of tools, equipment and transport physical resources in the workplace. Health and safety and effective use are important elements of this unit. This unit is planned to be delivered using any land-based situation.

It is advised to note that learners should use suitable equipment to their age and experience. Tasks must only be carried out under the supervision of the tutor/assessor. All equipment should be used safely and within the requirements of health and safety legislation.

Learning outcome:

1. **Assist with the loading and unloading of physical resources in the workplace**

Topics:

1.1 Assisting with the loading physical resources
1.2 Assisting with the unloading physical resources

Topic 1

Resources which need to be transported and are applicable to chosen land-based sector.

Different methods of transportation available such as:
- Wheelbarrows
- Trolleys
- Sack trucks
- Buckets
- Tractor
- Tractor and trailer

The risks involved in loading and unloading materials:
- Safe lifting and lifting equipment
- Securing the load
- Protection from damage
- Labelling requirements
- Loading and unloading evenly to avoid tipping

How to position materials for safe transport:
- Spread load evenly
- Avoid overloading to reduce risk of injury
- Place weighty resources evenly over the wheels to avoid tipping
- Stack items securely

Hazards specific to site, equipment and activity.

Legislative requirements, including the role of health and safety and manual handling recommendations.

Learning outcome:

2. Assist with the Transport physical resources in the workplace

Topics:

2.1 Effects of transporting products
2.2 Operating transportation equipment safely

Topic 2.1

Possible effects of transport on product quality:
- Uneven surfaces causing damage
- Shifting of loads if not secured correctly
- Incorrect choice of transport for resources

Topic 2.2

Correct methods of operating transportation equipment:
- Where two handles are provided use both for full control of transport
- Check the manufacturers' instructions where applicable
- Avoid overloading transportation to reduce risk of damage

The importance of operating transportation equipment safely:
- Check transport for damage or loose parts/fixings
- Never allow people to ride on the equipment
- Check the route for hazards such as:
  Slopes, gradients, uneven surfaces, soft ground, steps, narrow gaps
- Avoid overloading to reduce risk of personal injury

Workplace hazards

Limitations and health and safety legislation applied to equipment in use. Follow manual handling recommendations.

Learning outcome:

3. Assisting with the preparation of equipment for maintenance

Topics:

3.1 Assisting with preparing equipment for maintenance
3.2 Personal Protective Equipment (PPE)

Topic 3.1

Equipment and maintenance requirements applicable to each land-based industry.

The consequences of:
- Poorly maintained equipment
- Failure to prevent environmental damage

The importance of maintaining safe, clean and tidy work areas

Specific responsibilities under health and safety legislation

Topic 3.2
The importance of wearing Personal Protective Equipment (PPE) for a range of situations and why it should be used.

Learning outcome:

4. **Assisting with the maintenance of tools and equipment**

Topics:
4.1 Assist with maintenance procedures
4.2 Responsibilities under health and safety legislation

Topic 4.1
The reasons for maintenance of equipment:
- To check for damage and/or loose parts
- To ensure cutting blades are sharp and suitable for use and to minimise damage to resources
- Clean tools and equipment will work more efficiently
- Tools will last longer avoiding unnecessary waste of expensive resources

The importance of the correct methods of cleaning and storing and range of tools relevant to the land-based sector being studied.

Workplace hazards

Ways of minimising environmental damage during work activities:
- Dispose of waste products responsibly
- Recycle/reuse resources wherever possible
- Store and use fuel for powered equipment according to regulations to avoid unnecessary spillages
- Use all tools and equipment for the intended purpose to avoid unnecessary damage and waste

Topic 4.2
Specific responsibilities under health and safety legislation relating to the maintenance of equipment

Guidance for delivery

When delivering this unit it may be helpful to make references and links to other activities from Level 1 units:

- Unit 201 – Safe Working Practices
- Unit 202 – Preparing to work in the land-based industries

Also, land-based industry specific units that cover the use of mechanical equipment and power tools appropriate to the subject.

Learners should have access to a large range of tools and equipment applicable to the land-based industry they are studying.   This unit does not include the use of powered equipment however it would be good practice to introduce the learners to as wide a range as possible to encourage progression to Level 2 qualifications.

The emphasis of this unit is on the practical activity with written evidence to embed the underpinning knowledge required to show understanding of the practical tasks and to develop basic assignment writing skills for progression to Level 2.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Farm Machinery	12th Edition. Blackwell Scientific. ISBN: 0-632-03159-X Culpin C. 1992
Farm Machinery.	5th Edition. Old Bond Publishing ISBN: 1-903-3668-2 Bell B. 2005.
Machinery for Horticulture.	Ipswich: Old Pond Publishing. ISBN: 0-852-36369-9 Bell B. and Cousins S. 1997
Hillier's Fundamentals of Motor Vehicle Technology	5th Edition. Nelson Thornes. ISBN: 0-748-78082-3 Hillier V. and Coombes P. 2004

Journals and magazines

Horticultural Weekly

Profi International

Manufacturers' publications, service charts and manuals

Lubrication charts and data sheets

Websites

British Agricultural and Garden Machinery Association	**www.bagma.com**
Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
Welsh Assembly Government	**www.wales.gov.uk**
Scottish Executive Environment and Rural Affairs Department	**www.scotland.gov.uk**
Department of Agriculture and Rural Affairs (NI)	**www.daera-ni.gov.uk**
Health and Safety Executive	**www.hse.gov.uk**
Discovery Communications	**www.howstuffworks.com**

Unit 206   Contribute to the establishment of plants

Level:	1
GLH	50

What is this unit about?

This unit introduces learners to the cultivation of sites for horticultural purposes, and to the establishment of plants in outdoor sites. The principles of soil cultivation and plant establishment are also outlined to provide a basic understanding of the activities involved.

Learning outcomes

In this unit, learners will be able to

1. Prepare land by hand cultivation methods
2. Plant woody plants
3. Plant non-woody plants

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learners should have access to a range of plants, areas of ground to cultivate and plant up, tools, equipment and examples of mechanical cultivators. This unit does not cover the use of rotavators; however, reference should be made to their use for progression to Level 2.

Learning outcome:

1. Prepare land by hand cultivation methods

Topics:

1.1 Cultivate land by single digging
1.2 Prepare a basic tilth

Topic 1.1

Characteristics of light, medium and heavy soils and their cultivation:

- Light:
  Often sandy therefore water and nutrients drain freely but this type of soil is easy to work even in winter and warms up earlier in spring. Avoid excessive digging in hot, dry conditions as it will dry out very quickly. Adding bulky organic matter annually to help improve texture.

- Medium:
  A good crumbly texture which is easy to work, holds water and nutrients and usually contains silt. This type of soil has both the good and bad points of heavy and light soils and benefits from annual additions of organic matter to maintain the structure.

- Heavy:
  This type of soil will often contain a lot of clay which holds water and is heavy and sticky to work; it stays colder therefore the planting season can be delayed. In summer this soil can dry to a hard, lumpy texture making it difficult to work. Avoid cultivating this soil when it is wet as the structure is easily destroyed. Adding bulky organic matter, sand and/or horticultural grit will help to improve the texture by opening up the soil structure.

Basic soil types:

- Clay loam
- Sandy loam
- Silty loam

Light soils are best prepared shortly before needed

Heavy soils benefit from exposure to winter weather to improve their structure

Most soil types benefit from the addition of organic matter

Single digging is an effective method for preparing sites and adding organic matter before sowing and planting

Mechanical cultivation methods, such as using a rotary cultivator, are an alternative to manual digging and the advantages and disadvantages of each method should be compared

Soil and weather conditions which are not appropriate for cultivations because the soil structure is damaged in each weather condition.
- Frozen: Digging frozen soil is difficult and may damage fibrous roots which become brittle. Heavy clay soils cultivated in autumn will be broken down into finer particles by frost making them easier to cultivate in spring.
- Snow-covered: Digging snow into soil can delay the soil warming up, expose roots of plants to colder conditions and may cause heavy soils to become more waterlogged
- Waterlogged: Soil particles will slide into a compacted state squeezing out any air and destroy the soil structure
- Drought: Digging exposes more surface area of the soil to evaporation causing the soil to dry out even faster

Perennial weeds to include:
- Dandelion
- Couch Grass
- Ground Elder
- Bindweed

Annual weeds to include:
- Chickweed
- Annual Meadow Grass
- Hairy Bitter Cress
- Cleavers/Sticky Weed

Perennial weeds and the roots should be fully removed.

Annual weeds can be dug in and buried during single digging before they set seed.

Topic 1.2
Following manual digging or mechanical cultivation, a site should be raked out and firmed before planting:
- The importance of preparing a correct tilth for sowing or planting
- The purpose of raking to level the site
- The purpose and importance of treading to consolidate the site

Hazards
- Basic health and safety precautions required for hand cultivation of sites by digging, raking and treading

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2. Plant woody plants

Topics:
2.1 Plant container-grown trees and shrubs
2.2 Plant bare-root transplants
2.3 Provide immediate (post planting) aftercare

Topic 2.1

Common woody plants:

- Trees eg Oak, Ash, Hawthorn, Rowan, Sycamore, Yew, Holly, Beech, Birch, Chestnut
- Shrubs eg Hydrangea, Laurel, Rose, Buddleia, Rosemary, Forsythia, Camellia, Choisya, Fuchsia, Cotoneaster

Definition of the terms

- Evergreen: A plant that keeps its leaves all year
- Deciduous: A woody plant that sheds its leaves annually

Frost, snow, waterlogged and extreme drought conditions are unsuitable ground/weather conditions for planting (Links to topic 1:1)

Container-grown hardy trees and shrubs can be planted at any time if soil and weather conditions are suitable.

Container-grown woody plants must be watered before planting.

When planting

- Holes should be large enough to accommodate the roots/root ball without difficulty
- Damaged roots/shoots should be pruned away before planting
- Suitable organic matter can be used to improve the backfill medium
- Plants should be positioned correctly as related to the viewpoint or line
- Planting depth should be correct and how to recognise correct depth
- Consolidation is important and that correct heeling-in can achieve this

Topic 2.2

Deciduous plants are best established during the dormant season if transplanted as bare-rooted stock.

Dormant periods for a range of woody plants:

- Fruit trees such as Apple, Pear, Plum, Cherry:
  Winter; November to end of February
- Soft fruit bushes such as Raspberry, currants:
  Late Autumn/early winter; November and December
- Mediterranean shrubs such as Lavender, Rosemary:

Spring; Late March to April
- Spring flowering trees and shrubs such as Flowering Cherry, Camellia. Forsythia
  Late Autumn; October and November
- Evergreen shrubs such as Mahonia, Hebe in late winter and Choisya in Autumn

The importance of protecting plants from drying out before planting, and that this can be achieved by misting and/or covering with protective sheets

Topic 2.3
The use of mulch, supports and protection against severe weather can assist establishment of new plants.

The importance of regularly checking recently planted shrubs and trees for adverse signs of:
- Damage from animals, insects and/or people
- The effects of extreme weather conditions such as high winds, flooding or drought
- The importance of regular watering to aid the plant's establishment

Hazards:
- Basic health and safety considerations involved in planting trees and shrubs

Learning outcome:
3. Plant non-woody plants

Topics:
3.1 Plant bedding plants
3.2 Plant herbaceous perennials
3.3 Provide immediate aftercare

The common categories of plants:
- Herbaceous perennials
- Annuals
- Biennials
- Bulbs (including corms and tubers)

Definition of the terms:
- Hardy: Hardy plants can survive a temperature down to -15°c and can be grown outside all year
- Half-hardy: Half-hardy plants can only stand temperatures as low as 0°c to -5°c (range depends on species). These plants need protection from frost when young
- Tender: Tender plants will not survive temperatures below 0°c to +5°C (range depends on species) and need to be brought in to a frost free place over winter

Topic 3.1

The reasons why all plants must be adequately watered prior to planting (links to topic 2.1)

- This ensures that the whole plant will be fully hydrated
- Aids successful establishment of roots in a new growing environment
- Reduces the stress for the plant and improves nutrient uptake

Other preparation may be required prior to or at planting:

- Remove dead leaves
- Remove dead flowers
- Remove any damaged roots/shoots
- Select the strongest, healthiest plants

Summer bedding plants are planted after the likely last frost date and this is different across the country.

Topic 3.2

Bare-root herbaceous perennials should be planted in autumn or early spring.

When planting:

- Holes should be large enough to accommodate plant roots/root ball without difficulty
- Plants should be planted in the correct position according to the line or viewpoint
- Planting depth should be correct and how to recognise this
- Correct consolidation is important to plant success and how to achieve this

Topic 3.3

The importance of regularly checking recently planted herbaceous perennials and bedding plants for adverse signs of:

- Damage from animals, insects and/or people
- The effects of extreme weather conditions such as drying winds, heavy rain or drought
- The importance of regular watering after planting to aid the plant's establishment (Links to topic 3.1)

Hazards:

- Basic health and safety considerations involved in planting perennials and bedding plants

Guidance for delivery

When delivering this unit it may be helpful to make references and links to other activities from Level 1 units:

- Unit 201 – Safe and effective working practices in land-based industries
- Unit 202 – Preparing to work in the land-based industries
- Unit 203 – Identify plants and trees

- Unit 204 – Identify common pests and diseases
- Unit 207 – Contribute to the maintenance of plants
- Unit 209 – Contribute to the establishment and maintenance of lawns
- Unit 223 – Assist with the establishment and maintenance of plants and sites in the countryside

Learners should have access to a large range of woody and non-woody plants growing in situ as good examples of growing conditions. The emphasis of this unit is on the practical activity with written evidence to embed the underpinning knowledge required to show understanding of the practical tasks and to develop assignment writing skills for progression to Level 2.

It is also recommended to visit botanical establishments such as garden centres, botanical gardens, national collections or arboretums; and local employers such as landscapers, local authorities and parks where possible. It is expected that learners will experience interactive lessons in a real environment as this unit is linked directly with current industry practice and prepares them for progression onto the Level 2 Technical Qualification

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Principles of Horticulture.	5th Edition. Oxford: Butterworth Heinemann. ISBN: 978-0-7506-8694-5 Adams C.R. 2008
The Hillier Manual of Trees and Shrubs.	3rd Edition. Devon: David and Charles. ISBN: 07015326640 Hillier J. and Coombes A.J. 2007
The RHS Encyclopaedia of Gardening.	2nd Edition. Surrey: Dorling Kindersley Publishers. ISBN: 1405322270 Brickell C. 2007.
The Tree and Shrub Expert.	London: Transworld Publishers. ISBN: 0903505178 Hessayon D.G. 1999

The Green Garden Expert.	London: Transworld Publishers. ISBN: 978-0-903-50563-5 Hessayon D.G. 2009
The Bedding Plant Expert.	London: Random House. ISBN: 0903505452 Hessayon D.G. 1996
A Handbook for Horticultural Students.	Rushden: Dawson. ISBN: 0-9525911-11. Dawson P. 2006

Journals and magazines

Horticultural Weekly

RHS – The Garden

Websites

Royal Horticultural Society	**www.rhs.org.uk**
Health and Safety Executive	**www.hse.gov.uk**
The Woodland Trust	**www.woodlandtrust.org.uk**
Hardy Plant Society	**www.hardy-plant.org.uk**

Unit 207　　Contribute to the maintenance of plants

Level:	1
GLH	50

What is this unit about?

This unit introduces learners to the practices involved in the maintenance of plants in amenity and decorative settings, with particular emphasis on the routine tasks of border maintenance and general pruning for health rather than especially as applied to species

Learning outcomes

In this unit, learners will be able to:

1. Maintain the health of plants
2. Carry out maintenance of established planted areas

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learners should have access to a range of established planted areas in need of regular maintenance throughout the seasons. Examples of mechanical hedge trimmers should be available for study however, this unit does not cover their use; reference should still be made to a range of trimmers for learners to become aware of the risks and safety considerations during use.

Learning outcome:

1. **Maintain the health of plants**

Topics:

1.1 Apply fertiliser to established borders
1.2 Apply mulch to established borders
1.3 Apply water to established borders

Topic 1.1

Ill-health in plants:

- Wilting due to lack of water.
- Poor growth due to nutrient deficiencies.
- Symptoms caused by physical damage.
- Problems caused by pests and diseases
.
Growing medium containing an adequate balance of air and water is required for most plants

All types of soil can easily become compacted during wet conditions and the effects this can have on plant growth.

- Root growth is restricted by lack of adequate air/water balance
- Roots and stems may rot off
- Fungal diseases will affect the plant material
- Nutrients are locked in unavailable for plant uptake

Most plants require adequate supplies of the three major nutrients for satisfactory growth:

- Nitrogen – encourages stem and leaf growth and the production of chlorophyll
- Phosphorus – important for root growth and the ripening of fruit
- Potassium – essential for good flower and fruit formation and increases the hardiness of the plant structure

Nitrogen, phosphorus and potassium are usually listed as the N: P: K content of fertilisers (other nutrients can be supplied).

Fertilisers:

- May supply one or more of the major nutrients.
- May be applied as granules, powders or liquids.
- If granular, are easy to handle and apply.

- If liquid, are rapidly available to plants.
- Available as organic fertilizer such as liquid seaweed or blood, fish and bone which take longer to break down and become available to plants
- Manufactured inorganic fertilizers are mostly sold under popular trade names and often made from petro-chemical based sources. They are usually instantly available to plants, can be controlled release, but add no long term nutrient value to soils.

Accurate application rates are important
- Overuse will make plants weak and unable to resist pests and diseases
- Underuse will prevent healthy plant growth
- Incorrect application of bulky organic matter can damage the structure of plants
- Too much may cause plant death

Topic 1.2
Bulky organic matter:
- In the form of e.g. farmyard manure or compost, is also a useful source of nutrients.
- May be incorporated or applied as surface mulch.
- Benefits the soil organism activity.
- When used as mulch, bulky organic matter is also useful to control weeds and retain moisture.

Topic 1.3
Mixed borders may need to be checked for irrigation needs during the period from May to September. It is good sustainable practice to only apply water if absolutely necessary.
- Recently planted trees and shrubs will need watering regularly, particularly during dry periods, for at least a year to help them establish strong root growth
- Newly planted herbaceous and bedding plants will need watering daily for a limited period to encourage growth, once established reduce application and check plant irrigation needs regularly and during dry periods.

Irrigation is most effective if undertaken in cool conditions and most beneficial in the morning when plants are ready to take up the water.

Irrigation should be sufficient for water to penetrate at least 20 cm into the soil, but should avoid run-off.

Hazards
Basic health and safety considerations which apply to assisting with plant maintenance, handling of bulky organic matter/fertilizers and using irrigation equipment.

Learning outcome:
2. Carry out maintenance of established planted areas

Topics:
2.1 Trim hedges

2.2 Carry out surface cultivation of established borders

Topic 2.1
Formal hedges are maintained by trimming one or more times each year.
- Trimming in spring will encourage new side shoots and growth
- Trimming in late summer will restrict growth and prepare the hedge for winter
- Avoid trimming hedges from March to mid-August to prevent disturbing nesting birds

Secateurs, shears or mechanical hedge trimmers may be used. The advantages and disadvantages of each should be compared.

Hedges with large leaves can be trimmed with shears and mechanical equipment however damaged or cut leaves must be snipped off and tidied with secateurs.

Hedge trimming is potentially hazardous:
- Using powered equipment such as electric hedge trimmers with cables
- Working with heavy fuel-powered trimmers for long periods
- Tall hedges may need step ladders or the use of long-handled tools and reaching
- Appropriate extra PPE such as eye/face protection, ear protection if using mechanical trimmers

Topic 2.2
Some plants benefit from routine pruning to maintain vigour and quality such as
- Trees – Fruit trees (apple, plum, cherry, pear)
- Shrubs - Forsythia, Mock Orange, Fuchsia, Rose, Wisteria
- Topiary – Box, Yew, shrubby Honeysuckle, Holly

Plants such as herbaceous perennials are usually cut back to ground during the dormant period to maintain their appearance and health.

Herbaceous border plants may need to be supported in the spring.
- Making supports and frames from hazel or birch stems gives a more natural appearance and is sustainable
- A large range of specialist ready-made frames are also available

Removal of dead flower heads improves the appearance of plants and may prolong their flowering period by preventing seeds forming.

Weeds are usually removed from planted areas due to competition with the selected plants, harbouring pests/diseases and the unattractive appearance created.

Weeds may be:
Annual weeds are usually controlled by hoeing or mulching before they set seed.
- Chickweed, annual meadow-grass, groundsel, hairy bitter-cress, cleavers/sticky-weed
Biennial weeds are usually controlled by removing seed heads before they are ripe or hoe/mulch young seedlings as for annual weeds
- Attractive cottage garden plants such as foxglove, columbine and forget-me-not can become biennial weeds if allowed to self-sow. .

Perennial weeds and usually controlled by digging out or selective application of appropriate weed killers.

- Dandelion, couch grass, ground elder, bindweed

Surface cultivation of established borders may improve the appearance and growth, but if carried out incorrectly can cause damage to plants and soil.

- Avoid digging too deeply around the root zones
- Delay working on waterlogged soil until it has dried out (links to 1.1)
- Keep sharp edged tools such as hoes and border spades away from stems/trunks of woody plants to prevent damage to bark

Hazards of work site and activity.

Basic health and safety considerations involved with the maintenance of planted areas, handling tools with sharp blades, applying fertilizers/bulky organic matter and weed killers.

Guidance for delivery

When delivering this unit it may be helpful to make references and links to other activities from Level 1 units:

- Unit 201 – Safe and effective working practices in land-based industries
- Unit 203 – Identify plants and trees
- Unit 204 – Identify common pests, diseases and disorders of plants and trees
- Unit 206 – Contribute to the establishment of plants
- Unit 209 – Contribute to the establishment and maintenance of lawns
- Unit 223 – Assist with the establishment and maintenance of plants and sites in the countryside

Learners should have access to a large range of areas of established plants and hedges as good examples of growing conditions. The emphasis of this unit is on the practical activity with written evidence to embed the underpinning knowledge required to show understanding of the practical tasks and to develop assignment writing skills for progression to Level 2.

It is also recommended to visit botanical establishments such as garden centres, botanical gardens, national collections or arboretums; and local employers such as landscapers, local authorities and parks where possible. It is expected that learners will experience interactive lessons in a real environment as this unit is linked directly with current industry practice and prepares them for progression onto the Level 2 Technical Qualification

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Principles of Horticulture.	5th Edition. Oxford: Butterworth Heinemann.
	ISBN: 978-0-7506-8694-5
	Bell B. and Cousins S.2008
RHS Encyclopaedia of Gardening	2nd Edition. Surrey: Dorling Kindersley Publishers.
	ISBN: 1405322270
	Brickell C. 2007
The Green Garden Expert.	1st Edition. London: Transworld Publishers ISBN: 978-0-903-50563-5
	Hessayon D.G.
A Handbook for Horticultural Students.	Rushden: Dawson.
	ISBN: 0-9525911-11.
	Dawson P. 2006

Journals and magazines

Horticultural Weekly
RHS - The Garden

Websites

Royal Horticultural Society	**www.rhs.org.uk**
Hardy Plant Society	**www.hardy-plant.org.uk**
Health and Safety Executive	**www.hse.gov.uk**

Unit 208   Contribute to the propagation of plants

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to communicate information within the workplace.

The aim of this unit is to introduce learners to the principles and practices of vegetative and seed propagation techniques and the first stage of the potting up process, together with the basic knowledge that is applicable to them. Propagation is in protected and outdoor contexts.

Learning outcomes

In this unit there are three outcomes. The learners will be able to:

1. Sow seeds
2. Assist with vegetative propagation
3. Pricking out and potting up of seedlings

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. Sow seeds

Topics:

1.1 Sowing seeds into containers
1.2 Sowing seeds into drills outdoors
1.3 Immediate aftercare

Topic 1.1

Sow seeds into containers

- Containers:
  - Seed trays
  - Pots
  - Cells or modules
  - Appropriately filled with growing medium (vermiculite incorporated if required)
  - Growing media prepared for structure, consolidation, level surface, moisture
- Sowing seed:
  - Small seed broadcast sown evenly at a suitable rate
  - Large seed placed evenly at a suitable rate
  - Seed covered with growing media (compost or vermiculite) to the correct depth

Seeds:

- Require adequate moisture, air and temperature to germinate
- Must also be viable
- Should be handled carefully to avoid unnecessary physical damage
- Must be sown at the correct depth to ensure germination
- Should be spaced accurately to ensure that seed is not wasted and seedlings have adequate space to grow
- Can be sown broadcast of in drills

The growing medium may need to be consolidated to ensure correct structure after sowing

The first stage of the germination process is for the seed to swell by taking in water

Topic 1.2

Sow seeds into drills outdoors:

- Preparation of V-shaped or flat bottomed drills by hand
- Depth of drill suitable for seed to be sown
- Drills watered prior to sowing in dry conditions

- Seed scattered into drills or station sown along drill by hand, hygiene and safety maintained throughout, waste minimized
- Drills covered and consolidated

Drilled or broadcast sown seeds should be accurately labelled with the variety and date of sowing.

Topic 1.3
Carry out immediate aftercare:
- Trays or drills are watered accurately and sufficiently
- Trays or drills accurately labelled to show variety and date of sowing
- Trays of seed taken to the correct propagation environment to germinate

Common problems for sown seeds:
- Mice
- damping-off

Seeds and young seedlings should be monitored regularly to ensure that they do not dry out

Purchased seed may be treated with fungicide or other chemicals.

Water should be provided carefully to avoid damage to soil/medium structure and to avoid washing away seed.

Some seeds:
- May require to be sown in the dark for optimum germination
- Once sown may need to be protected from pests and diseases

Learning outcome:

2. Assist with vegetative propagation

Topics:
2.1 Propagation of plants by stem cuttings
2.2 Propagation of plants by division
2.3 Immediate aftercare

Topic 2.1
Containers:
- Seed trays
- Pots
- Cells or modules
- Appropriately filled with growing medium (Perlite incorporated if required)
- Growing media prepared for structure, consolidation, level surface, moisture

Stem cuttings:

- Softwood, semi-ripe or hardwood nodal cuttings
- Cutting material detached from stock plant without damage
- Cuttings prepared to the correct length
- Stem cut accurately below a node
- Excess leaves removed
- Cuttings inserted to the correct depth
- Growing media consolidated around the cutting

Vegetative propagation is used to ensure that new plants are true-to-type.

Stem cuttings:
- Are used for propagating many shrubs, perennials and trees
- May be taken using a short tip or section of stem depending on the plant and season of year
- taken when hardy plants are dormant are known as hardwood cuttings
- taken of young, actively growing stems are called softwood cuttings
- taken when the stem has begun to harden are known as semi-ripe cuttings

For most stem cuttings, the base of the cutting should be trimmed below a node/leaf joint.

Identify suitable lengths for soft, semi-ripe and hardwood cuttings of common plant types

Cuttings must be placed in a suitable environment to root and that the environment should provide suitable temperature and moisture

The importance of hygiene in propagating by cuttings.

Stem cuttings may take from days to several months to root

Basic health and safety precautions involved in using knives and secateurs.

Topic 2.2
Dividing plants:
- Stock plant lifted without damage and with adequate roots
- Stock plant picked over to remove excess/dead and dying growth
- Plant divided into propagules suitable for nursery stock production using correct tools.
- Simple division by hand
- Division with spade
- Splitting with forks
- Cutting with knife or other tools
- Excess soil removed from root zone

Division:
- Usually requires that a section of plant is removed complete with both roots and shoots
- Is used to propagate many herbaceous perennial plants and grasses

- For most subjects, is undertaken when the plant is nearly dormant
- Requires that plants should be handled carefully to avoid unnecessary damage
- If carried out correctly and at the correct time, is an extremely reliable method of propagation

Topic 2.3

Immediate aftercare of stem cuttings:
- Trays watered accurately and sufficiently
- Trays accurately labelled to show variety and date of sowing
- Trays of cuttings taken to the correct propagation environment to root

Immediate aftercare of divide plants:
- Propagules planted into nursery bed, ornamental border or potted into suitable sized containers.
- Propagules planted at correct depth
- Adequate consolidation is provided
- Newly planted propagules watered sufficiently
- Newly planted divisions labelled accurately to show variety and date

Learning outcome:

3. Pricking out and potting up seedlings

Topics:

3.1 Prick out and pot up seedlings into containers
3.2 Immediate aftercare

Topic 3.1

Containers
- Seeds trays
- Module trays
- 7cm or 9cm containers
- 1 litre containers

Pricking out
- Seedlings or cuttings assessed to check quality and readiness for pricking out
- Container adequately watered
- Dibber used to prick out young plant with minimal damage
- Young plant removed from cell/module with minimal damage

Potting up:
- Appropriate growing media selected
- Fertiliser incorporated at appropriate application rate
- Container filled and consolidated correctly
- Young plants handled with care to minimise root and top growth damage

- Potted at correct depth and in the centre of container selected
- Young plant lightly firmed in
- Top dressing or bark or horticultural grit applied if required

Pricking out:
- Is carried out when potting up seedlings and rooted cutting from trays into individual containers
- Allows young plants to grow and establish evenly
- Prevents competition for light, water and nutrients
- Lessens the risk of fungal disease
- Is undertaken when cuttings have rooted and seedlings are large enough to handle

Trays of young plants should be watered before pricking out to avoid root damage.

Fertiliser should be applied to the growing media to give plants nutrients to maintain healthy and vigorous growth.

Seedlings or cuttings should have both leafy growth and roots.

Seedlings should be handled carefully to avoid unnecessary damage

Top dressing of bark suppresses weed growth and reduces water loss.

Containers or batches of plants should be accurately labelled with variety and date of sowing.

Containers should be spaced sufficiently to let in light and maintain even plant growth.

Topic 3.2
Immediate aftercare of seedlings:
- Container accurately labelled to show variety and date of potting
- Container watered accurately and efficiently
- Support (if required) provided
- Containers moved to appropriate growing area and set down

Water should be applied carefully to avoid damage to growing media or plant growth.

Newly potted plants may require a protected environment to establish effectively.

Guidance for delivery

When delivering this unit, learners should have access to a wide range of equipment, materials and work areas suitable for undertaking propagation and carrying out the

aftercare of plants. Learners will need to carry out a number of activities that are undertaken when propagating plants and there should be a strong focus on industry practices and standards throughout.

This is a practically assessed unit and the emphasis should be on learners undertaking practical tasks supplemented by theoretical lessons and work to gain the relevant underpinned knowledge for each task. Visits to local employers who operate in this sector of the industry could be beneficial in allowing learners the opportunity to understand how propagation is applied in the workplace.

At level 1 it may be necessary to adapt certain areas of this unit to cater for the individual needs of a learner and this should also be taken into account during the assessment process.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

RHS Propagating plants.   Toogood A.
London: Dorling Kindersley publishers. 2006
ISBN-13: 978-14053-1525-8

RHS Seeds: The ultimate guide to growing successfully from seed.   McVicar J.
London: Royal horticultural society. 2001
ISBN 978 1 85626 783 0

RHS handbook: Propagation techniques.   RHS E-book
London: Octopus. 2013
ISBN 9781845337773
Plant propagation A to Z.
New York: Firefly books. 2006   Bryant G.
ISBN 1554071704

Creative propagation.   Thompson P.
Cambridge: Timber press. 2005

Practical woody plant propagation for nursery growers   Macdonald B.

Oregon: Timber press. 2006
ISBN-10: 0-88192-840-2
ISBN-13: 978-0-88192-840-2

Journals and magazines

Horticulture Week incorporating The Grower Magazine

Websites

International plant propagators society (IPPS)   **www.ipps.org**

Royal Horticultural Society   **www.rhs.org.uk**

Unit 209   Contribute to the establishment and maintenance of lawns

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to introduce learners to the activities involved in preparing sites for lawn turf and turf laying; it also covers mowing, edging and general maintenance of ornamental lawns. In addition, the principles beneath the establishment and maintenance activities are outlined.

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Learning outcomes

In this unit, learners will be able to

1. Prepare ground to receive turf
2. Establish lawns by laying turf
3. Contribute to lawn maintenance

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. Prepare ground to receive turf

Topics:

1.1 Final consolidation of the site
1.2 Final tilth preparation

Topic 1.1

Soil conditions for site preparation should not be excessively wet, dry or frozen, that perennial weeds should be removed from the site before or during final preparation.

Sites should be prepared to the required level for turfing and the surface should be:
- Raked to the required level before firming
- Even and free from large stones/debris
- Consolidated by treading, or by use of rollers on large sites
- Uniformly consolidated to prevent future uneven settlement

Topic 1.2

Raking out can be done manually or using pedestrian-operated or tractor-mounted equipment and that landscape rakes are ideal for manually preparing sites.

Fertilisers and lime may need to be added to the site before turf laying.

The basic health and safety precautions applicable to site preparation activities

Learning outcome:

2. Establish lawns by laying turf

Topics:

2.1 Laying turf
2.1 Immediate aftercare for lain turf

Topic 2.1

Meadow and cultivated turf are commonly used for establishing grassed areas.

Meadow turf is inexpensive but may contain weeds, pests, diseases and undesirable grasses.

Cultivated turf is usually of reliable quality but more expensive.

Cultivated turf is available for a range of grass surfaces

The requirements of supplied turf:
- Should be checked for condition prior to use
- Damage occurs if allowed to dry out
- Yellow/pale grass indicates that turf has been kept rolled up after lifting and that this harms the turf
- Turf is best kept by unrolling and being watered unless storage is for less than two days before use

The typical method of turf laying:
- In most situations, grassed areas are established by laying turf at the edges first and then infilling
- Laying the turf by 'brick-bonding' helps the area to establish well
- Effective butting-up and consolidation
- Working from boards during laying
- Establishment is improved by brushing in top dressing after laying

Topic 2.2

If conditions are dry, turf should be watered effectively until established and be protected from animals and excessive use until established

Basic health and safety precautions that apply to establishing turfed areas.

Learning outcome:

3: Contribute to lawn maintenance

Topics:

3.1 Mowing lawns using pedestrian-operated rotary and cylinder mowers
3.2 Edging lawns using manual equipment
3.3 Common lawn weeds
3.4 Repairing areas of damaged lawn

Topic 3.1

Mow lawns using pedestrian-operated rotary and cylinder mowers

The most important lawn maintenance task is mowing, and that:
- Correct mowing has several good effects, including keeping the surface even, reducing weeds and maintaining dense grass growth
- Grass should be mown at an appropriate height, which should usually be lower in the growing season than during the winter
- Ornamental lawns are usually mown at 12-20mm height in summer
- Utility lawns are usually mown at 20-30mm height in summer
- The height of cut in winter is usually raised by 1/3 over the summer height
- Grass should be cut when it is no more than 30% over the desired height

Mowers suitable for lawns are rotary and cylinder, and that:
- Rotary mowers are easy to use in most situations and conditions, including on slopes and when the grass is damp
- Rotary mowers are not suitable for the finest lawns as they do not leave as clean a finish c. Cylinder mowers cut with a scissor action, and if correctly set leave a very clean finish
- Both types of mowers, if fitted with a rear roller, can leave an attractive striped finish to the lawn
- Professional mowers are usually powered by two- or four-stroke petrol engines
- Grass clippings are usually removed from fine ornamental lawns by 'boxing-off'
- Clippings may be 'let fly' on utility lawns

Basic precautions when dealing with petrol-engine mowers including:
- Removing the plug lead before undertaking any adjustments
- Refuelling over hard standing to prevent lawn damage if spills occur and not smoking when refuelling

Topic 3.2
Following mowing, lawns are usually edged off to leave an attractive finish, and that edging shears or petrol-engine machines can be used for the purpose.

An edging iron is used to re-cut an uneven edge

Other lawn maintenance tasks to include:
- Feeding
- Watering
- Aeration
- Scarification
- Top dressing

Topic 3.3
Common lawn weeds and the damage that they can cause:
- dandelion
- daisy
- clover
- plantain
- cats ear
- speedwell

Topic 3.4
Minor repairs to a lawn by:
- Prepare and applying seed to damaged areas
- Remove and replace section of turf to damaged areas

Guidance for delivery

During the delivery of this unit, learners should have access to a range of turf maintenance machinery and equipment. It is expected that delivery incorporate a mixture of lectures, practical activities, and visits. At this level, it is expected that learners develop their practical skills and an appreciation of the basic background knowledge in the maintenance and repair for lawns.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

A Handbook for Horticultural Students.	Rushden: Dawson. ISBN: 0-9525911-11. Dawson P. 2006
Grasses: v. 1: A Guide to Their Structure, Identification, Uses and Distribution.	3rd Edition London: Penguin Books. Hubbard CE. 1992.
Lawns, Weeds and Ground Cover.	2nd Edition . London: Mitchell Beazley Publishers. Pycraft D 1992.
Machinery for Horticulture.	Ipswich: Old Pond Publishing. ISBN: 0-852-36369-9. Bell B and Cousins S. 1997
Sports Turf and Amenity Grassland Management.	Wiltshire: The Crowood Press Ltd. ISBN: 1-86126-790-8 Brown S. 2005. .
The Lawn Expert.	New York: Sterling Publishing Company. Hessayon D.G. 1997

Journals

Sports Turf Research Institute (STRI) leaflets and Journals

Websites

Royal Horticultural Society   **www.rhs.org.uk**

The Institute of Groundsmanship   **www.iog.org**

Health and Safety Executive   **www.hse.gov.uk**
The Green Keepers Training Committee   **www.the-gtc.co.uk**

British and International Golf   **www.bigga.org.uk**
Greenkeepers Association

Unit 210   Contribute to the construction and maintenance of structures and surfaces

Level:	Level 1
GLH	50

What is this unit about?

The aim of this unit is to provide the learners with the fundamental skills required to assist in construction and maintenance tasks as they apply commonly in Landscape and horticulture. Garden fences and hard surfacing are included, in both construction and maintenance activities.

Learning outcomes

In this unit, learners will be able to

1. Contribute to the construction of fences
2. Maintain wood surfaces and structures
3. Contribute to the construction and maintenance of paths

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. **Contribute to the construction of fences**

Topics:

1.1   Excavate post holes for fence posts
1.2   Prepare mixes of concrete
1.3   Assist with the erection of post and panel fences

Range:
Post and panel, post and rail.

Topic 1.1
Setting out a fence, using appropriate methods:
- Establish a line
- Mark out positions of post holes
- Excavate to agreed depth, size, shape and line (as required)
- Removal and correct disposal of debris

Posts for fences:
- Timber
- Concrete
- Metal

Methods of securing:
- Driven in
- Concreted
- Metal sockets

Topic 1.2
The ingredients for concrete:
- Coarse aggregate
- Sharp sand
- Cement
- Clean water

Mixing concrete:
- Mix ratios
- Water content - dry or semi-dry mix (water / cement ratio)
- Method of mixing (hand or machine)

Placing the concrete:
- The concrete tamped into place to avoid settlement and remove air from the mix.
- Protection from frost or heavy rain until fully hardened

Topic 1.2

The functions of fences:
- Privacy
- Boundary marking
- Background/ backdrop for planting
- Security in gardens
- Keep livestock safe and secure
- Establish habitats

Types of fences:
- Post and rail
- Post and panel
- Trellis

Constructing a fence as part of a team using appropriate methods, techniques, tools and equipment:
- Establish a line, height/depth and vertical line/angle
- Erect posts vertically at required intervals
- Fix other fence materials by suitable method

The basic health and safety precautions involved in fence erection, with particular reference to safe lifting and handling and personal protective equipment.

Learning outcome:

2. Maintain wood surfaces and structures

Topics:

    2.1   Cleaning and preparing wood surfaces for maintenance

    2.2   Applying surface protection

Topic 2.1

Routine maintenance of fence using appropriate methods:
- Removal of lichen, moss and fungal rots
- Cleaning the timber thoroughly before applying fresh protective covering
- Readjust fence line as appropriate
- Replace damages rails or panels as required

Topic 2.2

Surface protection materials and when each may be appropriate:
- Oil or solvent based products
- Stains
- Water-based materials

Methods of applying preservatives:
- Brushes

- Rollers,
- Sprayed on

Basic health and safety precautions that are involved in maintenance of timber features :
- Risk assessments
- Control of Substances Hazardous to Health (COSHH) assessment
- Potential harm from spores and timber dust
- Personal protective equipment (PPE)

Learning outcome:

3. Contribute to the construction and maintenance of paths

Topics:

3.1   Laying paving slabs to a pre-determined level
3.2   Laying gravel or other loose surface paths
3.3   Maintaining paths by sweeping, cleaning/clearing and weed control

Topic 3.1

Laying rigid paving materials:
- Paving blocks or sets
- Pre-cast concrete paving or natural stone

Small and large unit paving surface materials and their correct use to:
- Provide a suitable surface for its location
- Sufficiently strong so as to be suitable for walking or vehicle traffic
- Path should shed water effectively to avoid ponding and potential problems with ice in winter

The component parts of a path and their purpose:
- Sub grade
- Geotextile (interface barrier)
- Foundation or sub base
- Edge restraint
- Laying course
- Surface course
- Required falls

Topic 3.2

Installing a granular path:
- Bark or woodchip or gravel (unbound)

Granular surface materials (gravels, bark etc) and their correct use:
- Providing a suitable surface for its location
- Geo-textile membrane as weed suppressant or to separate granular materials from soil.
- Edge restraints

Topic 3.3
Routine maintenance of a path using appropriate methods:
- Special cleaning products
- Pressure washing
- Brushing and removal of litter

Guidance for delivery

During the delivery of this unit, learners should have access to a range of paving products. It is expected that delivery incorporate a mixture of lectures, practical activities, and visits to landscaped gardens, builder's merchants, and / or paving product manufacturers.

At this level, it is expected that learners develop their practical skills and an appreciation of the basic background knowledge in landscape construction for paths and fences installation and maintenance.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

RHS Essential Garden Planning and Construction. London: Oxford Publishing Group 2006. Brickell C

How to build Paths, Steps and Footbridges. North Adams: Storey Books. 2004. Jeswald P.

Fencing; A practical handbook Doncaster 2001 Agate, E

Footpaths: A practical handbook Doncaster 1996 Agate, E

Tool care; A maintenance and workshop manual Doncaster 2000 Agate, E

Web sites

www.rhs.org.uk   Royal Horticultural Society
www.hse.gov.uk   Health and Safety Executive
www.marshalls.co.uk   Marshalls

Unit 211　　　Carry out basis floristry tasks

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to communicate information within the workplace. This unit will allow the candidate to gain knowledge in skills to care and the preparation of fresh materials. The unit will allow the candidate to assist with creating flower displays.

Learning outcomes

In this unit, learners will be able to

1. Check the delivery of fresh materials
2. Unpack and condition fresh materials
3. Create and maintain a flower display
4. Record waste of fresh materials

Scope of content

The candidate will be able to identify a delivery of fresh materials, check quantities and any damage of fresh materials. The candidate will be able to unpack and condition the materials in preparation to create a fresh materials display with recoding wastage when maintaining the display.

Learning outcome:

1. Check the delivery of fresh materials

Topics:

1.1 Checking a delivery note of fresh materials

Topic 1.1

Materials listed on a delivery note
- Supplier details
- Invoice number
- Quantity of fresh materials - stems/weight
- Total amount including and excluding VAT

Qualities and quantities are correct against a delivery note.

Wholesale quantities for:
- Rosa
- Chrysanthemums
- Dianthus
- Gaultheria shallon/ Pittosporum
- Gerberas

Signs that would indicate materials are of a poor quality:
- Rosa 2nd grade
- Physical damage
- Mature flowers
- Discoloured foliage
- Diseased/pest infestation

How to report discrepancies to a supervisor.

The importance of promptly reporting discrepancies to a supervisor.

Learning outcome:

2. Unpack and condition fresh materials

Topics:

2.1 Unpacking and conditioning fresh materials

Depth section:

Prepare work area, buckets and tools.

Tools and equipment used to condition fresh materials:
- Containers
- Appropriate flower food
- Scissors
- Secateurs
- Knife/thorn stripper

How tools and equipment should be maintained.

Unpack and condition fresh materials:
- Prioritise stem structure:
  - Soft
  - Woody
  - Semi-woody
  - Latex

- Check for pests and diseases:
  - Botrytis
  - Aphids

- Promote good health longevity of fresh materials
  - Bacteria
  - Cross contamination
  - Cleanliness of buckets

Condition fresh materials with guidance if required:
- cutting stems on a slant
- removing foliage below the water line
- identify and remove damage
- de-thorn where necessary
- using clean containers, water and flower food

How tools and equipment should be maintained and stored:
- Scissors
- Secateurs
- Knife
- Buckets

Health and safety precautions to observe when conditioning fresh stock:
- Use of personal protective equipment (PPE)
- Personal safety
- Cleanliness
- Health and Safety at Work etc Act.

Clearing and cleaning work areas.

Reasons for keeping containers clean and disinfected:
- Bacteria
- Disease
- Cross-contamination
- Promote good health and longevity

Safe lifting and manual handling techniques of items:
- Heavy boxes
- Buckets of water
- Wastage

Learning outcome:

3. Store and display fresh materials

Topics:

3.1 Rotating stock

3.2 Storing fresh materials until required

3.3 Displaying fresh materials in a flower stand/flower area

Topic 3.1

Selecting and removing mature stock or poor quality from the display:
- Correct procedures
- Dispose of waste correctly
- Rotate old and new materials

Topic 3.2

How to set up a display of fresh materials:
- Inside a shop
- Outside a shop
- Pot plants
- Cut flowers and foliage

Topic 3.3

How to maintain fresh materials:
- Fresh materials and foliage
- Pot plants
- Watering
- Colour blocking
- Pricing
- Labelling

Learning outcome:

4. Record wastage of fresh materials

Topics:

4.1 Stock unfit for sale
4.2 Completing a wastage record

Topic 4.1
Features of mature stock:
- Blown flowers
- Yellow foliage
- Wilting
- Falling petals
- Slimy stems

Features of damaged stock:
- Missing heads
- Broken stems
- Bruised flowers
- Buds not opening

Poor quality stock.

Topic 4.2
Information required on a wastage record:
- Name of fresh material
- Quantity
- Price
- Date

Guidance for delivery

The candidate will be able to identify fresh materials against a delivery note. Fresh materials should be conditioned with care and the candidate will be able to identify fresh materials that are unpacked in quantities and weight also checking for diseases and pests. Any discrepancies of damaged stock/quantiles/poor materials will be reported to the supervisor. The candidate will be able to create a fresh materials display and identify waste and complete a stock rotation using a wastage record.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Websites

Health and Safety Executive	**www.hse.gov.uk/legislation/hswa.htm**
Floristry Know How	**http://floristryknowhow.blogspot.co.uk/2010/03/how-to-run-flower-shop-2-health-and.html**

Unit 212   Identify flowers, foliage's and plants

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to communicate information within the workplace.

Learning outcomes

In this unit, learners will be able to

1. Identify flowers using Genus and common name and their seasonal availability
2. Identify foliage's using genus and common name and their seasonal availability
3. Identify potted plants using genus or common names with seasonal availability

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. Identify flowers using Genus and common name and their seasonal availability

Topics:

4.1   Identifying flowers using Genus and common name with their seasonal availability

Range:

Flowers: *Narcissus, Tulipa, Iris, Freesia, Dianthus, Rosa, Chrysanthemum, Dahlia, Lilium, Gerbera, Lathyrus, Helianthus*.

Topic 1.1

Identification of flowers that are commercial available by genus and common in seasons:
- Spring
- Summer
- Autumn
- Winter

Learning outcome:

2. Identify foliage's using genus and common name and their seasonal availability

Topics:

2.1 Identifying foliage's using Genus or common name

Range:

Foliage's: *Xerophyllum tenax, Pittosporum tenufolium, Galax, Eucalyptus, Asparagus umbellatus, Ruscus, Ilex, Arachnoids adiantiformis, Hedera, Aspidistra, Pinus, Monstera*

Topic 2.1

Foliage available using Genus or common name, which are commercially available throughout the year.

Learning outcome:

3. Identify potted plants using genus or common names with seasonal availability

Topics:

3.1 Identify flowering plants
3.2 Identify foliage plants

3.3 Identify the normal season of availability of flowering and foliage plants

Range:
Pot Plants: *Cyclamen persicum, Rhododendron simsii, Nephrolepis exaltata, Ficus elastica, Saintpaulia ionanthe, Euphorbia pulcherrima, Dieffenbachia, Hyacinth, Begonia, Chlorophytum comosum, Kalanchoe blossfeldiana, Impatiens*

Topic 2.1
Flowering pot plants using the Genus or common name

Topic 2.2
Foliage pot plants using the Genus or common name

Topic 2.3
The normal seasonal availability of flowering pot plants and foliage pot plants.

Guidance for delivery

Candidates must use correct spelling for Genus and common names.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

The House Plant Expert: The world's best-selling book on house plants (Expert Books)	Transworld Publishers Hessayon, D. 1996

Websites

Flower Book	**http://flowerbookapp.com/home/**

Unit 213　　　　　Produce and maintain flower displays

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to communicate information within the workplace.

Learning outcomes

In this unit, learners will be able to

1. Prepare and plan a flower display
2. Create a flower display
3. Maintain a flower display

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. Prepare and plan a flower display

Topics:

1.1   Planning a flower display
1.2   Preparing an area for display

Topic 1.1

Occasions suitable for themed shop display:
- Valentine's day
- Mother's day
- Christmas
- Halloween

Props and accessories required to create a display.

The importance of a display plan

The reasons for labelling display:
- Safety
- Security

The factors to consider when constructing displays:
- Safety
- Security

The reasons for keeping displays stocked:
- Customer appeal
- Optimum sales

Topic 1.3

How a display area should be prepared:
- Cleared
- Cleaned

List checks to be made before displays are positioned:
- Cleanliness
- Lighting
- Safety

Learning outcome:

2. Create a flower display

2.1   Making and installing props and bases into the display area
2.2   Positioning stock in a display
2.3   Price and label sale items

Topic 2.1
Materials suitable for making display props.

Safe working practices when assembling the display

The importance of effective team work.

The sundries required to construct a display:
- Flower vases
- Baskets
- Containers
- Drapes
- Giftware
- Add of sales (balloons, sales and teddies)

Topic 2.2
The importance of effective use of space and materials at different heights

Topic 2.3
The signage required for the display:
- Posters
- Fliers
- Banners

Reasons for clear pricing of goods for sale.

Methods for pricing goods:
- Price tags
- Picks
- Sticky labels
- Chalk boards

Learning outcome:
3. Maintain a flower display

Topics:
3.1   Stocking levels in a display
3.2   Dismantling a display

Topic 3.1
Checking stock levels within a display.

The reasons for keeping displays stocked:
- Customer appeal
- Optimum sales

Collecting and replenishing new stock for a display.

The problems that may occur in maintaining a display:
- Lack of suitable stock to maintain
- Lack of time to replenish the display

Topic 3.2
Dismantling a display.

The points to consider when dismantling a display:
- Control spread
- Return of goods to store
- Health and Safety at Work etc Act (HASAWA)

Guidance for delivery

The candidates are to plan and prepare a shop display by list props/accessories that will be required. A mind map/list/research as evidence of planning would be beneficial. Scale diagram of the area of construction with measurements and a sketch of the proposed display along with floral items required. If incorporating floral arrangements into the display, a list a fresh materials, mediums and mechanics would be suggested.

Labelling and pricing of goods in the display is recommended with photographic evidence of finished display area.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Websites

Modern Retail   **https://modernretail.co.uk/display-information-in-your-shop-window/**

Unit 214   Produce planted designs

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to communicate information within the workplace.

Learning outcomes

In this unit, learners will be able to

1. Prepare to produce planted designs
2. Produce planted designs

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. Prepare and produce planted designs

Topics:

1.1　　Tools and equipment
1.2　　Preparing container planted designs and pot plants

Topic 1.1

Tools and personal protective equipment (PPE) required to produce a planted design:

- Hand trowel
- Gloves
- Apron

Topic 1.2

Containers suitable for planted designs:

- Basket
- Plastic bowl
- Terracotta pot
- Ceramic bowl

The importance of drainage for planted designs

Planting mediums::

- Peat free compost
- Multipurpose compost
- Loam based compost

How to prepare plants before planting into containers

The points to look for to ensure a plant is healthy before planting up:

- Clean leaves
- New growth
- Pest and disease free

Signs of ill –health I n plants:

- Wilting due to lack of water
- Poor growth due to nutrient deficiencies
- Symptoms caused by physical damage
- Problems caused by pests and diseases

Plants and bulbs which are poisonous or can be irritant

How to prepare pot plants.

Learning outcome:

2. Produce planted design

Topics:

    2.1   Potting and planting up designs

Topic 2.1

Potting up an individual plant or bulb.

Planting up a bowl or basket of mixed flowering and foliage plants

How to take an individual plant out of a pot

Planting methods
- Direct planting
- Plunging

How plants should be positioned in a bowl to include spacing and depth.

The importance of using drainage materials for planting designs

The importance of using drainage materials and planted designs

The importance of moisture for completed designs.

Decorative finishes for planted designs:
- Moss
- Pebbles
- Bark

Checks to be made on completed designs:
- Security
- Cleanliness
- Finish

The health and safety points to consider when planting designs:
- Clear work
- Handling delicate or poisonous materials
- Observe Health and Safety at Work etc Act (HASAWA)

Guidance for delivery

The candidates are to prepare and produce a planted design. A mind map/list/research as evidence of planning would be beneficial. A diagram or sketch of the proposed design along with items required.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Websites

The Royal Horticultural Society   **www.rhs.org.uk/plants**

Unit 215   Assemble basic floral designs

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to communicate information within the workplace.

Learning outcomes

In this unit, learners will be able to

1. Construct basic designs
2. Recognise gift wrapping materials and ancillary items

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

The range of different types of designs must include the following:

Tied:
- Cone wrap
- Limited tied design in a vase
- Tied posy

Mediums:
- Posy pad
- Line arrangement
- Basket arrangement

Wired:
- Buttonhole
- Wired head circlet
- Posy corsage

Glued:
- Glued corsage badge
- Alice band
- Wristlet

Learning outcome:

1. Construct basic floral designs

Topics:
- 1.1   Preparation of materials for designs
- 1.2   Assembling materials and packaging designs

Topic 1.1

Materials required for assembly of tied designs
- Cut flowers
- Foliage
- Sundries, tools and equipment
- Packaging materials if required

Prepare materials for designs.

Topic 1.2
Method of assembly for a tied design:
- Removing lower/all foliage
- Placing materials in a spiral or parallel

- Tying securely
- Packaging as necessary

Method of construction for designs in a medium:
- Preparing medium (Soak)
- Preparing materials
- Inserting materials
- Completing design to specification required

Method of construction for a wired design:
- Selecting sundries and fresh materials
- Selecting correct wire gauges for purpose
- Wiring and taping materials
- Constructing units if required

Method of construction for glued designs:
- Preparing sundries and fresh materials
- Selecting glue for construction (hot or cold glue)
- Constructing glued design
- Completing design to specification required

Learning outcome:

2. Recognise gift wrap materials and ancillary items

Topics:
2.1   Gift wrap
2.2   Gift wrapping materials and ancillary items

Topic 2.1
Materials used for gift wrap:
- Cellophane
- Shop paper
- Tissue paper

Topic 2.2
Materials which can be used to make a decorative bow:
- Poly and satin ribbon
- Raffia
- Wire edged organza

Ancillary items which can be added to gift wrapped designs:
- Flower food
- Care card
- Card and envelope
- Delivery instructions

Guidance for delivery

The level 1 qualification has been written to ensure limited cross over for progression onto level 2 floristry qualification. Areas suggested to be covered for each section:

Tied:
External wiring
Gel balls/coloured water for the vase

Floral:
Wet foam
Coloured foam

Wired:
Pipping
Stitching
Single and double leg mounts
Cross stitch or T stitch

Glued:
Hot glue
Cold glue

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Unit 216   Assist with maintaining the health and wellbeing of animals

Level:	1
GLH	60

What is this unit about?

This unit aims to provide learners with an understanding of the principles of how to assist with maintaining the health and wellbeing of animals and how this can be applied in practice. This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or further education and training.

Upon successful completion of this unit, the learner will be able to assist with maintaining the health and wellbeing of a range of animals. This includes identifying any signs of ill health or signs that would suggest impending problems and how to administer preventative care to aid in the animals' recovery. There is emphasis on the promotion of high animal welfare standards and how to deal with a range of animal emergencies.

Learning outcomes

In this unit, learners will be able to
1. Visually assess the physical health of animals
2. Administer preventative care to animals
3. Deal with a range of potential animal emergency situations

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress.

Learners must cover a minimum of two out of three of:
- Large animals (horses, ponies, other large mammals (e.g. goat, camelids, donkey, pig, sheep or cattle)
- Exotics (fish, birds, reptiles, amphibians or exotic mammals)
- Small domestic mammals (rabbits, guinea pigs, rodents, cats and dogs)

Learning outcome:

1. Visually assess the physical health of animals

Topics:
1.1   Visual signs of good and ill health in animals
1.2   Recording the health of animals
1.3   Health safety and wellbeing of animals and staff

Topic 1.1
Signs of good and ill health in animals:
- Condition of skin, feathers, scales or coat
- Behaviour and posture
- Appetite and water intake
- Movement
- Condition of eyes, ears, nose and mouth
- Appearance of urine and faeces

Signs of stress or pain that animals may show:
- Vocal signs
- Visual signs

Topic 1.2
The procedure to follow if an animal is found to be sick or injured:
- Reporting and recording
- Monitoring
- Isolating
- When to call the vet

The records kept to help maintain the health of animals:
- Age
- Type
- Diet
- Weight

- Comments (e.g. Behaviour, movement or other relevant)

Topic 1.3

How to ensure the health safety and wellbeing when assessing the health of animals:

- Personal Protective Equipment (PPE)
- Foot Dips
- Quarantine
- Correct restraint method

Potential hazards:

- Faulty or broken equipment
- Damaged or faulty housing
- Electrical hazards

The importance of checking all equipment prior to use:

- Personal Protective Equipment (PPE)
- Restraining or handling equipment
- Administering equipment

Include how, why and to whom you would report the health status of an animal following policy and procedure. Also the procedure for reporting damaged or faulty equipment.

Learning outcome:

2. Administer preventative care to animals

Topics:

2.1   Administering preventative care to animals
2.2   Checking animals for signs of ectoparasites and endoparasites

Topic 2.1

Definition of the term 'preventative care' and why it is given.

The routes for administering preventative care:

- Orally
- Topically
- By injection
- Nasal

The importance of following:

- Instructions both verbal and written
- Accurate recording
- Accurate dosing

How and why waste should be disposed of correctly:

- Sharps
- Medications

- Organic
- Inorganic

Why it is important to monitor animals following preventative care being administered

Topic 2.2
The visual signs of ectoparasites in animals:
- Intense itching
- Skin redness/flaking
- Larvae visible

The visual signs of endo parasites in animals:
- Scooting
- Vomiting
- Diarrhoea
- Distended abdomen
- Weight loss
- Coughing

Learning outcome:

3. Deal with a range of potential animal emergency situations

Topics:
- 3.1   Assisting with an animal emergency situation
- 3.2   Visual signs of an animal emergency

Topic 3.1
The procedure for the following situations:
- Fire
- Escaped animal
- Injured or sick animal

Definition of the term 'first aid' and the importance of following set first aid emergency procedures:
- Getting help
- Ensuring own safety

The location of emergency equipment:
- Fire extinguishers
- Accident book
- Animal first aid box
- Human first aid box
- Restraining equipment

Topic 3.2
The visual signs of potential animal emergencies (as applicable to species):
- Bleeding

- Not breathing or difficulty breathing
- Choking
- Fitting
- Unconscious
- Change in behaviour or temperament
- Severe lameness

Guidance for delivery

This unit will provide the learner with the opportunity to grasp practical and theoretical skills for application in both the assessment and the preventative care. The health of every animal in our care is paramount to the focus and skills of the carer or stockperson.

With good practices employed, illnesses and contamination are minimised. Learners will learn about the health and welfare of animals through lectures, practical demonstrations, regular and frequent management of health for a range of animals as well as taking initiative to deal with situations as and when they arise. Simulated scenarios will help the learner to relate their theory to physical execution.

However, safe practices should be emphasised at all times. Learners should be made aware of safe practices and encompass this into their work. Throughout the delivery and assessment of this unit, emphasis should be placed upon animal welfare and the duty of care towards animals.

Centres are to be encouraged to run practical demonstrations wherever possible, however supervision and safe practices are key to success. The aim of learning about health and wellbeing of animals should not be at the detriment to the animals themselves. With clear instruction, both written and verbal, learners can develop these skills to a good standard within the timeframe.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

The complete book of pets & pet care: the essential family reference guide to pet breeds and pet care.	Hermes House, 2005 Alderton. D
Exotic pets	Hermes House, 2004. Alderton. D
Practical Pet care handbook	London: Lorenz Books.
The Ultimate encyclopaedia of small pets and pet care.	London: Southwater. Alderton. D
The ultimate encyclopaedia of small pets and pet care.	Ultimate Editions, 2005 Alderton. D

The Complete book of pets and pet care: the essential family reference guide to pet breeds and pet care.	London: Hermes House, 2006. Alderton. D et al
Bantams: breed and management	International poultry library. Midhurst: Beech, 2005 Batty, J. J. 2000.
Practical poultry keeping.	Northbrook Publishing 11 ed. Batty, J.
Mice: everything about care, nutrition, diseases, behaviour and breeding.	Woodbury, N.Y.: Barron's Publishing. 1984 Beilfeld, H
The Dog owner's veterinary handbook.	Marlborough: The Crowood Press. 1994 Bower, J and Youngs D. P. 2005.
The Dog: its behaviour nutrition and health.	Oxford: Blackwell 2nd Edition. 2005. Casel, P 2002.
Rats: everything about purchase, care, nutrition, handling and behaviour.	2002 Daly, CH
A complete pet owner's manual.	Hauppauge New York: Barron's Educational Series Revised ed.
Veterinary notes for horse owners.	London: Ebury Press. 2002 18 Edition Hayes MH and Knightbridger R Gerbils
A complete pet owner's manual.	Hauppauge N.Y.; Leicester: Barron's Educational. 1999 Kotter, E.

Websites

The Society of Practising Veterinary Surgeons	**http://www.spvs.org.uk**
The Royal College of Veterinary Surgeons	**www.rcvs.org.uk**
The Royal Veterinary College	**http://www.rvc.ac.uk**
Survivals rivals	**http://survivalrivals.org/the-xbacteria/animation**
Clearly explained	**http://clearlyexplained.com/culture/health/infections/viruses/anim.html**
NHS Science	**http://nhscience.lonestar.edu/biol/animatio.htm**

Unit 217　　　Assist with the care of animals

Level:	1
GLH	50

What is this unit about?

This unit aims to provide learners with an understanding of the principles of how to assist with the care of animals and how this can be applied in practice. This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or further education and training.

Upon successful completion of this unit, the learner will be able to assist with the care of a range of animals. This includes the provision of food and water, identifying any requirements for reproduction and the collection of marketable products from a range of animals to meet with production requirements. There is emphasis on the promotion of high animal welfare standards and how to deal with a range of animal emergency situations.

Learning outcomes

In this unit, learners will be able to
1. Provide food and water
2. Identify requirements for reproduction
3. Collect marketable animal products to meet production requirements

Scope of content

Correct care of animals is important for a range of reasons including animal welfare, health, environmental and economic factors. This unit covers feeding, reproduction and harvesting of products. These will be taught through the medium of the chosen species. Codes of practice for chosen species should be included.

This unit covers farmed livestock and is appropriate for the agriculture and environment route. This unit should cover **two** or more of the following species:
- Pigs
- Beef
- Dairy
- Poultry
- Sheep

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress.

Learning outcome:

1. Provide food and water

Topics:
1.1   Feeding and supplying water to animals according to instructions
1.2   Normal and abnormal feeding habits
1.3   Disposal of waste

Topic 1.1

Typical feeding systems and quantities for two named animal species, and the role of health and safety legislation in feeding procedures. Include the role of water in the animal's diet and the effects of shortages.

The different types of food available for two named animal species:
- Feed type: dry/wet, concentrates, crops, silage, hay, supplements
- Quality of feed: best before dates, storage and stock rotation, insect and rodent infestations and mould

Topic 1.2

The effects of improper feeding:
- Health and hygiene
- Economics
- Animal performance
- Welfare and codes of practice

Normal feeding behaviour and actions that may be taken if abnormal behaviour is observed.

Topic 1.3

The effects of improper waste disposal (e.g. environmental effects), to include procedures for organic and inorganic waste disposal.

Learning outcome:

2. Identify requirements for reproduction

Topics:

2.1   Signs of heat and act on information
2.2   Assisting with mating procedures
2.3   Assisting with the care of mother and offspring

Topic 2.1

Typical signs of heat in a named species in both males and females:
- Physical signs
- Behavioural signs

Topic 2.2

The procedures for assisting with the mating of a named species of animal:
- Naturally
- Artificially

Topic 2.3

The requirements under animal welfare and health and safety:
- Personal Protective Equipment (PPE)
- Record keeping
- Legislation

Checks to be made to mother and offspring post birthing process:
- Preparing for birth
- Fully or partially weaning the young animal
- Raising the young animal for sale

Learning outcome:

3. Collect marketable animal products to meet production requirements

Topics:

3.1   Assisting with collection of marketable (saleable) animal products
3.2   Factors affecting the quality of animal products

Topic 3.1

The care and maintenance of equipment used:
- Handling and weighing equipment
- Milking equipment
- Shearing and clipping equipment

The typical routine that could be used to select/collect animal products. Include the problems and their causes that may occur during the selection/collection procedures and likely actions to take.

Topic 3.2
Common standards of quality requirements for named production systems, including the effects of selecting/collecting marketable products that fail to meet production standards.

Guidance for delivery

This unit is designed to provide the learner with an introduction to the knowledge and skills required to enable them to assist with the care of farm livestock. The unit should cover a range of species and as a minimum, two from the range. There should be a focus on two types of production e.g. dairy and wool production. The unit should be delivered in conjunction with a working farm or relevant work experience placement. This would ensure that the learner experiences routine farm activities on a regular basis and would experience the 'farming year' e.g. mating, lambing.

Throughout the unit, the emphasis should be on safe working. It is expected that learners will be aware of safe working practices and familiar with accepted practices and behaviours within the context in which they are working.

Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant information to the learner. Teaching would also benefit from visits to a variety of establishments to add depth to the learner experience.

It is accepted that some formal lectures will be necessary at level 1 but for this unit it is recommended that they are directly linked to interactive sessions in a real environment. Learners must be given the opportunity to deal with a range of animals in different situations which reflects current industry practice.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

The Complete Book of Raising Livestock and Poultry,	Published by Pan Books ISBN: 0906348315 Thear, K & Fraser A, 1988
Practical Cattle Farming	Published by Crowwod Press, ISBN: 9781861269751 Bazeley, K 2007
Practical Sheep Keeping	Published by Crowood Press, ISBN: 1861261632 Cardell, K, 2006
The Sheep Book: A Handbook for the Modern Shepherd,	Published by Ohio Press ISBN: 9780804010320 Parker, R, 2001
Practical Pig Keeping,	Published by Crowood Press ISBN: 9781861263889 Smith, P, 2001
Getting Started with Beef and Dairy Cattle	Published by Storey Publishing ISBN: 1580175961 Smith Thomas, H 2005

Websites

Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
Welsh Assembly Government	**www.wales.gov.uk**
Scottish Executive Environment and Rural Affairs Department	**www.scotland.gov.uk**
Department of Agriculture, Environment and Rural Affairs (Northern Ireland)	**www.daera-ni.gov.uk**

Unit 218   Assist with the movement, handling and accommodation of animals

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to assist with the movement, handling and accommodation of animals.

The learner will be able to assist with the movement and handling of animals, using correct techniques that will ensure the learners include considerations towards individuals' health and safety, and welfare of the animals. The unit will include a range of techniques and equipment that can be tailored to specific species and/or systems.

Learning outcomes

In this unit, learners will be able to

1. Handle and restrain animals
2. Move animals
3. Clean and maintain animal accommodation

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress.

The unit should cover a range of species, two or more as appropriate to the area of study:

- Large animals (horses, ponies, goat, camelids, donkey, pigs, sheep, cattle and other available large animals)
- Exotics (fish, birds, reptile, amphibian or exotic animal)
- Small domestic animals (rabbits, guinea pigs, rodents, dogs and cats)

Learning outcome:

1. Handle and restrain animals

Topics:

1.1   Handling and restraining animals correctly and safely

1.2   Planning for the handling and restraint of animals

Learners will be able to handle and restrain animals correctly to minimize stress and to maintain health and safety of animals and individuals.

Topic 1.1

Procedures when using named restraint equipment to maintain the safety and wellbeing of the animal and operator:

- Reasons to handle/restrain an animal
- Why it is important to correctly identify animals being handled
- Correct handling equipment for the animal being handled/restrained
- How to handle and restrain animals correctly and safely

Topic 1.2

Planning for the handling and restraint of animals:

- Stress symptoms/conditions related to handling and restraint and how they can be minimised
- Possible risks to the operator when handling/restraining animals
- Procedures in place to report problems during animal handling
- How to maintain the safety of the animal and the operator during handling/restraint

Learning outcome:

2. Move animals

Topics:
- 2.1   Assisting with moving animals from one place to another
- 2.2   Assisting with the transport of animals

Learners will be able to assist with moving and transporting animals from one place to another.

Topic 2.1

Assisting with moving animals from one place to another:
- How to approach and move animals to a new area safely and correctly
- Importance of correct handling during movement and transportation
- Possible effects of poor handling
- Possible problems and action to take whilst moving animals, including communication

Topic 2.2

Assisting with the transport of animals.

Checks to be made on transport vehicles:
- Cleanliness
- Security
- Hazards
- Animal ID and movement records
- Animal welfare

Legislation and requirements relating to the transport movement of animals:
- Animal Welfare Act 2006
- The Welfare of Animals (Transport) (England) Order 2006
- Animal Passports
- Balai directive

Learning outcome:
3. Clean and maintain animal accommodation

Topics:
- 3.1   Cleaning accommodation according to instructions
- 3.2   Preparing accommodation to appropriate standards required by instructors and welfare guidelines

Learners will be able clean accommodation following instructions and to appropriate standards required by instructors and welfare standards.

Topic 3.1

Cleaning accommodation:
- When and how to use disinfectants and cleaning agents
- Equipment and materials needed to clean specified accommodation

- Appropriate bedding for a named situation, and list the possible effects of using incorrect type and/or amounts of bedding
- How to dispose of organic and inorganic waste

Topic 3.2
Preparing accommodation to appropriate standards required by instructors and welfare guidelines:
- Animal welfare requirements and responsibilities and how to promote their health and wellbeing
- Responsibilities under health and safety legislation
- Possible hazards in accommodation and list appropriate action to take

Guidance for delivery

Throughout the unit, the emphasis should be on welfare and safe working. The learners should expect to be guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress at all opportunities.

The learner will know how to handle animals safely, including handling animals to reduce stress and therefore reduce risks to the handler, use the correct handling and restraining equipment for a variety of animals. Learners should be encouraged to handle and restrain animals that they have not come across before or are not confident with in order to build confidence. However, at all times the duty of care to animals must be observed and upheld.

Emphasis on this unit is on safe working practices and maintaining the animals' health and welfare. Particular emphasis should be on minimising the restraint time of an animal while observing for signs of stress.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Catlopedia: The Complete Guide to Cat Care.	Ringpress Books Limited Evans JM. and White K. 1997
Doglopedia: The Complete Guide to Dog Care.	Ringpress Books Limited. Evans JM. & White K.2000.
Guinea Piglopedia: The Complete Guide to Guinea Pig Care.	Internet Publishing. ISBN: 1-860-54251-4 Elward M, 2003.
Hamsterlopedia: The Complete Guide to Hamster Care.	Ringpress Books Limited. Logsdail C.
Rabbitlopedia: The Complete Guide to Rabbit Care.	Ringpress Books Limited. Brown M. 2000.
Small Animal Care and Management.	Delamar Learning. Warren D. 1995
Traditional Horse Husbandry: A Practical Guide to Horse Keeping.	Lyons Press Gay C. and David K, 2003.
Various RSPCA Guides on Care of Animals written by the RSPCA and published by Collins	

Websites

Animal Welfare Act	www.legislation.gov.uk
Department of Agriculture, Environment and Rural Affairs (Northern Ireland)	www.daera-ni.gov.uk
Department for Environment, Food and Rural Affairs	www.defra.gov.uk
RSPCA	www.rspca.org.uk
Scottish Executive Environment and Rural Affairs Department	www.scotland.gov.uk
Welsh Assembly Government	www.wales.gov.uk

Unit 219   Introduction to crop production systems

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to introduce the learner to a range of enterprises with both livestock and arable farms involved in the production of different crops involving various techniques. This unit provides an introduction into chosen cropping systems

Upon successful completion of this unit, the learner will be able to identify soil types, a range of crops, common weeds and crop diseases. It is a requirement for the unit that the learner will produce a crop calendar and have knowledge of pesticide applications, including legislation that links use of pesticides

Learning outcomes

In this unit, learners will be able to
1. Identify soil types and perform simple soil tests
2. Identify a range of crops, common weeds and crop diseases
3. List a range of pesticide applications and legislation linked to the use of pesticides
4. Produce crop calendars for named crops

Scope of content

Identification of soils, crops, weeds and diseases is an employable skill that any farm worker should have and the production of crops within UK farming is as important to a livestock farmer as it is to an arable producer. A basic knowledge of why different crops grow in certain soils and the production systems used will allow the learner to progress within their chosen area of study and give them a foundation for the future.

This unit covers a range of knowledge and skills that are commonly used in UK crop production systems and incorporates aspects of a farming year, allowing the learner to link the practical and more scientific elements of plant growth and production

This unit covers UK soil types and crops that are commonly grown throughout the country and should include:

- Light, medium and heavy soil types
- Cultivations
- Weather conditions and their effect on soil/cultivation
- Soil pH
- A range of commonly grown crops, including growth stages
- A range of common weeds
- Use of pesticides
- Cropping calendars

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and are encouraged to identify risks and hazards when working with machinery, crops, pesticides and fertilisers

Learning outcome:

1. Identify soli types and perform simple soil tests

Topics:

1.1   Soil types
1.2   Soil testing
1.3   Cultivation equipment commonly used
1.4   Weather and its effect on cultivation
1.5   Basic health and safety considerations

Topic 1.1

The UK boasts a variety of soil types that lead to different farming activity across the country. This topic will give the learner the knowledge of a variety of soils types that can be found and list the basic characteristics of each one.

Types of soils:
- Light – Sandy and light silty soil
- Medium - Loam
- Heavy - Clay

Topic 1.2

Learners should have access to different soil samples that can be tested and identify the level of pH within each sample.

Basic soil testing and levels of acidity.

How soil pH links to plant growth.

Applications that can change soil pH.

Topic 1.3

Soil tilth and cultivation equipment will vary for the range of crops grown in the UK and it is essential that the learner is able to identify the different equipment that is commonly used to obtain the correct soil conditions for each crop. For this topic, the learner should be encouraged to research agricultural equipment commonly used and list the mechanical cultivations used to achieve a basic tilth for most agricultural crops

Equipment:

- Tractor – Size, HP, 2wd/4wd, tracked
- Plough – Conventional, variable, reversible
- Cultivator
- Harrow
- Stone picker
- Roller

Topic 1.4

Soil/weather conditions that are not appropriate for cultivations and reasons why:

- Frozen ground
- Snow
- Waterlogging
- Drought

Topic 1.5

The importance of safety when using farm equipment is to be addressed during this topic.

Hazards and risks with each piece of cultivation identified in the previous topic and ways of reducing the risk when using the machinery.

Learning outcome:

2. Identify a range of crops, common weeds and diseases

Topics:

2.1   Commonly grown crops and nutrients
2.2   Common weeds
2.3   Diseases in crops

Topic 2.1

The decision to grow specific crops in the UK will be based on the area, soil types and business needs of the farm. Learners should be able to identify a range of crops from seed to vegetative growth. Below is a list that can be used but, due to regional variation, the list is not exhaustive and it is encouraged that learners gain knowledge of crops grown outside their region as well as commonly seen crops

Common crops:
- Cereals
- Oil Seed Rape (OSR)
- Potatoes
- Vegetable crops
- Animal feed crops

Types and sources of nutrients for agricultural crops:
- Major – nitrogen phosphorus, potassium
- Minor – sulphur, magnesium, manganese, boron, trace elements, copper, selenium

Topic 2.2

Common weeds for a selected crop, the harmful effects of the weeds and control measures for weeds.

Topic 2.3

Common diseases for a selected crop, the harmful effects of the disease and control measures for the diseases.

Learning outcome:

3. List a range of pesticide applications and legislation linked to the use of pesticides

Topics:

3.1 Legislation
3.2 Types of pesticide application and safe use
3.3 Safe Use of Pesticides

Topic 3.1

The use of pesticides has become a contentious subject in UK food production and specific legislation has been created to ensure that food quality is not compromised, the environment is not harmed and that the farming industry is regulated. Learners are required to have knowledge of the legislation that links to the use of pesticides in the UK and the main legislation and Codes of Practice in place.

- The Control of Pesticides Regulations 1986
- The Plant Protection Products (Sustainable Use) Regulations 2012

- Code of Practice for using Plant Protection Products
- Specific training/certification
- Codes of Practice – Soil, Air, Water

Topic 3.2

A large selection of different training and qualifications are available for each type of chemical application on the farm and learners should be aware of the requirement for an operator to hold the relevant certificate to be able use equipment and chemicals.

The most common types of application and link to the competence training and certification that is needed. Operators will normally be members of NRoSO.
PA Certification:

- PA1 – Foundation Module – Must be passed prior to taking further training
- PA2 – Mounted or Trailed Boom Sprayers, including "Weed Wiper"
- PA3 – Broadcast or Variable Geometry Boom Sprayers
- PA4g – Granular application
- PA4s – Slug Pellets
- PA6 – Hand held lance or knapsack application

Learning outcome:

4. Produce crop calendars for named crops

Topics:

4.1 Produce a basic crop calendar

4.2 Crop quality

Topic 4.1

Basic crop calendar for named crops, showing the key husbandry features (this links to previous outcomes in the unit):

- Seedbed preparation
- Planting
- Fertiliser
- Weed control
- Disease control
- Harvesting and Storage

Topic 4.2

Crop production activities and how they impact crop quality:

- Sowing
- Cultivation
- Harvesting
- Storage

The factors that affect product quality during storage of the crop

Guidance for delivery

This unit is designed to provide the learner with an introduction to the knowledge and skills required to enable them to identify a variety of crops, weeds, diseases and processes involved with the preparation, planting and harvesting of a given crop. The unit should cover a range of crop variety and species. The increasing use of specific crops and pesticides will be linked to production and examples of each should be identified. The unit should be delivered in conjunction with a working farm, visits or relevant work experience placement. This would ensure that the learner experiences a variety of routine farm activities on a regular basis and see different types of crop production.

Throughout the unit, the emphasis should be on safe working. It is expected that learners will be aware of safe working practices and familiar with accepted practices and behaviours within the context in which they are working.

Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant information to the learner. Teaching would also benefit from visits to a variety of establishments to add depth to the learner experience.

It is accepted that some formal lectures will be necessary at level 1 but for this unit it is recommended that they are directly linked to interactive sessions in a real environment. Learners must be given the opportunity to deal with a range of crops and machinery in different situations which reflects current industry practice.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Lockhart and Wiseman's Crop Husbandry including Grassland	Published by Elsevier Science & Technology ISBN: 9781782423713 Finch H J S, Samuel A M and Lane G P F, 2014

Journals and magazines
Farmers Weekly
Farmers Guardian

Websites

Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
Welsh Assembly Government	**www.wales.gov.uk**
Scottish Executive Environment and Rural Affairs Department	**www.scotland.gov.uk**
Department of Agriculture, Environment and Rural Affairs (Northern Ireland)	**www.daera-ni.gov.uk**
Health and Safety Executive	**www.hse.gov.uk**

Unit 220   Assist with the maintenance of structures and surfaces in the countryside

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner to the practical activities involved in the maintenance and repair of boundary fences, access points and surfaces such as footpaths, bridleways and ancillary structures, such as seats, notice boards, simple bridges and steps. The learner is encouraged to work, keeping the safety of themselves and others in mind, minimising the risk of damage to tools and equipment and also to recognise the effects of their work upon the local wildlife.

Learning outcomes

In this unit, learners will be able to

1. Assist with the repair and maintenance of a stock-proof fence
2. Assist with the repair and maintenance of a gate or stile
3. Assist with the repair and maintenance of an access route

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. **Assist with the repair and maintenance** of **a stock-proof fence**

Topics:

1.1 Assisting with the maintenance and repair of a fence
1.2 Selecting, transporting and using tools and equipment safely

Topic 1.1

The different types of fencing:
- Post and rail
- Post and wire (stock, rabbit or deer proof)
- Barbed wire

When and how fences need to be repaired and maintained:
- Rubbing down/preparation
- Painting
- Replacing damage sections
- Tightening and/or replacing wires

The reasons why fences need to be repaired and maintained:
- For safety
- To prevent stock roaming
- To prevent damage to vegetation

Repairing a fence as part of a team using appropriate methods, techniques, tools and equipment:
- Correct identification and selection of materials required,
- Replacement of damaged sections of fence eg fence posts, corner posts, rails by appropriate method
- Tightening or replacing of wire by appropriate method
- Fence-posts and rails must be positioned accurately for line, distance apart, height and vertical line

Topic 1.2

Using tools safely and effectively to repair and maintain fences:
- The types of tools and equipment used for maintaining and repairing a stock-proof fence
- How tools and equipment should be used safely to ensure the safety of the user and others

- The correct safety equipment and clothing that should be worn/used when carrying out repair and maintenance work
- How to clean and store tools after use
- The correct methods for manual lifting of heavy or bulky items

How to handle and dispose of waste safely:
- Treated timber: handle with gloves and remove from site
- Wire and other metal (nails, staples etc): remove from site and dispose of according to company policy
- Hazardous waste e.g. Timber preservative: to be returned to store or to a designated waste site

The effects that the repair and maintenance work might have on wildlife:
- excluding wildlife from an area
- disturbance during the task
- the effects of hazardous substances or waste left on the site

Learning outcome:

2. Assist with the repair and maintenance of a gate, stile or ancillary structure

Topics:

2.1. Assisting with the repair of a gate, stile, simple bridge or step
2.2. Assisting with the maintenance of a gate, stile, simple bridge or step

Topic 2.1

The different types of access point:
- hanging gate
- kissing gate
- ladder stile
- step-over stile
- squeeze stile
- Simple bridge
- steps

The common tools and equipment needed to:
- repair a timber structure such as a bridge, gate or stile
- maintain a timber structure such as a bridge, gate or stile

The correct safety equipment and clothing that should be used when carrying out repair and maintenance work.

Common faults when timber structures such as bridges, gates or stiles need to be repaired or maintained:
- faulty hinges
- damaged/unsound posts, rails, steps or decking
- faulty fastenings

The problems caused by faulty or broken structure such as a bridge, gate or stile:
- preventing access
- causing accidents and/or injury
- allowing stock to escape

the routine maintenance of structure such as a bridge, gate or stile to include:
- checks for damaged/unsound parts
- treatment with preservatives
- ensuring steps are secure
- ensuring gates are swinging freely
- ensuring latches and fastenings are in good order and secure
- ensuring weighted devices e.g. dog gates are working smoothly

Carrying out repairs to a structure such as a bridge, gate or stile including temporary fencing to keep stock secure.

Learning outcome:

3. Assist with the repair and maintenance of an access route

Topics:

3.1 Assisting with the repair and maintenance of an access route
3.2 Selecting, transporting and using tools and equipment safely

Topic 3.1
The different types of surfaces for footpaths and bridleways:
- Bark chippings
- Gravel or stone chippings (loose or compacted)
- Asphalt or concrete
- Grass

When and why surfaces need to be repaired and maintained:
- For the safety of pedestrians
- To maintain drainage systems
- To prevent erosion of surrounding areas because damaged area is by-passed

the effects of poor drainage on an access route:
- Breakdown of the surface
- Rotting of timbers
- By-passing by pedestrians

Carrying out work to a surface by repairing, replacing or resurfacing with suitable materials:
- Sweeping
- Raking

- Adding extra or new surface materials

Topic 3.2

The types of tools and equipment used for maintaining and repairing access routes:
- How tools and equipment should be used safely
- How to avoid damage during use or to report damage to the appropriate person
- Ensure equipment is cleaned, maintained and stored correctly

The correct safety equipment and clothing that should be worn/used when carrying out repair and maintenance work.

Guidance for delivery

During the delivery of this unit, learners should have access to a range of countryside structures and surfaces. It is expected that delivery incorporate a mixture of lectures, practical activities, and visits to farms, visitor or wildlife centres etc. At this level, it is expected that learners develop their practical skills and an appreciation of the basic background knowledge in the maintenance and repair for countryside paths, fences and structures.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

How to build Paths, Steps and Footbridges.	North Adams: Storey Books. Jeswald P. 2004.
Fencing; A practical handbook	Doncaster Agate, E. 2001
Footpaths: A practical handbook	Doncaster Agate, E.1996
Tool care; A maintenance and workshop manual	Doncaster Agate, E. 2000

Journals and magazines
Horticultural Weekly

Websites

Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
Health and Safety Executive	**www.hse.gov.uk**
Farm wildlife and advisory Group	**www.fwag.org,uk**

Unit 221   Carry out tractor operations

Level:	1
GLH	50

What is this unit about?

This unit is concerned with the procedures for operating a tractor effectively under a range of conditions.

Learners are not required to drive a tractor on a public highway, but should be made aware of the age restrictions and other legal requirements associated with tractor operations. City and Guilds advises tutors to consider the suitability of equipment to be used and the age/capability of learners. Tasks should only be carried out under appropriate supervision of the tutor/assessor. All equipment should be used safely and within the requirements of health and safety legislation.

Learning outcomes

In this unit, learners will be able to
1. Prepare a tractor and trailer for use
2. Operate a tractor and trailer

Scope of content

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are instructed in and adopt safe working practices and should have access to the appropriate PPE prior to carrying out any activity.

The purpose of the unit is to provide learners with the opportunity to carry out tractor operations safely and understand the legislation that is linked to use of the machinery. Correct preparation and use of tractors and associated machinery will ensure that the operator is able to use the equipment efficiently and effectively to carry the tasks set for them. Emphasis on safety and awareness of surroundings should be a major factor during any taught sessions. This unit will be delivered through both theory and practical sessions, allowing learners to practice all aspects of the specific outcomes.

Learning outcome:

1. Prepare a tractor and trailer for use

Topics:

1.1 Legislation for tractor use
1.2 Pre-start checks and adjustments
1.3 Identify controls and their use
1.4 Safe use of tractor
1.5 Attach a trailer to the tractor safely and securely

Topic 1.1

Legislation exists to reduce the chance of accidents or fatalities and using farm machinery is one of the most dangerous tasks in the workplace. Learners are required to identify key aspects of legislation.

Legislation for tractor use:
- Age restrictions for operating a tractor and trailer
- Health and safety legislation in relation to the preparation and use of tractors and equipment
- On farm
- Off farm (eg public highway)

Topic 1.2
Pre-start checks and adjustments:
- Fuel
- Oil/ hydraulic oil
- Water
- Operators handbook/checklist
- Tyre pressure
- Wheel condition – wheel nuts, cracks, damage
- Cleanliness and condition of windows and mirrors
- Lights and beacon are in good working order
- Correct seat adjustment

Topic 1.3

Controls and their use:

- Pedals – Clutch, brake, accelerator, forward and reverse shuttle
- Handbrake
- Lights
- Wipers/ washers
- Warning lights
- Four wheel drive
- Pedals including differential lock
- Power take-off (PTO) On/Off
  – Spool valves
  – Hand throttle

Topic 1.4

Safe use of tractor:

- Safe starting and operation
- Correct gear and throttle selection
- Observation; moving off, basic manoeuvres
- Safe stopping, parking and exiting from tractor

Topic 1.5

Attaching a trailer to the tractor safely and securely:

- Safe position of trailer
- Correct pick up hitch attached
- Safety of others – no personnel in between tractor and trailer
- Attach trailer safely – position tractor, handbrake, pick up hitch, locked in position, release of hydraulic pressure
- Switch off tractor, remove key before exiting
- Attach brake line, hydraulics etc.

Learning outcome:

2. **Operate a tractor and trailer**

Topics:

2.1 Manoeuvring tractor and trailer safely and efficiently
2.2 Carrying out post operation procedures safely

Topic 2.1

Learners should carry out basic manoeuvres of the tractor and trailer safely and ensure that the tractor is being driven appropriately at all times. Opportunity should be given to practice reversing and driving on a variety of surfaces, if available. The learner will be able to carry out the practical activity safely and also gain knowledge of:

- Correct instrument settings when tractor is running normally
- List example hazards which may be encountered and appropriate actions to be taken
- List effects of weather and ground conditions on tractor operation
- State how to use the tractor and trailer safely and efficiently

- State and demonstrate correct procedures for leaving tractor and trailer in a suitable condition for future use
- State the action to take in the event of an incident which effects the health and safety of self and others

Topic 2.2

It is expected that tractors and trailers will be left in a safe condition after all practical operation and that they are ready for future use. This may involve the learner using fuel points to fill tractors fuel tanks. Tutors should ensure that all safety measures are in place and adequate supervision is given during this operation.

Post operation procedures and checks:
- Refuelling
- Reporting any damage or faults

Guidance for delivery

This unit is designed to provide the learner with the practical skill of operating a tractor and trailer efficiently and safely whilst increasing their knowledge of legislation in the agricultural sector. Learners should use appropriate PPE when carrying out any practical activity and should be encouraged to carry out risk assessments prior to the activity.

Throughout the unit, the emphasis should be on safe working. It is expected that learners will be aware of safe working practices and familiar with accepted practices and behaviours within the context in which they are working.

It is accepted that some formal lectures will be necessary at level 1 but for this unit it is recommended that they are directly linked to interactive sessions in a real environment.

Suggested learning resources

Websites

Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
Welsh Assembly Government	**www.wales.gov.uk**
Scottish Executive Environment and Rural Affairs Department	**www.scotland.gov.uk**
Department of Agriculture, Environment and Rural Affairs (Northern Ireland)	**www.daera-ni.gov.uk**
Health and safety Executive (HSE)	**www.hse.gov.uk**

Unit 222   Introduction to wildlife and conservation

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide an introduction to the interactions between plants and animals. It encourages learners to recognise the interdependencies of different species and to look for the main characteristics of different types of habitat. It also allows learners to identify common species of animals and plants found in the United Kingdom.

Learning outcomes

In this unit, learners will be able to

1. Recognise a range of habitats from their characteristics
2. Recognise species of plant and animal commonly found in the United Kingdom
3. Recognise the energy links between plants and animals

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

The aim of this unit is for learners to develop their knowledge of wildlife and habitats through both classroom based activities and practical activities. It will develop their understanding of the variation in habitat types throughout the United Kingdom as well as those found in their local geographical area.

It is also designed to increase learner's appreciation and ability to identify wildlife species found around them along with understanding the dependency of species on others.

Learning outcome:

1. Recognise a range of habitats from their characteristics

Topics:

1.1 Habitats
1.2 Characteristics of the main woodland types
1.3 Characteristics of the main freshwater habitats
1.4 Types of grassland habitats
1.5 Features that will affect a site

Topic 1.1
The main habitat types found in the United Kingdom:
- Woodlands
- Grasslands
- Freshwater wetlands
- Estuary and coastal
- Upland
- Heathland

Topic 1.2
The characteristics that identify main woodland types in order to differentiate them:
- Broadleaved
- Conifer
- Scrub
- Coppice

Topic 1.3
The characteristics that identify the main freshwater habitats:
- Rivers and streams
- Lakes
- Reservoirs
- Ponds
- Peat bogs and fens
- Marshes

Topic 1.4

Types of grassland habitats:

- Agricultural (improved) grassland
- Unimproved grazed grassland
- Traditional hay meadows
- Amenity grassland (parks, playing fields, golf courses)
- Water or wet lowland meadows
- Wildflower meadows

Topic 1.5

Climatic features and other features that can affect what grows or lives on a site:

- Rainfall
- Annual sunshine
- Aspect
- Soil type
- Height above sea level
- The level of the water table
- Environmental issues (pollution, soil erosion)
- pH

Learning outcome:

2. **Recognise species of plant and animal commonly found in the United Kingdom**

Topics:

2.1 Main groups of plants and common species
2.2 Main groups of animals and common species
2.3 The ecosystem for a given habitat

Topic 2.1

The main groups of plants and examples of each type that would be commonly found in the United Kingdom including indigenous species:

- Mosses
- Ferns
- Flowers
- Shrubs
- Trees (broadleaved and conifer)
- Grasses
- Sedges
- Rushes

Topic 2.2

The main groups of animals and examples of each type that would be commonly found in the United Kingdom including indigenous species:

- Invertebrates
- Fish
- Amphibians
- Reptiles

- Birds
- Mammals

Topic 2.3

Simple key or guide showing the main animals and plants that create the ecosystem in a given habitat. It is acceptable to use common names only:

- Broadleaved woodland
- Conifer woodland
- River
- Pond
- Estuary
- Wildflower meadow
- Unimproved grazing land
- Upland
- Heathland
- Marshland

Identification of species found at a named ecosystem using common names, as appropriate:

- Flora: trees, flowers, grasses, shrubs
- Fauna: invertebrates, amphibians, reptiles, birds, mammals

Learning outcome:

3. Recognise the energy links between plants and animals

Topics:

3.1 Food chain from a given habitat
3.2 Food source and feeding method for animals

Topic 3.1

Simple food chain that would be found in a given habitat covering the meaning of the terms:

- Producers
- Consumers (Herbivore carnivore and omnivore and each within the food chain)
- Predator
- Prey

Topic 3.2

Food sources and feeding methods for different animals for:

- How plants provide food and energy for grazing and browsing animals
- How animals provide food and energy for predators
- How grazing animals provide a source of nutrients for plants
- The role of invertebrates, fungi and bacteria in the decomposition of organic material
- Plants that support a wide variety of consumers
- A feeding method and food source seen from a wild species

Guidance for delivery

This unit is designed to provide the learner with an introduction to the understanding of wildlife species and their habitats commonly seen in the United Kingdom. Emphasis should be placed on indigenous British species with use of local habitats around centres to provide real life examples and allow learners to develop knowledge of their local environment. When on practical activities both learner health and safety and not unduly disturbing wildlife needs to be a priority.

Centres are encouraged to introduce specific employers, professionals and charitable organisations/volunteers from wildlife monitoring organisations, as well as take learners on visits to specific habitats to provide interesting and relevant information to the learner and add to the learner experience. Lessons should be a mixture of formal lessons linked directly with interactive lessons in a real environment.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Urban Environments and Wildlife Law in Britain: A Manual for Sustainable Development.	Blackwell Science. ISBN: 0-632-05743-2. Rees P. 2002.
Practical Wildlife Care.	Blackwell Publishing. ISBN: 1-405-12749-X. Stocker L. 2005.
The New Handbook of British Mammals.	Elsevier Science and Technology. ISBN: 0-856-61133-6. Harris S. 2002.
Mammals of Britain and Europe.	HarperCollins Publishers. ISBN: 0-002-19779-0. McDonald D and Barrett P. 1993.
Birds of Britain and Europe.	5th Edition. Harper Collins Publishers. ISBN: 0-007-19234-7. Peterson R, Mountfort G and Hollom P. 2004.

Wildlife Ecology, Conservation, and Management.	Blackwell Publishing Professional. ISBN: 1-405-10737-5 Sinclair A, Fryxell J and Caughley G. 2006.
The Wild Flower Key (Revised Edition) – How to identify wild plants, trees and shrubs in Britain and Ireland.	Rev Ed edition (30 Mar. 2006) ISBN: 0723251754 Francie Rose Warne;
Grasses: A Guide to Their Structure, Identification, Uses and Distribution.	Penguin ISBN: 0140132279 Charles Hubbard.

Journals and magazines
BBC Wildlife
Bird Watching
Illustrated Wildlife of Britain

Websites

Field Studies	**www.field-studies-council.org**
The Royal Society for the Prevention of Cruelty to Animals	**www.rspca.org.uk**
Wildlife Information Network	**www.wildlifeinformation.org**
Environmental Agency	**www.gov.uk/government/organisations/environmentagency**
Forestry Commission	**www.forestry.gov.uk**
Natural England	**www.gov.uk/government/organisations/naturalengland**
Natural Resources England	**www.gov.uk/government/organisations/naturalresources-wales**
Field Studies Council	**www.field-studies-council.org**
Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
Welsh Assembly Government	**www.wales.gov.uk**
Scottish Executive Environment and Rural Affairs Department	**www.scotland.gov.uk**
Department of Agriculture, Environment and Rural Affairs (Northern Ireland)	**www.daera-ni.gov.uk**

Health and safety   **www.hse.gov.uk**
Executive (HSE)

Unit 223   Assist with establishment and maintenance of plants and sites in the countryside

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to communicate information within the workplace.

The unit introduces learners to methods of plant establishment and general maintenance of trees, shrubs, herbaceous plants, grassland and woodland sites within the countryside.

Learning outcomes

In this unit, learners will be able to
1. Prepare a site for planting
2. Carry out planting and plant protection
3. Contribute to the maintenance of planted woodland sites
4. Undertake management of small trees in woodland areas

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. Prepare a site for planting

Topics:

1.1 Preparing a site for planting
1.2 Recognising and protecting desirable of flora and fauna

This learning outcomes includes recognising and protecting species of flora and fauna.

Topic 1.1

Preparations to include protection of existing flora and fauna required for a site of natural regeneration:

- Removal of alien species
- Removal of dominant growth
- Management of water levels. E.g. raising or lowering
- Fencing area to include or exclude animals (humans if required)
- Changing crop planting regimes

The importance of ensuring that the ground conditions are appropriate to undertake site preparation.

- Not waterlogged
- Frozen
- Covered in snow
- In drought condition

Topic 1.2

Protection of existing flora and fauna

Identification of desired species and suitable species to contribute to regeneration. Specie examples such as:

- Wildflowers
- Ferns
- Bryophytes
- Fungi
- Lichens
- Invertebrates
- Amphibians and reptiles
- Birds
- Mammals

Choosing the correct time of year either Spring or Autumn depending on species
Using correct/appropriate tools equipment and work methods

Learning outcome:

2. Carry out planting and plant protection

Topics:

2.1 Planting a variety of tree, shrubs, herbaceous perennials and wildflowers
2.2 Plant protection methods

Topic 2.1

Definition of the term 'native species'
- Native species are plants that naturally occur in the UK

The importance of knowing the provenance of wildflower species.
- The importance of provenance of wildflower species is to ensure that the plants are suitable for the site and its ecology.

The tools and equipment required for planting a range of plants such as shrubs, trees and wildflowers:
- Spades
- Forks
- Trowels

Depending on the size of the root ball.

Frost, snow, waterlogged and extreme drought conditions are unsuitable ground/weather conditions for planting (Links to topic 1:2)

Container-grown hardy trees and shrubs can be planted at any time if soil and weather conditions are suitable.

Container-grown woody plants must be watered before planting.

When planting
- Holes should be large enough to accommodate the roots/root ball without difficulty
- Damaged roots/shoots should be pruned away before planting
- Suitable organic matter can be used to improve the backfill medium
- Plants should be positioned correctly as related to the viewpoint or line
- Planting depth should be correct and how to recognize correct depth
- Consolidation is important and that correct heeling-in can achieve this

For whips and plugs using suitable methods:
- Notch
- Pit planting.

Definition of the terms 'notch planting' and 'pit planting':
- Notch planting as a T cut in the ground to insert a whip or small bare root specimen
- Pit planting for root-balled specimens.

Wildflower plugs are planted using small tools and equipment eg a garden trowel or small hand fork.

Topic 2.2
The use of mulch, supports and protection against severe weather can assist establishment of new plants.

The importance of regularly checking recently planted shrubs and trees for adverse signs of:
- Damage from animals and/or people using tree guards and mulch mats
- The effects of extreme weather conditions such as high winds (by using tree stakes), flooding or drought
- The importance of regular watering to aid the plant's establishment

The basic health and safety considerations involved in planting trees, shrubs and wildflowers.

Learning outcome:
3. Contribute to the maintenance of planted woodland sites

Topics:
3.1 Undertake basic aftercare of newly planted sites
3.2 Control of invasive weed species

Topic 3.1
Undertaking tasks and aftercare of newly planted sites:
- Watering
- Conserving water by mulching.

Topic 3.2
Competing weed species, example listed below but not exhaustive list as site dependant:
- *Urtica dioica* (Nettle)
- *Rumex obtusifolius* (Dock)
- *Rubus aboriginum* (Bramble backberry)

Methods of control
- Hand weeding
- Mulching
- Cutting/mowing
- Use of herbicides

Potential damage and implications to newly planted sites and specimens:
- Pest attack for example Bark removal/ damage by rabbits and deer.
- Diseases such as *Hymenoscyphus fraxineus* Ash Die Back

- Drought or waterlogging- establishment of newly planted species show die back or death
- Physical damage- wind damage, scorch or frost damage

Maintenance requirements of a newly planted site.

Checking tree ties and guards to ensure that they are not damaging the stems/trunks.

Excessive vegetative growth, such as invasive weeds. *Rubus aboriginum* Brambles

Learning outcome:

4. Undertake management of small trees in woodland areas

Topics:

4.1 Undertake management of small trees and woodland by pruning thinning and coppicing
4.2 Complete appropriate dispose of arisings and waste

Topic 4.1

The management of small trees in woodlands by pruning, thinning and coppicing:
- Pruning removing unwanted material
- Dead
- Diseased
- Damaged
- Dysfunctional

The type of formative pruning requirements of small trees in a woodland site to form a central leader undertaken when the tree is dormant unless removing diseased material.

Understand the benefits of coppicing:
- Renewal of material
- Management of diseases
- Provision of additional material
- Increasing of natural habitat

The importance of thinning of sites:
- To ensure health and vigour
- Improves overall value of woodland site
- Creates diversity and resistance to pests and diseases
- Encourages woodland floor flora and fora.

Methods of disposing of waste materials and arisings:
- Composting green materials
- Staking in natural piles as wildlife habitats
- Removing from site
- Burning
- Shredding or chipping

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Guidance for delivery

Practical activities can be completed within a newly planted or an established wood area, to encourage a diverse range of aftercare activities.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Woodland Management: A Practical Guide	ISBN-13: 9781847976178 Starr, C.

Websites

The Woodland Trust	www.woodlandtrust.org.uk
The Royal Horticultural Society	www.rhs.org.uk

Unit 224   Animals in the wild and their main features

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge and increase their understanding of the main features of a range of animals in the wild. This unit is primarily aimed at a centre-based setting looking to progress into the sector or further education and training

Upon successful completion of this unit, learners will be able to recognise which categories animals fall into and their key characteristics.

Learning outcomes

In this unit, learners will be able to

1. Classify a range of animals from the wild
2. Identify key reproduction characteristics of named wild animals

Scope of content

Throughout this unit the emphasis is on wild animals and not animals kept within domestic settings.

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. Classify a range of wild animals

Topics:

1.1 Terminology that can be applied to wild animals
1.2 Categories of wild animals
1.3 Main diet and feeding habits of wild animals
1.4 Main behavioural habits and physical adaptations of wild animals

Topic 1.1

Definitions the following terms:
- Herbivore
- Carnivore
- Omnivore
- Insectivore
- Nocturnal
- Diurnal
- Warm blooded
- Cold blooded
- Live young bearing
- Egg bearing

Topic 1.2

Wild animals which belong to each category (domestic animals must not be used):
- Herbivore
- Carnivore
- Omnivore
- Insectivore
- Nocturnal
- Diurnal
- Warm blooded
- Cold blooded
- Live young bearing
- Egg bearing

Topic 1.3

How the animals main diet links to the its feeding habitats (hunter, scavenger, forager or grazer):
- Herbivore
- Carnivore

- Omnivore
- Insectivore

Topic 1.4

Main behavioural habits:
- Hibernation
- Nocturnal
- Diurnal
- Warm blooded
- Cold blooded

Main physical characteristics for named wild animals:
- Appearance
- Average size (for males and females)
- Natural habitat (country/ location, environment conditions)
- Solitary or social group animal and average size of group
- Names for male/ female/ juveniles (as appropriate)
- Expected life span

Main physical adaptations:
- Changes in body covering
- Size of eyes/ear or inclusion of other additional senses
- Nocturnal
- Diurnal
- Warm blooded
- Cold blooded

Learning outcome:

2. Identify key reproduction characteristics of wild animals

Topics:

2.1 Method of reproduction and the gestation periods

2.2 The number of young produced per gestation period

Topic 2.1

The method of reproduction:
- Internal fertilisation
- External fertilisation
- Viviparous
- Oviparous

The length of time the specified animal is pregnant (gestation period) or the time in which the young develops within the egg.

Topic 2.2

The average number of young produced, for some animals this might be a range (example 6-12 eggs)

Guidance for delivery

This unit is designed to provide the learner with an introduction to the understanding of global wildlife species, key terms applied to animals, their main habits and characteristics.

Centres are encouraged to introduce specific employers, professionals and charitable organisations/volunteers from wildlife or zoological organisations, as well as take learners on visits to relevant animal collections to provide interesting and relevant information to the learner to add to their learning experience.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

The New Handbook of British Mammals.	Elsevier Science and Technology. ISBN: 0-856-61133-6. Harris S. 2002.
Mammals of Britain and Europe.	Harper Collins Publishers. ISBN: 0-002-19779-0. McDonald D and Barrett P. 1993.
Birds of Britain and Europe, 2004.	*5th Edition.* Harper Collins Publishers. ISBN: 0-007-19234-7 Peterson R, Mountfort G and Hollom P.
Wildlife of the World	DK Publishing IBSN: 1465438041 Wilson. D 2015

Journals and magazines

Zoology journal

Websites

Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
Field Studies	**www.field-studies-council.org**
Chester Zoo	**www.chesterzoo.org**
Knowlsey Safari Park	**www.knowsleysafariexperience.co.uk**
ZSL London Zoo	**www.zsl.org**
National geographic	**www.nationalgeographic.com**
Born Free Foundation	**www.bornfree.org.uk**
World Wildlife Fund	**www.wwf.org**
Animal Planet	**www.animalplanet.com**
British and Irish Association zoos and Aquariums (BIAZA)	**www.biaza.org.uk**

Unit 225   Uses and domestication of animals

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge and understanding of the uses of animals within society and how they became domesticated. This unit is primarily aimed at a centre-based setting looking to progress into the sector or further education and training

Upon successful completion of this unit, learners will be able to identify relationships between people and animals as well as the role of domestication on their development.

Learning outcomes

In this unit, learners will be able to

1. Identify animal and people relationships
2. Identify the role of domestication on domestic animal development

Scope of content

Throughout this unit the emphasis is on animals within a domestic settings.

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learning outcome:

1. Identify animal and people relationships

Topics:

1.1 Key considerations of responsible pet ownership
1.2 Roles and responsibilities of animal organisations.
1.3 Domestic animals
1.4 Legislation relating to use of animals

Topic 1.1

Key considerations of responsible pet ownership to include considerations which pet owners should take when choosing a pet:

- Personal preference
- Costs (feeding/maintenance etc)
- Time (exercise/training etc)
- Accommodation requirements
- Safety (home/garden)
- Age of family

The reasons why people choose to keep animals as pets:

- Companionship
- Therapy
- Working
- Assistance
- Leisure
- Social
- Security
- Business (breeding)

Topic 1.2

Animal organisations and their roles and responsibilities, what the organisation does and key information specific to the organisation.

Animal organisations from the following sectors must be covered:

- Breed Societies
- Rescue organisations
- Assistance animals

Topic 1.3

Considerations when purchasing a domesticated animal:

- Cost and type of food of feeding and frequency of feeding

- Suitable feeding and watering equipment
- Exercise requirements
- Size and type of accommodation that the animal will require
- Amount of time that should be spent with the pet
- Additional equipment or special requirements it may need
- Life span of the animal
- Recommended veterinary requirements in keeping the animal i.e. neutering, vaccinations or other preventative care

Topic 1.4
Legislation relating to keeping, breeding and selling animals:
- Animal Welfare Act 2006
- The Pet Animals Act 19951 (as amended in 1983)
- Breeding and Sale of Dogs (Welfare) Act 1999
- Breeding of Dogs Act 1991 and breeding of Dogs Act 1973
- The Performing Animals (Regulation) Act 1925

Learning outcome:
2. Identify the role of domestication on domestic animal development

Topics:
2.1 Reasons for domestication of animals
2.2 Human influence on the development of a named breed

Range
As a minimum coverage should include a selection from:
Dogs, small animals, horses or livestock, to illustrate particular points during delivery

Topic 2.1
The reasons why animals have been domesticated for a variety of animals across the range.
Considerations:
- Food
- Work
- Clothing
- Protection
- Transportation
- Pleasure
- Companionship

Why certain animals have been domesticated and why some animals are not domesticated.

Topic 2.2
Differences between pure bred animals and cross breeds (hybrids).

How human influences have impacted the development of a named breed:
- Health problems

- Showing
- Desirable traits

Guidance for delivery

This unit is designed to provide the learner with an understanding of the uses of animals within society as well as give a basic introduction to domestication and the development of animal breed.

Centres are encouraged to introduce specific employers, professionals and charitable organisations/volunteers from a range of animal organisations, as well as take learners on visits to relevant animal establishments to provide interesting and relevant information to the learner to add to their learning experience.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

A Dictionary of Zoology	3rd edition. OUP. ISBN: 978-01999233410. llaby M. 2009.
The Origin of Species.	Wordsworth Classics of the World Literature. ISBN: 978-1853267802. Darwin C. 1998.
The Animal Creation- A Popular Introduction to Zoology.	ISBN: 978-1432676841. Rymer-Jones T. 2007.
Guinea Piglopaedia: A complete guide to Guinea Pig Care.	Interpet Publishing. ISBN: 978-1860542510. Ruelokke E and Ruelokke M. 2003.
Hamsterlopaedia: A complete guide to Hamster Care..	Ringpress Publishing. ISBN: 978- 1860542466Logsdail C, Logsdail P and Hovers K. 2003.
Catlopaedia: The Complete Guide to Cat Care.	Ringpress Books. ISBN: 978- 978-1860540189. Evans J and White K. 2006.
Doglopaedia: The Complete Guide to Dog Care.	Ringpress Books.

Encyclopaedia of the Dog.	ISBN: 978-1860540745. Evans J and White K. 1998. Dorling Kindersley. ISBN: 978-1405321471. Fogle B. 2007.
How to Look After Your Small Pets.	ISBN: 1844765218. Alderton D.
Ultimate Guide to Cat Breeds.	ISBN: 978-0785822646. Somerville L.

Journals and magazines

Zoology journal

Websites

All About Pets	**www.allaboutpets.org.uk**
Royal Society for the Prevention of cruelty to Animals	**www.rspca.org.uk**
Peoples Dispensary for Sick Animals	**www.pdsa.org.uk**
Cats Protection	**www.cats.org.uk**
The Kennel Club	**www.thekennelclub.org.uk**
The Blue Cross	**www.bluecross.org.uk**
The Supreme Show of the Governing Council of the Cat Fancy	**www.supremecatshow.org**
Crufts	**www.crufts.org.uk**
The Dogs Trust	**www.dogstrust.org.uk**

Unit 226   Assist with feeding and watering of animals

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to select and prepare animal feed and maintain equipment associated with this.

Upon completion of the unit the learner will be able to select suitable feeding and watering equipment for animals and maintain these appropriately. They will be able to select, prepare and present food and water to animals correctly.

Learning outcomes

In this unit, learners will be able to
1. Identify nutritional requirements of animals
2. Assisting with the maintenance of feeding and watering equipment
3. Assisting with the preparation and presentation of food and water to animals
4. Monitor food and water of animals

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress.

Learners must cover a minimum of two out of the groups listed below:

- Large animals (horses, ponies, other large mammals (e.g. goat, camelids, donkey, pig or other available)
- Exotics (fish, birds, exotic reptile, amphibians or exotic mammals)
- Small domestic mammals (rabbits, guinea pigs, rodents, cats and dogs)

Learning outcome:
1. Identify nutritional requirements of animals

Topics:
1.1 The nutritional requirements of animals
1.2 Appropriate amounts of food and water for animals

This outcome requires learners to be aware of animals' nutritional requirements and to consider different life stages, breed etc when planning diets.

Topic 1.1
Nutritional requirements of animals from the range
- Protein
- Fats
- Carbohydrate
- Minerals and vitamins
- Water
- Fibre

Topic 1.2
Amounts of food and water for animals according to:
- Age
- Weight/size
- Breed
- Activity level
- Life stage

Learning outcome:
2. Assisting with the maintenance of feeding and watering equipment

Topics:
2.1 Selecting equipment to feed and water animals
2.2 Maintaining feeding and watering equipment for animals

This outcome allows learners to explore the different types for feeding and watering equipment available to animals.

Topic 2.1
Types of feeding and watering equipment.
- Utensils
- Bowls
- Troughs
- Automatic feeders
- Hay nets
- Dripper bottle

Selection takes into account:
- Species requirements
- Design and construction of housing
- Cleaning and hygiene requirements

Topic 2.2
Maintaining feeding and watering equipment.
- Cleaning requirements
- Hygiene and disinfectant

Learning outcome:

3. **Assisting with the preparation and presentation of food and water to animals**

Topics:

3.1 Selecting and preparing food and water for animals
3.2 Presenting food and water to animals

This outcome requires learners to select, prepare and present different types and amounts of food for animals.

Topic 3.1
Foods available for animals:
- Fresh- eg grass, roots, vegetables and meat
- Dried eg concentrates, complete, hay
- Tinned
- Frozen

Food quality:
- Shelf life
- Longevity
- Best before dates
- Correct storage of food

Preparation of food for animals:
- Amount
- Frequency
- Feeding times linked to behaviour
- Supplements and other dietary requirements (eg cuttlefish, grit, calcium, phosphorous)

Topic 3.2
Presenting food to animals:
- Appropriate equipment to individual animal (eg species/ breed/ size)
- Time
- Location

Learning outcome:

4. Monitor feeding and watering of animals

Topics:

4.1 The importance of monitoring food and water
4.2 Ways to monitor food and water intake

This outcome requires learners to state the importance of monitoring food and water intake in animals.

Topic 4.1
The importance of monitoring food and water and identify symptoms of inadequate or inappropriate nutrition:
- Stress
- Hair/feather loss
- Obesity
- Disease/ illness
- Malnutrition
- Death

Topic 4.2
Ways to monitor food and water intake:
- Weigh and measure food
- Recording
- Types of information to record – amount given/ food left/ behaviour

Guidance for delivery

The learner will be able to select, prepare animal feed and water and monitor their food and water intake. Learners will gain an understanding of the basis for completing the tasks in a certain manner, in line with industry standards and at industry speed. It is important that the learner adheres to current legislation and codes of practice in relation to Health and Safety and animal welfare linked to animal feeding and

watering. Emphasis should be on safe working practices and safe disposal of waste in line with government policies, legislation and good environmental practice.

Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant information to the learner. Teaching would also benefit from visits to a variety of establishments to add depth to the learner experience.

It is accepted that there will be some formal lecturer but for this unit it is recommended that the majority will be carried out with interactive lessons in a real, practical environment. Learners must be given the opportunity to deal with a range of different scenarios/situations and a range of species which reflects current industry practice.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Small Animal Care and Management.	Delamar Learning Warren D. 1995
Doglopedia: The Complete Guide to Dog Care.	Ringpress Books Limited. Evans JM and White K. 2000
Catlopedia: The Complete Guide to Cat Care.	Ringpress Books Limited. Evans JM. and White K. 1997.
Rabbitlopedia: The Complete Guide to Rabbit Care.	Ringpress Books Limited. Brown M. 2000.
Guinea Piglopedia: The Complete Guide to Guinea Pig Care.	Internet Publishing. ISBN: 1-860-54251-4 Elward M. 2003.
Hamsterlopedia: The Complete Guide to Hamster Care.	Ringpress Books Limited. Logsdail C.
Traditional Horse Husbandry: A Practical Guide to Horse Keeping.	Lyons Press. Gay C. and David K 2003.
Various RSPCA Guides on Care of Animals	Written by the RSPCA and published by Collins

Websites

Rabbits and Guinea Pig Welfare	**www.rngp.org**

RSPCA	**www.rspca.org.uk**
Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
Welsh Assembly Government	**www.wales.gov.uk**
Scottish Executive Environment and Rural Affairs Department	**www.scotland.gov.uk**
Department of Agriculture, Environment and Rural Affairs (Northern Ireland)	**www.daera-ni.gov.uk**
Office of Public Sector Information	**www.opsi.gov.uk**

Unit 227   Assist with the preparation and maintenance of animal accommodation

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to select, prepare and maintain animal accommodation.

Upon completion of the unit the learner will be able to select suitable accommodation, fixtures and fittings, prepare. The learner will be able to prepare, clean and maintain animal accommodation using correct equipment, including safety checks and basic maintenance tasks. The learner will also be aware of different waste disposal methods.

Learning outcomes

In this unit, learners will be able to
1. Select suitable housing, fixtures and fittings for individuals or groups of animals
2. Prepare accommodation for individuals and groups of animals
3. Clean out accommodation and dispose of waste from accommodation for individuals or groups of animals
4. Maintain accommodation for individuals or groups of animals

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress.

Learners must cover a minimum of two out of three of:
- Large animals (horses, ponies, other large mammals (e.g. goat, camelids, donkey, pig or other available)
- Exotics (fish, birds, exotic reptile, amphibians or exotic mammals)
- Small domestic mammals (rabbits, guinea pigs, rodents, cats and dogs)

Learning outcome:

1. **Select suitable housing, fixtures and fittings for individuals or groups of animals**

Topics:

1.1 Identifying and checking equipment
1.2 Types of animal accommodation
1.3 Accommodation fixtures and fittings

This outcome requires learners to select suitable housing, fixtures and fittings for individuals or groups of animals for a minimum of two species from the range.

Topic 1.1

Identifying suitable equipment:
- Brush
- Shovel
- Bin
- Wheelbarrow
- Fork
- Dustpan and brush

Checking equipment:
- Importance of checking equipment prior to, and after use
- Process of checking equipment
- Procedure to follow for reporting and recording damaged or faulty equipment

Topic 1.2

Identification and selection of types of animal accommodation for selected species:
- Stable, pen, stall
- Cage
- Aviary
- Vivarium
- Tank

- Kennel, cattery

Reasons for selection:
- Species specific requirements
- Construction materials
- Structure and design: space, security, access, ease of cleaning
- Cost

Topic 1.3
Identification and selection of a range of fixtures and fittings for selected species:
- Feeders
- Drinkers
- Bedding and boxes
- Hides
- Access and exercises eg Ladders, ramps and levels
- Enrichment
- Lighting, heating and filtration
- Natural furnishing

Reasons for selection:
- Properties: insulation, absorption, non-slip
- Uses: enrichment, stimulates natural behaviour

Learning outcome:

2. Prepare accommodation for individuals and groups of animals

Topics:
2.1 Selecting accommodation
2.2 Preparing accommodation

This outcome requires learners to select and prepare accommodation for individuals or groups of animals for a minimum of two species from the range.

Topic 2.1
Select animal accommodation with regards to environmental factors based on accommodation structure and location:
- Temperature
- Light
- Ventilation

Identification and selection of appropriate bedding and substrate considering its properties:
- Straw
- Sawdust/shavings
- Hay
- Synthetic bedding
- Sand

Topic 2.2

As there is an emphasis upon health and safety, this outcome should be delivered with an emphasis on ensuring the health, safety and welfare of animals(s), learners and others. Safety checking accommodation prior to putting animal(s), equipment and fixtures and fittings in should be integrated and implicit throughout.

Prepare animal accommodation using:
- Suitable accommodation
- Appropriate fixtures and fittings
- Substrate/bedding

Reasons for preparing accommodation:
- Number of animals
- Purpose
- Species specific requirements

Learning outcome:

3. **Clean out accommodation and dispose of waste from accommodation for individuals or groups of animals**

Topics:

3.1 Clean accommodation
3.2 Waste disposal methods

This outcome requires learners to clean out accommodation and dispose of waste from accommodation for individuals or groups of animals for a minimum of two species from the range.

Centres should be up to date with legislation, policies and codes of practice standards.

Topic 3.1

As there is an emphasis upon health and safety, this outcome should be delivered with an emphasis on ensuring the health, safety and welfare of animals(s), learners and others.

Preparation of cleaning:
- Use of Personal Protective Equipment (PPE)
- Selection of cleaning equipment
- Use of a holding tank/cage/stable/pen/stall

Cleaning agents and disinfectants:
- Correct dilution of cleaning agents and disinfectants
- Importance of following manufacturer's guidelines

Cleaning routines and frequency:
- Spot clean
- Full clean

- Importance of reporting accidents, incidents or damaged/faulty equipment
- Importance of maintaining a clean and tidy work area

Topic 3.2

Waste disposal methods:
- Organic
- Inorganic
- Hazardous
- Non-hazardous

Safe disposal of waste:
- Appropriate Personal Protective Equipment (PPE) use
- Safe lifting procedures
- Select and use appropriate equipment
- Ensuring health, safety and welfare of animals(s), self and others

Learning outcome:

4. Maintain accommodation for individuals or groups of animals

Topics:

4.1 Safety and security checks on animal housing
4.2 Maintain animal housing

This outcome requires learners to assess the housing for safety and security and therefore maintain animal housing.

As there is an emphasis upon animal welfare and the duty of care towards animals, this outcome should be delivered through simulated scenarios to assist the learner's ability to relate their theoretical understanding to practical application.

Topic 4.1

Safety and security checks:
- Reasons for safety and security checks: safety of the animals(s), self and others
- Checks that would be made on accommodation
- Frequency of safety and security checks
- Reporting and recording methods

Topic 4.2

Recognition of accommodation maintenance activities:
- Accommodation construction
- Security
- Fixtures and fittings

Guidance for delivery

The learner will be able to select, prepare, clean and maintain animal accommodation of animals. Learners will need to be taught an understanding of the basis for completing the tasks in a certain manner, in line with industry standards and at industry speed. It is important that the learner adheres to current legislation and codes of practice in relation to Health and Safety and animal welfare linked to animal accommodation. Emphasis should be on safe working practices and safe disposal of waste in line with government policies, legislation and good environmental practice.

Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant information to the learner. Teaching would also benefit from visits to a variety of establishments to add depth to the learner experience.

It is accepted that there will be some formal lecturer but for this unit it is recommended that the majority will be carried out with interactive lessons in a real, practical environment. Learners must be given the opportunity to deal with a range of different scenarios/situations and a range of species which reflects current industry practice.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Small Animal Care and Management.	Delamar Learning. Warren D. 1995
Doglopedia: The Complete Guide to Dog Care.	Ringpress Books Limited. Evans JM. & White K. 2000.
Catlopedia: The Complete Guide to Cat Care.	Ringpress Books Limited. Evans JM. and White K. 1997
Rabbitlopedia: The Complete Guide to Rabbit Care.	Ringpress Books Limited. Brown M. 2000.
Guinea Piglopedia: The Complete Guide to Guinea Pig Care.	Internet Publishing. BN: 1-860-54251-4 Elward M. 2003.
Hamsterlopedia: The Complete Guide to Hamster Care.	Ringpress Books Limited. Logsdail C.

Traditional Horse Husbandry: A Practical Guide to Horse Keeping.

Lyons Press.
Gay C. and David K. 2003

Various RSPCA Guides on Care of Animals written by the RSPCA and published by Collins

Websites

Rabbits and Guinea Pig Welfare	**www.rngp.org**
RSPCA	**www.rspca.org.uk**
Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
Welsh Assembly Government	**www.wales.gov.uk**
Scottish Executive Environment and Rural Affairs Department	**www.scotland.gov.uk**
Department of Agriculture, Environment and Rural Affairs (Northern Ireland)	**www.daera-ni.gov.uk**
Office of Public Sector Information	**www.opsi.gov.uk**

Unit 228   Assist with the handling and restraint of animals

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge on how to assist a supervisor when handling, moving and restraining an animal. The learner will have a basic understanding of normal behaviours. The learner will also be provided with the knowledge and skills to approach an animal safely, while utilising appropriate handling and restraint equipment.

Learning outcomes

In this unit, learners will be able to

1. Identify the behaviour of a named animal species
2. Identify handling and restraint equipment
3. Demonstrate the correct methods of handling and restraint

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress.

Learners must cover a minimum of two out of three of:
- Large animals (horses, ponies, other large mammals (e.g. goat, camelids, donkey, pig or other available)
- Exotics (fish, birds, exotic reptile, amphibians or exotic mammals)
- Small domestic mammals (rabbits, guinea pigs, rodents, cats and dogs

Learning outcome:

1. Identify the behaviour of a named animal species

Topics:

1.1 Normal behaviour in animals
1.2 Assessing behaviour of animals through their body language
1.3 The reasons why records of behavioural observations are important

In this outcome, the learner will be able to identify the temperament of a minimum of two species from the range including potential signs of stress. The utilisation of records will demonstrate the need for accurate record keeping within industry. Learners will be able to discuss why observing and recording an animal's behaviour is important.

Topic 1.1
Normal behaviour for species from the range.

The normal behaviour of the animal in a natural habitat and in captivity:
- Social behaviour
- Activity levels
- Sleeping patterns
- Eating and drinking
- Mating and pregnancy

How environmental factors can influence behaviour for a particular species:
- With or without companionship
- Time of the year / seasonal changes
- Accommodation size and design, including temperature

Topic 1.2
How different animal behavioural states can be recognised in animals.

The main facial expressions and body postures used by animals to indicate their behavioural state:

- Body posture (e.g. ears, eyes, tail, head position, mouth, facial expressions)
- Movement
- Vocalisation
- Body position within enclosure
- Body position in relation to the human

Examples specific to selected species to include signs of relaxation/contentment, fear, aggression and stress

Abnormal and stress related behaviours:
- Stereotypic behaviour (eg. pacing, bar biting, tail chasing)
- Appetite changes
- Behavioural changes
- Illness

Topic 1.3
The importance of monitoring and recording behaviour in industry.

The reasons for record keeping:
- Communication
- Accurate record of animals activities, behaviour, feeding, water, medication and health
- Health and safety for handlers
- Health and safety for animal(s)

Who findings should be reported to orally:
- Supervisor
- Employer
- Person in charge

Learning outcome:
2. Identify animal handling and restraint equipment

Topics:

2.1 Handling and restraint equipment

2.2 Health and safety implications when handling animals

2.3 Checking handling and restraint equipment is suitable and safe for use

In this outcome, the learner will be able to select the necessary handling and restraint equipment required when handling a minimum of two species. An understanding of health and safety for both handler and animal should be evident, ensuring the appropriate checks are conducted.

Topic 2.1
The importance of personal protective equipment (PPE) and when they would be suitable in relation to an animal's behaviour.

The items of PPE that may be required when handling and restraining an animal (species specific):

- Gloves and gauntlets
- Protective clothing e.g. long sleeves, long trousers, sturdy closed shoes
- Eye protection
- Face masks
- No loose clothing or jewellery

Items of handling and restraint equipment may include (species specific):
- Head collar and lead rope
- Collars and leads
- Harnesses
- Nets
- Carry cages and crush cages
- Pig board
- Muzzles
- Graspers and nooses
- Towels and blankets

Topic 2.2

Health and safety risks when handling and retraining animals.
- Zoonotic diseases
- Washing hands thoroughly
- Animals behaviour

Topic 2.3

Checks need to be made prior to handling and restraint:
- Overall condition of the equipment
- Correct sizing in relation to the animal
- The suitability for the purpose and species of animal

Learning outcome:
3. **Demonstrate the correct methods of handling and restraint**

Topics:
3.1 Approaching animals appropriately according to their behaviour
3.2 Using correct handling and restraint equipment

In this outcome learners will be able to demonstrate how to utilise appropriate handling and restraint equipment and state when this would be necessary.

Topic 3.1

The main facial expressions and body postures used by a specific animal prior to handling:
- Body posture (e.g. ears, eyes, tail, head position, mouth, facial expressions)
- Vocalisations
- Submissive
- Aggressive
- Fear
- Protective

- Dominant

How to approach an animal correctly. The duty of care to animals must be observed and upheld at all times.
- Approaching animals e.g. calmly and confidently
- Adopting appropriate body posture and body language e.g. smooth movements where necessary.

Topic 3.2
Using the appropriate handling and restraint equipment in the correct manner:
- Appropriate personal protective equipment (PPE) should be worn at all times
- Correct handling and restraint equipment selected
- Handling and restraint equipment is identified and used correctly

The reasons why an animal may need to be handled and restrained:
- Grooming
- Veterinary attention or provision of medication
- Health checking
- Transportation
- Exercising

Guidance for delivery

The learner will know how behaviour may influence handling and restraint techniques and why monitoring behaviour is important. Throughout the unit, the emphasis should be on welfare and safe working. The learners should expect to be guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress.

Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant information to the learner. Teaching would also benefit from visits to a variety of establishments to add depth to the learner experience.

It is accepted that there will be some formal lecturer but for this unit it is recommended that the majority will be carried out with interactive lessons in a real, practical environment. Learners must be given the opportunity to deal with a range of different scenarios/situations and a range of species which reflects current industry practice.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Animal Handling and Physical Restraint	CRC Press, Florida Chastain, C.B., 2017.
Practical Animal Handling.	Pergamon Press, Aberdeen Anderson, R.S., & Edney, A.T., 1991.
ATTA Manual for the Transportation of Live Animals	Animal Transportation Association, 2000.
UFAW Handbook on the Care and Animals of Laboratory Animals	Poole, T.
Practical Veterinary Nursing.	BSAVA, Cheltenham Simpson, G., 1994.
Small Animal Care and Management	2nd edition. Albany, NY Warren, D., 2001.
BSAVA Manual of Farm Pets.	BSAVA: Gloucester. Roberts, V & Scott-Park, F. 2008

Websites

Animal Welfare Act	**www.legislation.gov.uk**
Department of Agriculture, Environment and Rural Affairs (Northern Ireland)	**www.daera-ni.gov.uk**
Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
RSPCA	**www.rspca.org.uk**
Scottish Executive Environment and Rural Affairs Department	**www.scotland.gov.uk**
Welsh Assembly Government	**www.wales.gov.uk**

Unit 229   Assist with the exercise of animals

Level:	1
GLH	50

What is this unit about?

This unit aims to provide learners with an understanding of the principles of exercising animals.

This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or further education and training.

This unit covers the basics of undertaking and completing exercise regimes of an animal and selecting appropriate equipment to do so. The learner will be able to make adequate safety checks where appropriate and select suitable PPE before undertaking any tasks.

Learning outcomes

In this unit, learners will be able to
1. Understand the species need for exercise.
2. Select appropriate equipment to exercise an animal.
3. Identify a programme of exercise for a given animal.
4. Prepare an animal for exercise and provide adequate aftercare.

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Learner must cover two of the following:
- Equids (including donkeys)
- Llama/Alpaca
- Rabbits
- Guinea pigs
- Rodents
- Dogs
- Cats

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress. Reference to health and safety legislation, and appropriate standards should be made whenever appropriate throughout delivery of the unit, but there is no requirement for a detailed understanding at this stage.

Learning outcome:

1. Understand the species need for exercise.

Topics:

1.1 The need for exercise.
1.2 Factors affecting exercise program.
1.3 How housing can affect levels of exercise.

In this outcome, learners will be required to recognise the animals exercise requirements. Learners should be encouraged to work with at least two species, with the emphasis on safe working. Guidance should be given regarding selection of PPE but learners will be expected to develop some autonomy as the unit progresses.

Topic 1.1
The need for exercise:
- Health benefits
- Reducing boredom
- Exhibiting natural behaviours
- Mental stimulation

Topic 1.2
Factors affecting exercise programs:
- Age
- Gender
- Pregnancy
- Weight
- Illness
- Environment

Topic 1.3

How housing can affect levels of exercise:
- Free range
- Internal housing
- External housing
- Size of housing
- Access to natural terrain
- Ability to forage

Learning outcome:

2. Select appropriate equipment to exercise an animal.

Topics:

2.1 Types of equipment needed to exercise an animal.
2.2 Safety measures
2.3 Applying appropriate equipment to an animal.

In this outcome, learners will be required to demonstrate the procedure for selecting and safely applying equipment needed to exercise an animal. Learners should be encouraged to work with a range of animals, with the emphasis on safe working and dealing with consideration.

Topic 2.1

Types of equipment appropriate to species:
- Head collar
- Lead rope
- Lunge
- Walkers
- Collar
- Lead
- Reins
- Harness
- Wheels
- Gauntlet

Topic 2.2

Safety measures to be taken:
- Closing doors and gates
- Adequate fencing
- Surface type
- Possible litter
- Security of equipment
- Checking equipment
- Recognising abnormal animal behaviours

Topic 2.3

Apply appropriate equipment to an animal with consideration of its:
- Welfare
- Safety
- Fit

Learning outcome:

3. Identify a programme of exercise for an animal.

Topics:

3.1 Frequency of exercise.
3.2 Intensity of exercise.
3.3 Creating a suitable exercise programme.

In this outcome, learners will be required to create an exercise programme for two species of animals to benefit their welfare. This programme should take into account external factors affecting exercise, necessary safety measures and be in accordance with the species need for exercise.

Topic 3.1
The frequency of exercise necessary for a given species:
- Daily
- Weekly
- Monthly
- Seasonally

The frequency of exercise to factors that may affect exercise suitability.

Topic 3.2
The levels of intensity animals should be exercised at:
- Duration
- Speed
- Intervals

The intensity to the animal's current housing, weight and any factors that may affect its ability to exercise.

Topic 3.3
Exercise programme suitable for an individual animal:
- Time period
- Development and improvement in the animal's fitness
- Provision of enrichment

Format of the programme:
- Timeline
- Booklet
- Report
- Poster

Learning outcome:

4. Prepare an animal for exercise and provide adequate aftercare.

Topics:

4.1 Prepare an animal for exercise.
4.2 Exercise an animal.
4.3 Provide suitable aftercare for the exercised animal.

In this outcome, learners will be required to prepare the animal for exercise, undergo exercise and provide aftercare for at least TWO species of animal. Theoretical and practical delivery should encourage learners to relate their practical experience with the care they provide for the animals and their handling expertise. Learners should be encouraged to work safely with a range of animals whilst paying attention to their welfare.

Topic 4.1
Preparing a given animal for exercise:
- Selecting and applying Personal protective equipment (PPE)
- Grooming and/or checking the animal.
- Selecting and applying leading equipment.
- Completing the necessary safety checks.

Topic 4.2
Under supervision exercising animals following procedures and using appropriate handling techniques and equipment.

Topic 4.3
Provision of appropriate aftercare to an animal:
- Washing/grooming
- Checking the animal for any injury
- Cleaning out internal or external housing
- Safely returning the animal back to its housing with regard to its welfare.

Guidance for delivery

This unit is designed to provide learners with the skills to exercise and care for at least two species of animal with detailed knowledge about their requirements and welfare needs.

Throughout the unit, the emphasis should be on safe working. It is expected that learners will be aware of safe working practices and familiar with accepted practices and behaviours with the context in which they are working.

Activities should be supervised and, at Level 1, it is likely that learners will be doing tasks under direction, assistance and with prior demonstration.

Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant experience to the learner. Visits to veterinary hospitals and talks from veterinary nurses may benefit the learners and broaden their knowledge.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Horse handling and grooming.	North Adams: Storey Publishing. Hill, C., Kimesh, R. 1997
Llama and Alpaca Care.	Elsevier Health Sciences. Cebra, C, *et al.* 2014.
Small animal care and management.	Cengage Learning. Warren, D. 2002.
The dog handbook.	Barrons Educational Series. Rice, D. 1999.
Cat Care: nutrition, exercise, grooming and more.	Raintree. Bacon, C. 2017.
The Ultimate Encyclopedia of Aquarium Fish and Fish Care.	Hermes House. Bailey, M., Sandford, G. 2001.
The complete guide to bird care.	Howell Book House. Alderton, D. 1998.
Exotic animal care and management.	Cengage Learning. Judah, V., Nuttal, K. 2016.

Unit 230

Assist with the preparation for the exercise and aftercare of horses

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to provide the learner with the knowledge, understanding and skills required to care for horses before and after exercise. This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector, or further education and training.

This unit covers the fundamentals of grooming a horse before and after exercise, tacking and un-tacking horses, daily care of tack and clothing and appropriately rugging a horse. Learners will be able to select, fit and remove basic tack and clothing suitable for an exercising horse.

Learning outcomes

In this unit, learners will be able to

1. Undertake routine stable duties.
2. Groom horses before and after exercise.
3. Tack-up and un-tack horses.
4. Undertake daily tack and clothing care.
5. Put on and remove rugs.

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress. Learners should be completing tasks in industry recognised times.

Learning outcome:

1. Undertake routine stable duties.

Topics:

1.1 Clean and maintain a stable.
1.2 The use of different types of bedding.
1.3 Maintaining a muck heap.

Topic 1.1

Cleaning and maintaining a stable:

- Full muck out of a straw or shavings stable.
- Using utensils such as a straw fork, shavings fork, shovel, broom and wheelbarrow.
- Removal of wet and droppings.
- Banking the bedding.
- Sifting the clean bedding.
- Put a bed down so it has adequate depth, banks and looks presentable.
- Provide fresh forage and water to a horse.
- Skip out and level a bed.

The safety aspects and implications throughout the process.

Topic 1.2

Types of bedding and evaluate their use:

- Straw
- Shavings
- Paper
- Rubber matting
- Aubiose/Hemp
- Wood pellets

Topic 1.3

Maintaining a muck heap and the surrounding area:

- Forking back
- Compacting down
- Creating levels/steps
- Sweeping the surrounding area
- Tidying away tools and equipment

Learning outcome:

2. Groom horses before and after exercise.

Topics:

2.1 Content of a grooming kit.
2.2 Groom a horse before exercise.
2.3 Groom a horse after exercise.

Topic 2.1

Grooming kit items and their use:
- Body brush
- Dandy brush
- Metal curry comb
- Plastic curry comb
- Rubber curry comb
- Hoof pick
- Stable rubber
- Sponges (face, body and dock)
- Water brush
- Magic brush
- Flick brush

Topic 2.2

Full groom using suitable equipment for a stabled/grass kept horse whilst demonstrating safe working practices.

Pick out feet and check of before work whilst demonstrating safe working practices.

Topic 2.3

Grooming a horse after exercise:
- Suitably wash a horse down to remove sweat.
- Groom a horse with suitable equipment.
- Return a horse to its stable safely.

Learning outcome:

3. Tack-up and un-tack horses.

Topics:

3.1 Tack up a horse before exercise.
3.2 Un-tack a horse after exercise.
3.3 Storing tack and clothing.

Topic 3.1

Applying and fitting:
- Snaffle bridle with cavesson noseband.
- General purpose saddle with leather/synthetic girth.

- Full, shaped and half-pad numnahs.

Topic 3.2

Un-tacking a horse after exercise:
- Remove a snaffle bridle and general purpose saddle.
- Demonstrate safe working practices and be conscious of horse welfare at all times.

Topic 3.3

Storing tack and clothing:
- Return a general purpose saddle to a saddle rack with stirrups and girth suitably secured.
- Secure and hang a bridle suitably on a hook.
- Place numnahs in a suitable position to allow them to dry.

Learning outcome:

4. Undertake daily tack and clothing care.

Topics:

4.1 Understand the need to undertake daily care of horse tack and clothing.
4.2 Take apart and re-assemble snaffle bridles and general purpose saddles.
4.3 Strip clean tack.

Topic 4.1

Daily care of horse tack and clothing:
- Storage
- Cleaning
- Safety checks
- Suitable environments

The reasons for cleaning saddles and bridles.

The need to keep leather supple and safe.

Safety considerations when maintaining equipment.

Equipment required for the cleaning of tack.

The tack cleaning process.

The care of different materials and equipment:
- Leather
- Synthetic
- Fabrics

Topic 4.2

Taking apart and re-assemble snaffle bridles and general purpose saddles:

- Take apart a bridle in a suitable order and recognise the current fit markers.
- Re-assemble a bridle in a logical order, correctly and with regard to the horse's welfare.
- Take apart a saddle to include numnahs, stirrup leathers, irons and treads, buckle guards and removable knee/thigh rolls.

Topic 4.3

Strip cleaning tack:
- Select cleaning equipment to include leather soap/conditioner, synthetic cleaning agents and oil.
- Acquire equipment needed to clean tack including sponges, warm water, a cloth for the metal work and suitable hooks/racks.
- Clean leather and metal work with suitable equipment whilst checking for safety and maintenance issues.
- Dry leather and metal work appropriately.

Learning outcome:

5. Put on and remove horse rugs.

Topics:

5.1 Types of indoor, outdoor and exercise rugs.
5.2 Putting on and securing rugs with regard to horse welfare and safety.
5.3 Removing rugs in regard to horse welfare and safety.
5.4 Maintaining and storing rugs.

Topic 5.1

Types of indoor, outdoor and exercise rugs.

The types use, material and maintenance.

The purpose of different rug fastenings in relation to horse safety.

Topic 5.2

Putting on and securing industry recognised rug types for stabled, grass kept and at work horses:
- Secure the horse.
- Fold and tie the straps accordingly.
- Safely place the rug on the horse in relation to its welfare.
- Secure the fastenings in the safest way possible.

Topic 5.3

Removing rugs in regards to horse safety and welfare:
- Secure the horse.
- Undo straps in an appropriate order.
- Fold and remove the rug whilst regarding the horse's welfare.

Topic 5.4

Maintaining indoor and outdoor rugs:
- Washing indoor rugs in suitable detergent.
- Re-proofing outdoor rugs in suitable solutions.
- Drying wet rugs.
- Appropriately storing rugs that are in-use and rugs that are not in use.

Guidance for delivery

This unit is designed to provide the learner with sound knowledge and skills required to safely and effectively care for a horse before and after exercising as well as maintaining its tack, equipment and clothing.

Throughout the unit, there will be an emphasis on safe working practices. It is expected that learners are aware of safety and familiar with accepted behaviour within the context in which they are working.

It is important that learners are given clear instruction on the importance of health and safety when working around horses. An understanding of animal behaviour is important as horses are large and can sometimes be unpredictable. Correct handling techniques are important, particularly in terms of approaching, securing and maintaining confidence around horses. Also it is important to know how horses might behave differently in the stable compared to the field.

Activities should be supervised and, at Level 1, learners should be doing tasks under direction and/or having assistance.

Learners working towards level two are expected to have some prior knowledge and experience of fitting horse tack and equipment. This unit aims to give the learner fundamental knowledge and practical skills involved when caring for a horse before and after exercise. Emphasis should be placed on practical work but elements of theory and justification of procedures should be expected. It is anticipated that work within this unit links to other units where opportunities exist within routine care and riding units to use equipment within a practical context.

Learners must be given the opportunity to work with a range of horses and equipment in different but safe and monitored situations, which reflects current industry practice. The importance of health and safety and the welfare of animals are important throughout this unit.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with grooming practices and adequate care of the competition horse.

Suggested learning resources

Books

The BHS Complete Training Manual for Stage	Kenilworth Press Ltd. ISBN 1905693207 Auty I and Linington-Payne M. 2008.
The Complete Guide to Horse Care (Practical Handbook).	Lorenz Books ISBN 0754800200 Draper J. 1999.

Unit 231   Exercise horses under supervision

Level:	1
GLH	50

What is this unit about?

This unit aims to provide learners with an understanding of the principles of riding horses on the flat and how these can be applied in practice. This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or further education and training.

This unit covers the basics of riding horses on the flat. The learner will be able to make adequate safety checks and select suitable PPE before mounting. The learner will demonstrate a balanced riding position in walk, trot and canter.

Learning outcomes

In this unit, learners will be able to
1. Demonstrate safety checks and safe horse handling procedures.
2. Mount and dismount a horse under supervision.
3. Ride a horse in an enclosed space.

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress. Reference to health and safety legislation, and appropriate standards should be made whenever appropriate throughout delivery of the unit, but there is no requirement for a detailed understanding at this stage.

Learning outcome:

1. Demonstrate safety checks and safe horse handling procedures.

Topics:

1.1 Procedure for leading a horse to an arena.
1.2 Personal protective equipment (PPE) needed for riding.
1.3 Safety checks made before mounting.
1.4 Rules of the school.

In this outcome, learners will be required to demonstrate the necessary safety checks to be made before and followed when riding a horse. Learners should be encouraged to work with a range of horses, with the emphasis on safe working and dealing with horses with consideration. Guidance should be given regarding selection of PPE but learners will be expected to develop some autonomy as the unit progresses.

Topic 1.1
The procedure for leading a horse to an arena:
- Position of handler
- Positioning of reins
- Turning horses

Topic 1.2
Personal protective equipment (PPE) needed for riding:
- Riding hat in line with current accepted standards
- Gloves
- Long or short riding boots (with chaps)
- Jodhpurs
- Back protector/Air jacket (if suitable)

Topic 1.3
The safety checks made before mounting:
- Saddle positioning
- Bridle positioning
- Girth tension
- Stirrup length
- Position in accordance with other horse and riders

Topic 1.4

the rules of the school:
- Passing other riders
- Chosen track dependent on current pace
- The procedure for entering the arena
- The procedure for overtaking another rider
- The procedure for leaving an arena

Learning outcome:

2. Mount and dismount a horse under supervision.

Topics:

2.1 Mounting horses under supervision.
2.2 How to dismount a horse under supervision.
2.3 The procedure for returning a horse to a stable after exercise.

In this outcome, learners will be required to demonstrate the procedure for mounting and dismounting horses as well as justifying their actions. Learners should be encouraged to work with a range of horses, with the emphasis on safe working and dealing with horses with consideration.

Topic 2.1
Mount horses under supervision:
- From the ground.
- From a mounting block.
- Receiving a leg up.
- Adjusting girth tension when mounted.
- Adjusting stirrup length when mounted.

Topic 2.2
How to dismount a horse under supervision:
- Positioning of the horse.
- Dismounting technique.

Topic 2.3
The procedure for returning a horse to a stable after exercise:
- Running up stirrups.
- Loosening the girth.
- Leading in-hand.
- Leading into a stable.
- Securing the horse before untacking.

Learning outcome:

3. Ride a horse in an enclosed space.

Topics:

3.1 Maintaining a balanced riding position.
3.2 Riding basic school movements.
3.3 The aids for upward and downward transitions in halt, walk, trot and canter.
3.4 Ride a horse over ground poles.

Depth section:

In this outcome, learners will be required to demonstrate the procedure for riding horses under supervision. Demonstration of school figures and riding position are imperative throughout the unit. Theoretical and practical delivery should encourage learners to work safely with a range of horses whilst paying attention to their welfare.

Topic 3.1

Maintaining a balanced riding position:
- Even distribution of weight.
- Balanced seat in the centre of the saddle.
- Awareness of correct alignment (ear, shoulder, hip, heel).
- Core stability.
- Ability to lengthen and shorten reins.
- Working without stirrups in walk and trot.

Topic 3.2

Riding basic school movements:
- Riding corners
- 20m circles
- Changes of rein across the diagonal
- Riding the centre line
- Figures of eight
- Three loop serpentines
- Working in a closed and open order.

Topic 3.3

The aids for upward and downward transitions:
- Maintaining rein contact
- Applying co-ordinated aids
- Maintaining a balanced position
- Recognising the correct diagonal in trot
- Recognising the correct canter lead

Topic 3.4

Working over poles:
- Working over poles in walk and trot.
- Maintaining a balanced, light seat.
- Riding different horses over poles in a balanced, light seat at walk and trot.

Guidance for delivery

This unit is designed to provide learners with the skills to prepare a horse for ridden work and to ride a horse suitable for level 1 learners on the flat. The horse should be quiet to ride in walk, trot and canter and be able to perform basic school figures. The horse should be used to working individually and as part of a group.

Throughout the unit, the emphasis should be on safe working. It is expected that learners will be aware of safe working practices and familiar with accepted practices and behaviours with the context in which they are working.

Activities should be supervised and, at Level 1, it is likely that learners will be doing tasks under direction, assistance and with prior demonstration.

Learners working at Level 1 may be unlikely to have previous experience and high levels of confidence. Time must be made to encourage less able and/or confident learners to achieve and an allowance should be made for more competent learners to develop their skills further. Centres should be aware that a range of suitable horses should be available to cater for the variety of learners at this level.

Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant experience to the learner. Visits to competitions and/or relevant events would add depth to the learner experience as well as centre run shows to illustrate their ability.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

BHS Manual of Equitation: Fully Revised and Illustrated Edition.	Kenilworth Press. The British Horse Society. 2006.
Complete Horse Riding Manual.	Kenilworth Press. Micklem, W. 2003
Rider's Aids (Cadmos Horse Guides)	Hagen A
First Steps in Dressage (Cadmos Horse Guides)	Hagen A

Unit 232   Maintain the health of horses

Level:	1
GLH	50

What is this unit about?

This unit aims to provide learners with an understanding of the principles of maintaining the health of both stabled and grass kept horses. This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or further education and training.

This unit covers the basics of completing care routines for sick horses, maintaining the health of well horses and treating common ailments. The learner will be able to make adequate safety checks where appropriate and select suitable PPE before undertaking any tasks. The learner will demonstrate their ability to recall the principles of caring for horses in a practical environment.

Learning outcomes

In this unit, learners will be able to
1.   Identify signs of good and poor health.
2.   Undertake basic health checks.
3.   Recognise and treat common ailments.
4.   Care for the sick horse.

Scope of content

This section gives details of the scope of content to be covered in the teaching of the unit to ensure that all the learning outcomes can be achieved.

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress. Reference to health and safety legislation, and appropriate standards should be made whenever appropriate throughout delivery of the unit, but there is no requirement for a detailed understanding at this stage.

Learning outcome:

1. **Identify signs of good and poor health.**

Topics:

1.1 Signs of good health.
1.2 Signs of poor health.
1.3 The purpose of health checks.
1.4 The need for routine care.

In this outcome, learners will be required to recognise the signs of a healthy and unhealthy horse as well as understanding the purpose of routine care and regular health checks. Learners should be encouraged to work with a range of horses, with the emphasis on safe working and dealing with horses with consideration. Guidance should be given regarding selection of personal protective equipment (PPE) but learners will be expected to develop some autonomy as the unit progresses.

Topic 1.1
Signs of good health:
- Temperature
- Pulse
- Respiration
- Coat and skin condition
- Normal food and water intake
- Normal levels of excretion
- Common behaviour over the stable door

Topic 1.2
Signs of poor health:
- Temperature
- Pulse
- Respiration
- Overweight or underweight horses
- Coat and skin condition
- Abnormal food and water intake
- Abnormal levels of excretion
- Unusual behaviour over the stable door

Topic 1.3

The purpose of health checks:
- Behaviour
- Appearance of eyes, ears, nose, mouth/ teeth, mucous membranes
- Appearance of coat, limbs/feet
- Faeces and urine
- Normal parameters for temperature, respiration and pulse to include correct procedure for taking these.

Topic 1.4
The need for routine care:
- Foot care and shoeing.
- Dental care.
- Vaccinations.
- Worming.

At this level, learners should state the need for each routine care procedure but are not expected to know the detailed knowledge and reasoning behind them.

Learning outcome:

2. Undertake basic health checks.

Topics:
2.1 How to monitor and record basic health checks.
2.2 Monitoring and recording health checks on a horse.

In this outcome, learners will be required to demonstrate the procedure for carrying out routine health checks. Learners should be encouraged to work with a range of horses, with the emphasis on safe working and dealing with horses with consideration.

Topic 2.1
How to monitor and record basic health checks:
- Identifying features.
- Date of observation.
- Time of observation.
- Frequency of observation.
- General demeanour.
- Exhibited behaviour.
- Recognising water and food intake.
- Identifying levels of excretion.
- Temperature Pulse Respiration (TPR).

Topic 2.2
Monitoring and recording health checks on a horse under supervision on a set form or template:
- Temperature
- Pulse
- Respiration
- Coat and skin condition
- Normal food and water intake
- Normal levels of excretion

- Common behaviour over the stable door
- General demeanour

Learning outcome:

3. Recognise and treat common ailments.

Topics:

3.1 Checking a horse for injury.
3.2 Common ailments.
3.3 Treatment methods for common ailments.

In this outcome, learners will be required to demonstrate the procedure for checking, identifying and treating common ailments in horses. Demonstration of what to do in given scenarios will be imperative to the learners understanding of wound treatments. Theoretical and practical delivery should encourage learners to work safely with a range of horses whilst paying attention to their welfare.

Topic 3.1
Checking a horse for injury:
- Field kept horses.
- Stable kept horses.
- Undertaking a trot-up.
- The importance of checking legs daily.
- The importance of hosing legs in the winter.
- Recognising abnormal behaviours.

Topic 3.2
Common ailments visually from a description of the signs and symptoms:
- Types of wounds:
  o Incision
  o Puncture
  o Laceration
  o Graze
  o Contusion
- Skin conditions:
  o Mud fever
  o Hives
  o Rain scald
  o Sweet itch
  o Ring worm
- Recognising the signs and symptoms of:
  o Colic
  o Laminitis

Topic 3.3
The treatment methods for common ailments:
- Treating open wounds.
- Treating skin conditions.
- Basic restraint techniques.

- Recognising the importance of hygiene and waste disposal.
- Knowing when to call the vet.

Learning outcome:

4. Care for the sick horse

Topics:

4.1 Maintaining normal bodily parameters.
4.2 The importance of adequate stabling and bedding.

In this outcome, learners will be required to state the need for routine care of a sick horse. This should include undertaking health checks and maintaining an optimal environment. Theoretical and practical delivery should encourage learners to relate their practical experience with the care they provide for the horses. Learners should be encouraged to work safely with a range of horses whilst paying attention to their welfare.

Topic 4.1
How to maintain and monitor the horse's normal parameters:
- Temperature
- Pulse
- Respiration
- Signs of a horse being unwell.
- Appropriately rugging the sick horse.

Topic 4.2
The importance of adequate stabling and bedding:
- Bedding for comfort and warmth.
- Stating the importance of adequate ventilation and clean air.
- Monitoring the horse at regular intervals to report any changes.
- Providing adequate food and water provisions and monitoring intake and excretion.

Guidance for delivery

This unit is designed to provide learners with the skills to maintain the healthy horse and undertake regular care of the sick horse. Learners should pay special attention to the horse's welfare and daily requirements.

Throughout the unit, the emphasis should be on safe working. It is expected that learners will be aware of safe working practices and familiar with accepted practices and behaviours with the context in which they are working.

Activities should be supervised and, at Level 1, it is likely that learners will be doing tasks under direction, assistance and with prior demonstration.

Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant experience to the learner. Visits to veterinary hospitals and talks from veterinary nurses may benefit the learners and broaden their knowledge.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Veterinary notes for horse owners.	18th Edition. London: Ebury Press. Hayes MH and Knightbridger R. 2002.
The BHS Veterinary Manual	2nd edition. London: Kenilworth Press Hastie, S. 2012.

Unit 233   Introduction to Production Livestock and Breeds

Level:	1
GLH	50

What is this unit about?

The aim of this unit is to introduce the learner to a variety of production livestock species and breeds (native, continental, rare and minority).

Upon successful completion of this unit, the learner will be able to identify a variety of different breeds of farm livestock and have knowledge of a range of production systems that the different breeds can be utilised for, whilst being able to assist with the daily care of the animals and providing a high standard of animal welfare.

Learning outcomes

In this unit, learners will be able to
1. Identify breeds of farm livestock
2. Know different production systems
3. Understand health and welfare requirements
4. Complete production tasks on farm animals

Scope of content

Identification of livestock breeds and their different uses within production is an important aspect of understanding the reasons for breed selection. This unit covers a range of species and breeds that are commonly found in UK production systems and will highlight the specific roles that are played by native, continental, rare and minority breeds used in farm production systems.

This unit covers farmed livestock and is appropriate for the agricultural and animal route. This unit should cover TWO or more of the following species:

- Cattle (Beef and dairy breeds)
- Sheep
- Pigs
- Goats
- Poultry

Throughout the unit, the emphasis should be on safe working. It is expected that the learners are guided towards safe working practices and maintaining the welfare of the animals by recognising and minimising stress.

Learning outcome:

1. **Identify breeds of farm livestock**

Topics:

1.1 Products from types of animal
1.2 Breeds

Topic 1.1

Typical farm animal products produced on UK farms and applicable UK legislation:
- Beef - Meat, breeding
- Dairy - Milk, cheese production, breeding
- Sheep - Meat, breeding, milk, wool
- Pigs - Meat, breeding
- Goats - Milk, meat, breeding
- Poultry - Meat, eggs, breeding

Legislation:
- Animal Welfare Act 2006
- The Welfare of Farmed Animals (England) Regulations 2007 (as amended)

Topic 1.2

This topic will allow the learner to identify different breeds and their classification as well as understanding the difference between native, continental and the rare and minority breeds that are found in the UK.

Breeds:
- Beef Cattle– Native (Aberdeen Angus, Hereford, Shorthorn, Welsh Black, Sussex, Devon), Continental (Limousin, Simmental, Charolais, Blonde

D'Aquataine/British Blonde, Belgian/British Blue), Rare & Minority (British White, Whitebred Shorthorn, Lincoln Red original population)

- Dairy Cattle- Native (Dairy Shorthorn, Jersey, Guernsey, Ayrshire) Continental (Holstein), Rare & Minority (Gloucester, Northern Dairy Shorthorn)
- Sheep – Native (Suffolk, Jacob, Herdwick, Swaledale, Lleyn, Scottish Blackface, Welsh Mountain and Leicester) Continental (Texel, Beltex, Charollais, Bleu de Maine), Rare & Minority (Cotswold, Norfolk Horn, Manx Loaghton, Wensleydale)
- Pigs – Native *"See Rare & Minority"*, Continental (Duroc, Pietrain, Landrace) Rare & Minority (Large White, Saddleback, Gloucester Old Spot, Tamworth, Oxford Sandy and Black, Berkshire)
- Goats – Native *"See Rare & Minority"*, Continental (Saanen Toggenburg, Alpine, Boer) Rare and Minority (Bagot, Golden Guernsey)
- Poultry – Chickens, Ducks, Geese, Turkeys

Learning outcome:

2. Know different production systems

Topics:

2.1 Intensive, semi-intensive and extensive
2.2 Indoor, outdoor and conservation

Topic 2.1

The decision to use specific species and breeds within UK production systems will either be a personal choice or business led to maximise production.

The links between production system and species/breed choice and this topic will highlight the reasoning behind the selection process.

Intensive/Semi–intensive/extensive production:

- Common production systems in the UK
  - Zero grazing
  - Extensive grazing
  - Barley beef
  - Robotic milking
  - Organic
  - Stratified sheep system
  - Outdoor pig production
  - Intensive pig production
  - Cage systems (poultry)
  - Free range (poultry)

- Species/Breed matching production systems
  - Growth
  - Yield
  - Hardiness
  - Health
  - Welfare

Topic 2.2

The aspects and links to breed choice that allow farmers to carry out the specific activity for:
- Indoor
- Outdoor
- Conservation

Learning outcome:

3. Understand health and welfare requirements

Topics:

3.1 Five Animal Needs
3.2 Signs of Good Health
3.3 Signs of Poor Health

Topic 3.1

The knowledge of the basic needs of any farmed animal gives the learner the basis to increase their skills for the care of livestock in the working environment and should be practiced throughout this unit. An understanding of Welfare legislation and DEFRA Codes of Recommendations for the Welfare of Livestock should be introduced when delivering this topic.

Five Animal Needs:
- Need for a suitable environment.
- Need for a suitable diet.
- Need to be able to exhibit normal behaviour patterns.
- Need to be housed with, or apart, from other animals.
- Need to be protected from pain, suffering, injury and disease

Topic 3.2

Identifying any sign of good health in farm animals will allow learners to increase observational skills, stockperson skills and animal welfare in the animals that they are working with.

Signs of Good Health
- Clear, alert, bright eyes
- Feeding/cudding regularly
- Good coat/skin condition
- Good Posture
- Normal Movement
- Normal dung/urine (i.e. not scouring or showing blood)
- Normal breathing and temperature

Topic 3.3

The effects of poor health not observed any farm animal will result in lower production, spread of illness/disease or death. As with topic 3.2, the learner must be able to state the common signs of poor health in the livestock that they are working with.

Signs of Poor Health:
- Poor posture/movement, lameness
- Poor coat/skin condition
- Lowered production levels
- Sign of injury/swelling
- Sunken eyes
- Lack of interest in feeding
- Irregular dung/urine (i.e. scours, blood present)

Learning outcome:

4. Complete production tasks on farm animals

Topics:

4.1 Feeding and watering
4.2 Handling and moving of farm animals
4.3 Maintaining housing
4.4 Maintain and monitor livestock in outdoor sites

Topic 4.1

Assisting with the feeding and watering of a range of farm livestock to ensure correct production levels.

Topic 4.2

Handling and moving of farm livestock is fundamental to all production systems and learners should show a good level of awareness when carting out any form of handling. Health, safety and welfare will be linked to the tasks set and risk assessments should be completed for any task set.

- Use correct methods of restraint
- Moving individual animals
- Moving a group of animals
- Applying a halter
- Using handling equipment to complete specific tasks

Topic 4.3

Basic routine tasks for the welfare of farm animals to complete daily routines:
- Providing bedding
- Cleaning and disinfection of areas
- Securing areas, following farm procedures
- Removing unwanted waste and adhere to environmental regulations of disposal

Topic 4.4

Visual checks on grazing livestock and the field boundaries:
- Health checks
- Quality of feed available
- Potential escape routes in boundaries

Guidance for delivery

This unit is designed to provide the learner with an introduction to the knowledge and skills required to enable them to identify a variety of breeds and specific usage for each. The unit should cover a range of species and as a minimum, two from the range. There should be a focus on differences between high numeric breeds and rare and minority breeds, providing the learner with an understanding of breeds that have become increasingly utilised within the UK's farming systems. The increasing use of rare and minority breeds will be linked to production and examples of niche markets should be identified. The unit should be delivered in conjunction with a working farm, visits or relevant work experience placement. This would ensure that the learner experiences a variety of routine farm activities on a regular basis and see different types of production.

Throughout the unit, the emphasis should be on safe working. It is expected that learners will be aware of safe working practices and familiar with accepted practices and behaviours within the context in which they are working.

Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant information to the learner. Teaching would also benefit from visits to a variety of establishments to add depth to the learner experience.

It is accepted that some formal lectures will be necessary at level 1 but for this unit it is recommended that they are directly linked to interactive sessions in a real environment. Learners must be given the opportunity to deal with a range of animals in different situations which reflects current industry practice.

Employer engagement

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the centre has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Suggested learning resources

Books

Practical Cattle Farming	Published by Crowood Press ISBN: 9-781-86126-975-1 Bazeley, K, 2007
Practical Sheep Keeping	Published by Crowood Press ISBN: 1-861-26163-2 Cardell, K, 2006
The Sheep Book: A Handbook for the Modern Shepherd	Published by Ohio Press ISBN: 9-780-80401-032-0 Parker, R, 2001
Practical Pig Keeping	Published by Crowood Press ISBN: 9-781-86126-388 Smith, P, 2001

Journals and magazines

Farmers Weekly
Farmers Guardian
Smallholder
The Ark (RBST Publication)

Websites

Department for Environment, Food and Rural Affairs	**www.defra.gov.uk**
Welsh Assembly Government	**www.wales.gov.uk**
Scottish Executive Environment and Rural Affairs Department	**www.scotland.gov.uk**
Department of Agriculture, Environment and Rural Affairs (Northern Ireland)	**www.daera-ni.gov.uk**
Rare Breeds Survival Trust	**www.rbst.org.uk**

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 C**entres and Training Providers homepage** on **www.cityandguilds.com**.

City & Guilds Centre Manual

This document provides guidance for organisations wishing to become City & Guilds approved centres, as well as information for approved centres delivering City & Guilds qualifications. It covers the centre and qualification approval process as well as providing guidance on delivery, assessment and quality assurance for approved centres.

It also details the City & Guilds requirements for ongoing centre and qualification approval, and provides examples of best practice for centres. 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 and malpractice
- Complaints and appeals
- Equal opportunities
- Data protection
- Management systems
- Maintaining records
- Assessment
- Internal quality assurance
- External quality assurance.

Our Quality Assurance Requirements

This document explains the requirements for the delivery, assessment and awarding of our qualifications. All centres working with City & Guilds must adopt and implement these requirements across all of their qualification provision. Specifically, this document:

- specifies the quality assurance and control requirements that apply to all centres
- sets out the basis for securing high standards, for all our qualifications and/or assessments
- details the impact on centres of non-compliance

Our Quality Assurance Requirements encompasses the relevant regulatory requirements of the following documents, which apply to all UK centres working with City & Guilds:

- General Conditions of Recognition
- SQA Accreditation's Regulatory Principles

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.

Useful contacts

UK learners General qualification information	**T: +44 (0)844 543 0033** **E: learnersupport@cityandguilds.com**
International learners General qualification information	T: +44 (0)844 543 0033 F: +44 (0)20 7294 2413 **E: intcg@cityandguilds.com**
Centres Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 **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	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 F: +44 (0)20 7294 2404 (BB forms) **E: singlesubjects@cityandguilds.com**
International awards Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 **E: intops@cityandguilds.com**
Walled Garden Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 **E: walledgarden@cityandguilds.com**
Employer Employer solutions, Mapping, Accreditation, Development Skills, Consultancy	T: +44 (0)121 503 8993 **E: business@cityandguilds.com**
Publications Logbooks, Centre documents, Forms, Free literature	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413

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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.

City & Guilds Group

The City & Guilds Group operates from three major hubs: London (servicing Europe, the Caribbean and Americas), Johannesburg (servicing Africa), and Singapore (servicing Asia, Australia and New Zealand). The Group also includes the Institute of Leadership & Management (management and leadership qualifications), City & Guilds Licence to Practice (land-based qualifications), the Centre for Skills Development (CSD works to improve the policy and practice of vocational education and training worldwide) and Learning Assistant (an online e-portfolio).