

City & Guilds Level 3 Advanced Technical Diploma in Animal Management (0172-31)

September 2023 Version 3.9

(For delivery from September 2023)

Qualification Handbook

Qualification at a glance

Industry area	Animal Care
City & Guilds qualification number	0172-31
Age group	16-19 (Key stage 5), 19+
Entry requirements	Centres must ensure that any pre-requisites stated in the What is this qualification about? section are met.
Assessment	<p>To gain this qualification, candidates must successfully achieve the following assessments:</p> <ul style="list-style-type: none"> • One externally set, internally marked, externally moderated synoptic assignment • Two externally set, externally marked exams, sat under examination conditions • One externally set, internally marked and externally verified exam • One portfolio of evidence • Optional unit assessments, externally set, internally marked, externally verified
Additional requirements to gain this qualification	Employer involvement in the delivery and/or assessment of this qualification is essential for all candidates and will be externally quality assured.
Grading	<p>This qualification is graded Pass/Merit/Distinction/Distinction*</p> <p>For more information on grading, please see Section 7: Grading.</p>
Approvals	These qualifications require full centre and qualification approval
Support materials	<p>Sample assessments</p> <p>Guidance for delivery</p> <p>Guidance on use of marking grids</p>
Registration and certification	Registration and certification of this qualification is by the Walled Garden, and is subject to end dates.
External quality assurance	This qualification is externally quality assured by City & Guilds, and its internally marked synoptic assignments are subject to external moderation. Additional internally assessed units / optional assessments are subject to external verification. There is no direct claim status available for this qualification.

Title and level	Size (GLH)	TQT	City & Guilds qualification number	Ofqual accreditation number
City & Guilds Level 3 Advanced Technical Diploma in Animal Management	540	900	0172-31	601/7520/5

Version and date	Change detail	Section
1.1 May 2016	Small typographical errors	Throughout
	TQT added for qualifications	1. Introduction
	Assessment component titles amended	
	Employer involvement guidance updated throughout	4. Employer involvement
	Summary of assessment methods and conditions	5. Assessment
	Moderation and standardisation of assessment updated throughout	6. Moderation and standardisation of assessment
	Awarding individual assessments	7. Grading
	Awarding grades and reporting results	
	Enquiries about results	8. Administration
	Re-sits and shelf-life of assessment results Malpractice Access arrangements and special consideration	
2.0 September 2016	Updated ROC to include unit 318 as optional	1. Introduction
	Updated assessment module numbers	5. Assessment
	Updated unit content for 326 and 327	Units
3.0 December 2016	Updated assessment type for 301 and 306 to centre assessed	1. Introduction 5. Assessment
	Unit 307 updated	Units
	Synoptic assignment component number updated	1. Introduction 5. Assessment
3.1 July 2017	Unit 301 Aim updated	Units
	Addition of the examination paper based module numbers	1. Introduction – Assessment requirements and employer involvement 5. Assessment 5. Assessment – exam Specification 7. Grading – Awarding grades and reporting results
	Removal of AO 6-8 from Synoptic Assignments and the readjusted approximate weightings (only if applicable)	5. Assessment – Assessment Objectives
	Revised Exam Specification, Exam Duration and AO weightings	5. Assessment – Exam Specification
	Addition of Provisional Grade Boundaries for the Synoptic Assignment	7. Grading
	Branding Changes	City and Guilds Logo

3.2 January 2018	Amendment to summary of assessment methods and conditions table	5. Assessment
3.3 November 2018	Summary of assessment methods and conditions amended for unit 301	5. Assessment
3.4 May 2019	Wording changed regarding retakes	5. Assessment – Summary of assessment methods and conditions 8. Administration – Re-sits and shelf-life of assessment results
305 July 2019	Unit content updated to reflect changes in legislation for England only. The Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 2018 has amended or repealed: Performing Animals (Regulation) Act 1925 Pet Animals Act 1951 Animal Boarding Establishments Act 1963 Riding Establishments Act 1964 Breeding of Dogs Act 1973 Dangerous Wild Animals Act 1976 Zoo Licensing Act 1981 Breeding of Dogs Act 1991 Breeding and Sale of Dogs (Welfare) Act 1999	Units 303, 307, 310, 311, 325 and 327
3.7 July 2022	Corrected date for Pet Animal Act Added Microchipping of Dogs regulations	Unit 310 Unit 325
3.8 May 2023	Amended assessment method for unit 301 Component number for assessment component changed from 301 to 300 Clarified moderation and external verification processes Updated website links and references	5 Assessment 5 Assessment 6 Moderation and standardisation of assessment 3 Delivering Technicals qualifications - Support materials 8 Administration
3.9 September 2023	Revision to the exam specification for the health and safety component (300)	5 Exam specification

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1 Introduction

What is this qualification about?

The following purpose statement relates to the **City & Guilds Level 3 Advanced Technical Diploma in Animal Management (540)**.

Area	Description
OVERVIEW	
Who is this qualification for?	This qualification is for you if you are 16 years or older and want to work with animals. It provides you with a range of specialist technical practical skills and knowledge which will equip you to seek employment or further learning and training within the animal care and management industries.
What does this qualification cover?	<p>This qualification gives you the opportunity to study a range of specialist technical practical skills and knowledge that build upon the core skills required to include how to work safely around animals, be responsible for the planning and carrying out animal husbandry health and handling, and feeding and nutrition. You will also learn about animal behaviour, animal breeds and welfare and animal biology. You can then learn further specialist skills such as caring for exotics, birds or fish, or skills for working in a kennels and cattery or a pet store.</p> <p>Centres and providers work with local employers who will contribute to the knowledge and delivery of training. Employers will provide demonstrations and talks on the industry and where possible work placements will also be provided by the employers.</p> <p>This practically based training is ideal preparation for gaining employment in the animal care and management industries or specialist further study.</p>
WHAT COULD THIS QUALIFICATION LEAD TO?	
Will the qualification lead to employment, and if so, in which job role and at what level?	<p>You might progress into the following roles:</p> <ul style="list-style-type: none">• Animal centre assistant• Kennel and cattery worker/supervisor• Animal hospital care assistant• Apprentice in an animal care business🔗 Pet store assistant
Why choose this qualification over similar qualifications?	This is typically a one-year full-time course, or you could take it alongside other Level 3 qualification such as A levels over a two-year period. It equips you with the core skills and knowledge to enter employment in the animal care and management industries and enables progression to a broader range of options than the Technical Certificate. You would take this qualification if you really enjoy the hands-on aspects of working with animals and caring for their needs.

	<p>City & Guilds offers four sizes of Level 3 qualification in Animal Management: Certificate, Diploma (540), Extended Diploma (720) and Extended Diploma (1080).</p> <p>You would take the Certificate if you want an introductory qualification to develop some of the core skills and knowledge required by employers in the animal care and management industries. The Certificate is likely to be taken alongside other programmes such as GCSEs or AS Levels over a one- year course of study.</p> <p>You would take the Diploma (540) if you want a qualification to develop some of the skills and knowledge that can lead to specific roles required by employers in the animal care and management industries. The Diploma is likely to be taken alongside other programmes such as GCSEs or AS Levels over a one-year course of study.</p> <p>You would take the Extended Diploma (720) if you want to specialise, to develop most of the skills and knowledge required by employers in the animal care and management industries. The Extended Diploma (720) is likely to be taken as part of a full-time two year programme of study, or alongside other qualifications such as AS or A Levels over a longer period of time.</p> <p>You would take the Extended Diploma (1080) if you want to specialise and develop the skills and knowledge required by employers in the animal care and management industries. The Extended Diploma (1080) is likely to be taken as a full-time programme of study over two years. By taking this large qualification, you will be exposed to, and have the opportunity to gain experience in, the wider animal care and management sector. This will enable you to progress to a diverse range of employment opportunities, as you will have gained hands-on experience over 2 years, which employers really value</p>
Will the qualification lead to further learning?	<p>You may wish to progress onto an Advanced Apprenticeship in Animal Management, which allows you to combine working in a kennel or cattery, pet store, welfare centre or in a similar business, and typically attending one day a week at college or with a training provider</p> <p>You may wish to progress onto further learning within a Higher Education Institution.</p> <p>You could study courses such as:</p> <ul style="list-style-type: none"> • Animal Management Foundation Degree • BSc (Hons) in Animal Science • BSc (Hons) in Animal Management • BSc (Hons) in Animal Management with Wildlife Conservation

Qualification structure

For the **City & Guilds Level 3 Advanced Technical Diploma in Animal Management (540)** the teaching programme must cover the content detailed in the structure below:

Unit number	Unit title	GLH
Mandatory		
301	Principles of Health and Safety	30
302	Undertake and Review Work Related Experience in the Land- based Industries	30
303	Animal Health and Husbandry	60
304	Animal Feeding and Nutrition	60
305	Animal Behaviour and Communication	60
306	Biological Systems of Animals	60
307	Animal Welfare and Breeding	60
Optional – Learners must be taught at least 180 GLH from units 310, 311, 312, 315, 318, 325-327, 362 or 364		
310	Exotic Animal Health and Husbandry	60
311	Pet Store Design and Management	60
312	Animal Training	60
315	Animal Nursing	60
318	Fundamentals of Science	60
325	Pet Allied Services	60
326	Small Animal Rehabilitation	60
327	Kennel and Cattery Management	60
362	Undertake Estate Skills	60
364	Business Management in the Land-Based Sector	60

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
City & Guilds Level 3 Advanced Technical Diploma in Animal Management	540	900

Assessment requirements and employer involvement

To achieve the **City & Guilds Level 3 Advanced Technical Diploma in Animal Management (540)** candidates must successfully complete **all** the mandatory assessment components **as well as** the optional assessment components for their chosen optional units.

Component number	Title
Mandatory	
030	Level 3 Animal Management - Synoptic assignment (1)
031 or 531	Level 3 Animal Management - Theory exam (1)
300	Level 3 Principles of health and safety – Theory exam (evolve online)
302	Level 3 Undertake and review work related experience in the land- based industries - Portfolio
306	Level 3 Biological systems of animals – Theory exam
Optional	
310	Level 3 Exotic animal health and husbandry - Assignment
311	Level 3 Pet store design and management - Assignment
312	Level 3 Animal training - Assignment
315	Level 3 Animal nursing - Assignment
318	Level 3 Fundamentals of Science - Assignment
325	Level 3 Pet allied services - Assignment
326	Level 3 Small animal rehabilitation - Assignment
327	Level 3 Kennel and cattery management - Assignment
362	Level 3 Undertake estate skills - Assignment
364	Level 3 Business management in the Land-Based sector - Assignment
365	Level 3 Customer care and retail merchandising - Assignment

In addition, candidates **must** complete the mandatory employer involvement requirement for this qualification **before** they can be awarded a qualification grade. For more information, please see guidance in Section 4: Employer involvement.

Employer involvement

Component number	Title
Mandatory	
831	Employer Involvement

2 Centre requirements

Approval

New centres will need to gain centre approval. Existing centres who wish to offer this qualification must go through City & Guilds' **full** Qualification Approval Process. There is no fast track approval for this qualification. Please refer to the City & Guilds website for further information on the approval process: www.cityandguilds.com

Resource requirements

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

Centre staffing

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

- be technically competent in the areas in which they are delivering
- be able to deliver across the breadth and depth of the content of the qualification being taught
- have recent relevant teaching and assessment experience in the specific area they will be teaching, or be working towards this
- demonstrate continuing CPD.

Physical resources

Centres must be able to demonstrate that they have access to the equipment and technical resources required to deliver this qualification and its assessment.

Centres must have access to a range of animal species and have sufficient animals so that animal welfare standards are kept. Assessment of technical skills will be carried out against **both** small and large animals.

Internal Quality Assurance

Internal quality assurance is key to ensuring accuracy and consistency of tutors and markers. Internal Quality Assurers (IQAs) monitor the work of all tutors involved with a qualification to ensure they are applying standards consistently throughout assessment activities. IQAs must have, and maintain, an appropriate level of technical competence and be qualified to make both marking and quality assurance decisions through a teaching qualification or recent, relevant experience.

Learner entry requirements

Centres must ensure that all learners have the opportunity to gain the qualification through appropriate study and training, and that any prerequisites stated in the *What is this qualification about?* section are met when registering on this qualification.

Age restrictions

This qualification is approved for learners aged 16 – 19, 19+.

3 Delivering technical qualifications

Initial assessment and induction

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

- if the learner has any specific learning or training needs,
- support and guidance, they may need when working towards their qualification,
- the appropriate type and level of qualification.

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

Employer involvement

Employer involvement is essential to maximise the value of each learner's experience. Centres are required to involve employers in the delivery of technical qualifications at Key Stage 5 and/or their assessment, for every learner. This must be in place or planned before delivery programmes begin in order to gain qualification approval.

See Section 4: Employer involvement for more detail.

Support materials

The following resources are available for this qualification:

Description	How to access
Sample assessments	Available on the qualification pages on the City & Guilds Website: www.cityandguilds.com
Technical Qualifications: Guide to Teaching, Learning and Assessment	Available on the City and Guilds website: 14-19-teaching-learning-assessment-guide-pdf.ashx (cityandguilds.com)
Quality Assurance Guide for Centres: Technical Qualifications and the Extended Project Qualification (EPQ)	Available on the City and Guilds website: technicals-quality-assurance-guide-for-centres-pdf.ashx (cityandguilds.com)

4 Employer involvement

Employer involvement is a formal component of Key Stage 5 Technical qualifications. It does not contribute to the overall qualification grading, but is a mandatory requirement that all learners must meet. As such it is subject to external quality assurance by City & Guilds.

Department for Education (DfE) requirements state:

Employer involvement in the delivery and/or assessment of technical qualifications provides a clear 'line of sight' to work, enriches learning, raises the credibility of the qualification in the eyes of employers, parents and students and furthers collaboration between the learning and skills sector and industry.

[Technical qualifications] must:

- *require all students to undertake meaningful activity involving employers during their study; and*
- *be governed by quality assurance procedures run by the awarding organisation to confirm that education providers have secured employer involvement for every student.*

Extract from: Vocational qualifications for 16 to 19 year olds, 2017 and 2018 performance tables: technical guidance for awarding organisations, paragraphs 89- 90.

City & Guilds will provide support, guidance and quality assurance of employer involvement.

To be approved to offer City & Guilds technicals, centres must provide an Employer Involvement planner and tracker showing how every learner will be able to experience meaningful employer involvement, and from where sufficient and suitable employer representatives are expected to be sourced.

Centres must include in their planner a sufficient range of activities throughout the learning programme that provide a range of employer interactions for learners.
Centres must also plan contingencies for learners who may be absent for employer involvement activities, so that they are not disadvantaged.

As part of the approval process, City & Guilds will review this planner and tracker. Centres which cannot show sufficient commitment from employers and/or a credible planner and tracker will be given an action for improvement with a realistic timescale for completion. **Approval will not be given** if employer involvement cannot be assured either at the start of the qualification, or through an appropriate plan of action to address this requirement before the learner is certificated.

Monitoring and reporting learner engagement

Employer involvement is a formal component of this qualification and is subject to quality assurance monitoring. Centres must record evidence that demonstrates that each learner has been involved in meaningful employer-based activities against the mandatory content before claiming the employer involvement component for learners.

Centres must record the range and type of employer involvement each learner has experienced and submit confirmation that all learners have met the requirements to City & Guilds. If a centre cannot provide evidence that learners have met the requirements to achieve the component, then the learner will not be able to achieve the overall Technical Qualification.

Types of involvement

Centres should note that to be eligible, employer involvement activities **must** relate to one or more elements of the mandatory content of this qualification. This does not mean that employer involvement in the optional units is not valuable, and centres are encouraged to consider this wherever appropriate.

As the aim of employer involvement is to enrich learning and to give learners a taste of the expectations of employers in the industry area they are studying, centres are encouraged to work creatively with local employers.

Employers can identify the areas of skills and knowledge in their particular industry that they would wish to see emphasised for learners who may apply to work with them in the future. Centres and employers can then establish the type of input, and which employer representative might be able to best support these aims.

To be of most benefit this must add to, rather than replace the centre's programme of learning. Some examples of meaningful employer involvement are listed below. Employer involvement not related to the mandatory element of the qualification, although valuable in other ways, does not count towards this element of the qualification. The DfE has provided the following examples of what does and does not count as meaningful employer involvement, as follows^{1,2}:

The following activities meet the requirement for meaningful employer involvement:

- students undertake structured work-experience or work-placements that develop skills and knowledge relevant to the qualification³
- students undertake project(s), exercises(s) and/or assessments/examination(s) set with input from industry practitioner(s)
- students take one or more units delivered or co-delivered by an industry practitioner(s). This could take the form of master classes or guest lectures

¹ As extracted from: Vocational qualifications for 16 to 19 year olds

2017 and 2018 performance tables: technical guidance for awarding organisations

² This list has been informed by a call for examples of good practice in employer involvement in the delivery and assessment of technical qualifications - [Employer involvement in the delivery and assessment of vocational qualifications](#)

³ [DfE work experience guidance](#)

- industry practitioners operate as 'expert witnesses' that contribute to the assessment of a student's work or practice, operating within a specified assessment framework. This may be a specific project(s), exercise(s) or examination(s), or all assessments for a qualification.

In all cases participating industry practitioners and employers must be relevant to the industry sector or occupation/occupational group to which the qualification relates.

The following activities, whilst valuable, do not meet the requirement for meaningful employer involvement:

- employers' or industry practitioners' input to the initial design and content of a qualification
- employers hosting visits, providing premises, facilities or equipment
- employers or industry practitioners providing talks or contributing to delivery on employability, general careers advice, CV writing, interview training etc
- student attendance at career fairs, events or other networking opportunities
- simulated or provider-based working environments eg hairdressing salons, florists, restaurants, travel agents, small manufacturing units, car servicing facilities
- employers providing students with job references.

Types of evidence

For each employer involvement activity, centres are required to provide evidence of which learners undertook it, e.g. a candidate attendance register. The types of additional evidence required to support a claim for this component will vary depending on the nature of the involvement. Eg for a guest lecture it is expected that a synopsis of the lecture and register would be taken which each learner and the guest speaker will have signed; expert witnesses will be identified and will have signed the relevant assessment paperwork for each learner they have been involved in assessing; evidence of contribution from employers to the development of locally set or adapted assignments.

Quality assurance process

As the employer involvement component is a requirement for achieving the KS5 Technical qualifications, it is subject to external quality assurance by City & Guilds at the approval stage and when centres wish to claim certification for learners.

Evidence will be validated by City & Guilds before learners can achieve the employer Involvement component. Where employer involvement is not judged to be sufficient, certificates cannot be claimed for learners.

Sufficiency of involvement for each learner

It is expected that the centre will plan a range of activities that provide sufficient opportunities for each learner to interact directly with a range of individuals employed in the related industry. Centres must also provide contingencies for learners who may be absent for part of their teaching, so they are not disadvantaged. Any absence that results in a learner missing arranged activities must be documented. Where learners are unable to undertake all employer involvement activities due to temporary illness, temporary injury or other indisposition, centres should contact City & Guilds for further guidance.

Live involvement

Learners will gain most benefit from direct interaction with employers and/or their staff; however, the use of technology (eg the use of live webinars) is encouraged to maximise the range of interactions. Where learners are able to interact in real time with employers, including through the use of technology, this will be classed as 'live involvement'.

It is considered good practice to record learning activities, where possible, to allow learners to revisit their experience and to provide a contingency for absent learners. This is not classed as live involvement however, and any involvement of this type for a learner must be identified as contingency.

Timing

A learner who has not met the minimum requirements cannot be awarded the component and will therefore not achieve the qualification. It is therefore important, that centres give consideration to scheduling employer involvement activities, and that enough time is allotted throughout delivery and assessment of the qualification to ensure that requirements are fully met.

5 Assessment

Summary of assessment methods and conditions

Component numbers	Assessment method	Description and conditions
030	Synoptic assignment	<p>The synoptic assignment is externally set, internally marked and externally moderated. The assignment requires candidates to identify and use effectively in an integrated way an appropriate selection of skills, techniques, concepts, theories, and knowledge from across the content area. Candidates will be judged against the assessment objectives.</p> <p>Assignments will be released to centres as per dates indicated in the Assessment and Examination timetable published on our website.</p> <p>Where seasonality is a factor in the timing of the assignment the assignment will be released early to ensure that candidates can take the assignment to fit in with the seasonal requirements.</p> <p>Centres will be required to maintain the security of all live assessment materials. Assignments will be password protected and released to centres through a secure method.</p> <p>There will be one opportunity within each academic year to sit the assignment. Candidates who fail the assignment will have one re-sit opportunity. The re-sit opportunity will be in the next academic year and will be the assignment set for that academic year once released to centres. If the re-sit is failed, the candidate will fail the qualification.</p> <p>Please note that for externally set assignments City & Guilds provides guidance and support to centres on the marking and moderation process.</p>

031 or 531	Externally marked exams	<p>The exams are externally set and externally marked and will be taken and will be taken either online through City & Guilds' computer-based testing platform (031) or as a paper based test (531).</p> <p>The exams are designed to assess the candidate's depth and breadth of understanding across content in the qualification at the end of the period of learning, using a range of question types 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</p> <p>The exam specification shows the coverage of the exam across the qualification content.</p> <p>Candidates who fail the exam at the first sitting will have a maximum of two opportunities to retake. If the candidate fails, the exam three times then they will fail the qualification. (Note: the third and final retake opportunity applies to Level 3 only.) For exam dates, please refer to the Assessment and Examination timetable.</p>
300	Evolve online on-demand exam	<p>This exam is externally set and externally marked and will be taken online through City & Guilds' computer-based testing platform under invigilated exam conditions. The exam is available on-demand and can be taken at any time in the year.</p> <p>There is no maximum number of retake attempts for this exam , however, learners should be given sufficient time and tutor support before resitting.</p>
306	Internally marked theory exam	<p>This theory assessment is externally set, internally marked and externally verified. It is designed to assess the candidate's depth and breadth of understanding from across the unit content area and will be sat under supervised conditions.</p> <p>This assessment is available on our website. The assessment can be taken at any point during the academic year, but evidence must be submitted on to the Moderation Portal by the deadline in Assessment and Examination timetable, published on our website.</p> <p>Centres will be required to maintain the security of all live assessment materials. Assessments will be password protected and released to centres through a secure method.</p> <p>There is no re-sit limit for this assessment. If a learner fails, they can re-sit a different version. Assessors should allow seven days before reassessment.</p>

Optional Units 310, 311, 312, 315, 318, 325, 326, 327, 362, 364, 365	Unit Assignments	<p>The unit assignments are externally set, internally marked, and externally verified. The assignment requires candidates to identify and use effectively skills, knowledge and understanding from across the unit content area. Candidates will be judged against the unit grading criteria</p> <p>The assignments are available on our website. The assignments can be taken at any point during the academic year, but evidence must be submitted on to the Moderation Portal by the deadline in Assessment and Examination timetable, published on our website.</p> <p>Centres will be required to maintain the security of all live assessment materials. Assignments will be password protected and released to centres through a secure method.</p> <p>There is no re-sit limit for these assignments. If a learner fails an assignment, they can re-sit a different version. Assessors should allow seven days before resubmission or reassessment.</p>
302	Portfolio of evidence	This unit will be evidenced by a portfolio of evidence.

What is synoptic assessment?

Technical qualifications are based around the development of a toolkit of knowledge, understanding and skills that an individual needs in order to have the capability to work in a particular industry or occupational area. Individuals in all technical areas are expected to be able to apply their knowledge, understanding and skills in decision making to solve problems and achieve given outcomes independently and confidently.

City & Guilds technical qualifications require candidates to draw together their learning from across the qualification to solve problems or achieve specific outcomes by explicitly assessing this through the synoptic assignment component.

In this externally set, internally marked and externally moderated assessment the focus is on bringing together, selecting and applying learning from across the qualification rather than demonstrating achievement against units or subsets of the qualification content. The candidate will be given an appropriately levelled, substantial, occupationally relevant problem to solve or outcome to achieve. For example this might be in the form of a briefing from a client, leaving the candidate with the scope to select and carry out the processes required to achieve the client's wishes, as they would in the workplace.

Candidates will be marked against assessment objectives (AOs) such as their breadth and accuracy of knowledge, understanding of concepts, and the quality of their technical skills as well as their ability to use what they have learned in an integrated way to achieve a considered and high quality outcome.

How the assignment is synoptic for this qualification

The typical assignment brief could be to carry out animal management plans for different animal species and evaluate how these could be changed to meet the individual animal's requirements. This will require the candidate to use husbandry and handling skills and apply their knowledge and understanding of animal management plans, animal welfare and how individual animal needs influence plans and following animal care industry standards. They will need to draw on their skills and knowledge from across the qualification to complete animal management records and to make recommendations on improvements.

External exam for stretch, challenge and integration

The externally set, externally marked exam (031/531) will draw from across the mandatory content of the qualification, using a range of shorter questions to confirm breadth of knowledge and understanding. Extended response questions are included, giving candidates the opportunity to demonstrate higher level understanding and integration through discussion, analysis and evaluation, and ensuring the assessment can differentiate between 'just able' and higher achieving candidates.

Optional unit assessments and integration into the synoptic qualification content

While the mandatory units for this qualification provide the main skills and knowledge required to work in animal care, the optional units provided give centres flexibility when devising programmes to meet local employment needs, where the purpose of the qualification demands this.

The assessments for the optional units will require that the candidate has experienced the full breadth of mandatory learning of the qualification in order to better demonstrate the rounded performance expected at higher grades.

Optional unit assessments are externally set, internally marked and externally verified.

Assessment objectives for synoptic assignments

The assessments for this qualification are set against a set of assessment objectives (AOs) which are used across all City & Guilds Technicals to promote consistency among qualifications of a similar purpose. They are designed to allow judgement of the candidate to be made across a number of different categories of performance.

Each assessment for the qualification has been allocated a set number of marks against these AOs based on weightings recommended by stakeholders of the qualification. This mark allocation remains the same for all versions of the assessments, ensuring consistency across assessment versions and over time.

The following table explains all AOs in detail, including weightings for the synoptic assignments. In some cases, due to the nature of a qualification's content, it is not appropriate to award marks for some AOs. Where this is the case these have been marked as N/A. Weightings for exams (AOs 1, 2 and 4 only) can be found with the exam specification.

Assessment objective	City & Guilds Level 3 Advanced Technical Diploma in Animal Management Typical expected evidence of knowledge, understanding and skills	Approximate weighting
AO1 Recalls knowledge from across the breadth of the qualification.	Relevant legislation, signs of health, diseases and disorders, animal accommodation, risk assessments, husbandry and breeding.	20%
AO2 Demonstrates understanding of concepts, theories and processes from across the breadth of the qualification.	Animal pathogens and preventative treatments, animal welfare, animal behaviour, nutrition and feeding requirements and breeding strategies.	25%
AO3 Demonstrates technical skills from across the breadth of the qualification.	Calculating animal feed rations, animal handling, accommodation maintenance, health checks, and husbandry skills.	25%
AO4 Applies knowledge, understanding and skills from across the breadth of the qualification in an integrated and holistic way to achieve specified purposes.	Bringing together all knowledge and research, evaluation of management plans, links to animal welfare.	20%
AO5 Demonstrates perseverance in achieving high standards and attention to detail while showing an understanding of wider impact of their actions.	Justification and suggestions of areas for improvements, links between husbandry, welfare needs and behaviour and reports.	10%

Exam specifications

AO weightings per test

AO	Exam 031 or 531 weighting (approx. %)	Exam 300 weighting (approx. %)	Exam 306 weighting (approx. %)
AO1 Recalls knowledge from across the breadth of the qualification.	25	70	30
AO2 Demonstrates understanding of concepts, theories and processes from across the breadth of the qualification.	55	30	70
AO4 Applies knowledge, understanding and skills from across the breadth of the qualification in an integrated and holistic way to achieve specified purposes.	20	N/A	N/A

The way the exam covers the content of the qualification is laid out in the table below:

Assessment type: Examiner marked, written exam, delivered online or paper based *

Assessment conditions: Invigilated examination conditions

Grading: X/P/M/D

Synoptic written exam 031/531	Duration: 2 hour		
Unit	Outcome	Number of marks	%
303 Animal Health and Husbandry	LO1 Recognise indicators of health in animals	17	28
	LO2 Understand common disease and disorders, their treatment and prevention		
	LO4 Recognise how to deliver and record basic animal treatments		
304 Animal Feeding and Nutrition	LO1 Understand the basics of nutrition	16	27
	LO2 Understand nutritional values and properties of different food types		
	LO3 Understand the feeding requirements of animals at different life stages		

	LO4 Plan, monitor, record and evaluate diets and feeding regimes for animals		
305 Animal Behaviour and Communication	LO1 Understand behaviour patterns in animals	15	25
	LO3 Understand the factors influencing behaviour		
	LO4 Understand social behaviour and animal communication		
N/A	Integration across the units	12	20
Total		60	100

Assessment type: Multiple-choice exam, delivered online *

Assessment conditions: Invigilated examination conditions

Grading: X/P

Level 3 Principles of health and safety - Theory exam (300)	Duration: 1 hour		
Unit	Learning outcome	Number of marks	%
Level 3 Principles of health and safety (301)	1. Understand health and safety legislation	9	30
	2. Understand the risk assessment process	8	26
	3. Understand first aid requirements	7	23
	4. Understand safe manual handling principles	2	6
	5. Understand the use of fire extinguishers	4	15
Total		30	100

These exams are sat under invigilated examination conditions, as defined by the JCQ:
<http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations>.

Entry for exams can be made through the City & Guilds Walled Garden

6 Moderation and standardisation of assessment

City & Guilds' externally set synoptic assignments for technical 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 known as external moderation.

Moderation is the process where external quality assurers are standardised to a national standard in order to review centre marking of internally marked assessments. These external quality assurers are referred to as 'moderators'. Moderators will review a representative sample of 'candidate work' across the mark range from every centre. Their marks act as a benchmark to inform City & Guilds whether centre marking is in line with City & Guilds' standard.

Where moderation shows that the centre is applying the marking criteria within a reasonable range of mark tolerance, centre marks for the whole cohort will be accepted. Where moderation shows that the centre is either consistently too lenient or consistently too harsh in comparison to the national standard, an appropriate adjustment (up or down) will be made to the marks of the whole cohort, retaining the centre's rank ordering. Due to the nature of the assessment and the marking grid across Assessment Objectives (AOs), it is not expected that the tutors mark and the moderators mark will match exactly.

Where centre application of the marking criteria is inconsistent, an appropriate adjustment for the whole cohort may not be possible on the basis of the sample of candidate work. In these instances a complete remark of the candidate work may be necessary.

Additional unit and optional unit assessments are also subject to external quality assurance through a verification process. This involves external quality assurers scrutinising IQA records; sampling candidates' work across a range of units and also sampling across the mark/grade range. Centres are then provided with feedback and actions to ensure that results are valid and reliable.

For more detailed information, on the quality assurance process for synoptic assignments and additional unit and optional unit assessments please refer to 'Quality Assurance Guide for Centres: Technical Qualifications and the EPQ available to download on the City & Guilds website.

It is vital that centres familiarise themselves with this process, and how it impacts on their delivery plan within the academic year.

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 and / or graded 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.

Internal appeal

Centres must have an internal process in place for candidates to appeal the marking of internally marked components, ie the synoptic assignment and any optional unit assignments. This must take place before the submission of marks or grades for external quality assurance. 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.

Post-quality assurance procedures

Once the external quality assurance processes have been completed, feedback is provided to the centre on the standard of the internal assessment, highlighting areas of good practice, and potential areas for improvement. This will inform future centre assessment, and standardisation activities, as well as external quality assurance and risk management activity.

City & Guilds will then carry out awarding, the process by which grade boundaries are set with reference to the candidate evidence available on the platform.

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.

7 Grading

Awarding individual assessments

Individual assessments will be graded, by City & Guilds, as pass/merit/distinction where relevant. The grade boundaries for pass and distinction for each assessment will be set through a process of professional judgement by technical experts. Merit will usually be set at the midpoint between pass and distinction. The grade descriptors for pass and distinction, and other relevant information (eg archived samples of candidate work and statistical evidence) will be used to determine the mark at which candidate performance in the assessment best aligns with the grade descriptor in the context of the qualification's purpose. Boundaries will be set for each version of each assessment to take into account relative difficulty.

Please note that as the Merit grade will usually be set at the arithmetical midpoint between pass and distinction, there are no descriptors for the Merit grade for the qualification overall.

Grade descriptors

To achieve a pass, a candidate will be able to

- Demonstrate the knowledge and understanding required to work in the occupational area, its principles, practices and legislation.
- Describe some of the main factors impacting on the occupation to show good understanding of how work tasks are shaped by the broader social, environmental and business environment it operates within.
- Use the technical industry specific terminology used in the industry accurately.
- Demonstrate the application of relevant theory and understanding to solve non-routine problems.
- Interpret a brief for complex work-related tasks, identifying the key aspects, and showing a secure understanding of the application of concepts to specific work related tasks.
- Carry out planning which shows an ability to identify and analyse the relevant information in the brief and use knowledge and understanding from across the qualification (including complex technical information) to interpret what a fit for purpose outcome would be and develop a plausible plan to achieve it.
- Achieve an outcome which successfully meets the key requirements of the brief.
- Identify and reflect on the most obvious measures of success for the task and evaluate how successful they have been in meeting the intentions of the plan.
- Work safely throughout, independently carrying out tasks and procedures, and having some confidence in attempting the more complex tasks.

To achieve a distinction, a candidate will be able to

- Demonstrate the excellent knowledge and understanding required to work to a high level in the occupational area, its principles, practices and legislation.
- Analyse the impact of different factors on the occupation to show deep understanding of how work tasks are shaped by the broader social, environmental, and business environment it operates within.

- Demonstrate the application of relevant theory and understanding to provide efficient and effective solutions to complex and non-routine problems.
- Analyse the brief in detail, showing confident understanding of concepts and themes from across the qualification content, bringing these together to develop a clear and stretching plan, that would credibly achieve an outcome that is highly fit for purpose.
- Achieve an outcome which shows an attention to detail in its planning, development and completion, so that it completely meets or exceeds the expectations of the brief to a high standard.
- Carry out an evaluation in a systematic way, focussing on relevant quality points, identifying areas of development/ improvement as well as assessing the fitness for purpose of the outcome.

Awarding grades and reporting results

The overall qualification grade will be calculated based on aggregation of the candidate's achievement in each of the assessments for the mandatory units, taking into account the assessments' weighting. The **City & Guilds Level 3 Advanced Technical Diploma in Animal Management (540)** will be reported on a four grade scale: Pass, Merit, Distinction, Distinction*.

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 assessment(s) will not have a qualification grade awarded and will not receive a qualification certificate.

The approximate pass grade boundary for the synoptic assignment(s) in this qualification are:

Synoptic Assignment	Pass Mark (%)
Synoptic Assignment (030)	40%

Please note that each synoptic assignment is subject to an awarding process before final grade boundaries are confirmed.

The health and safety assessment 300 must be passed to achieve the qualification. This assessment is graded pass/fail.

The contribution of assessments towards the overall qualification grade is as follows:

Assessment method	Grade scale	% contribution
Assignment (030)	X/P/M/D	60%
Exam (031 or 531)	X/P/M/D	40%

Both synoptic assignments and exams are awarded (see 'Awarding individual assessments', at the start of Section 7, above), and candidates' grades converted to points. The minimum points available for each assessment grade is listed in the table below. A range of points between the Pass, Merit and Distinction boundaries will be accessible to candidates. For example a candidate that achieves a middle to high Pass in an assessment will receive between 8 and 10 points, a candidate that achieves a low to middle Merit in an assessment will receive between 12 and 14

points. The points above the minimum for the grade for each assessment are calculated based on the candidate's score in that assessment.

	Pass	Merit	Distinction
Exam (031 or 531): 40%	6	12	18
Assignment (030): 60%	6	12	18

The candidate's points for each assessment are multiplied by the % contribution of the assessment and then aggregated. The minimum points required for each qualification grade are as follows:

Qualification Grade	Minimum points
Distinction*	20.5
Distinction	17
Merit	11
Pass	6

Candidates achieving Distinction* will be the highest achieving of the Distinction candidates.

8 Administration

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 procedures for monitoring 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).

For this qualification, standards and rigorous quality assurance are maintained by the use of:

- internal quality assurance
- City & Guilds external moderation (synoptic assessments)
- City & Guilds external verification (additional unit / optional assessments).

In order to carry out the quality assurance role, Internal Quality Assurers (IQAs) must have and maintain an appropriate level of technical competence and have recent relevant assessment experience. For more information on the requirements, refer to *Section 2: Centre requirements* in 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 candidates and supervisors/tutors of the record form for each candidate's work.

External quality assurance

City & Guilds will undertake external moderation and verification activities to ensure that the quality assurance criteria for this qualification are being met. 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
- make arrangements to receive, check and keep assessment material secure at all times,
- maintain the security of City & Guilds confidential material from receipt to the time when it is no longer confidential
- and keep completed assignment work and examination scripts secure from the time they are collected from the candidates to their dispatch to City & Guilds.

Enquiries about results

The services available for enquiries about results include a review of marking for exam results and review of moderation for synoptic assignments. Requests must be submitted within the specified period after the publication of results for individual assessments. Please see the [City & Guilds website](#) for more information.

Re-sits and shelf-life of assessment results

Re-sits and shelf-life of assessment results Candidates who have failed an exam or wish to re-take it in an attempt to improve their grade, can do so **twice**. The best result will count towards the final qualification. See guidance on individual assessment types in Section 5.

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 Customer Services 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. Centres should contact City & Guilds at the earliest possible stage for advice about appropriate arrangements in individual cases.

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 candidates and/or centre staff and the actions which City & Guilds may subsequently take. The document includes examples of candidate 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 candidate 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 assessments
- impersonation.

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

Where suspected malpractice is identified by a centre after the candidate 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*.

Access arrangements

Access arrangements are adjustments that allow candidates with disabilities, special educational needs and temporary injuries to access the assessment and demonstrate their skills and knowledge without changing the demands of the assessment. These arrangements must be made before assessment takes place.

It is the responsibility of the centre to ensure at the start of a programme of learning that candidates will be able to access the requirements of the qualification.

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](#).

Special consideration

We can give special consideration to candidates 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*. This document is available on the [City & Guilds website](#)

Unit 301 Principles of Health and Safety

UAN:	A/507/4634
Level:	3
GLH:	30

What is this unit about?

This unit aims to provide learners with an understanding of the principles of health and safety and identify how these can be applied in practice within land-based or related industries. This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or further education and training.

Learners will be able to recognise common health and safety practices and processes which they will encounter within the workplace. The land-based sector has one of the worst fatal accident records of any major industrial sector and a lack of basic training and/or competency is often a contributory factor. There is a need for new entrants to these industries to gain essential health and safety knowledge in order to minimise harm to themselves and to improve attitudes and behaviour in the workplace. In addition, the learners have the opportunity to consider factors which are specific to their workplace.

This unit must be taught alongside **all** technical units within the qualification ensuring learners gain an appreciation of its importance and so that they are equipped with knowledge and understanding to protect themselves and others when working in the industry.

Learning outcomes:

In this unit, learners will be able to

1. Understand health and safety legislation
2. Understand the risk assessment process
3. Understand first aid requirements
4. Understand the principles of safe manual handling
5. Understand the use of fire extinguishers

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 Understand health and safety legislation

Topics

- 1.1 Impact of good and bad practice upon individuals and businesses
- 1.2 Key legislation relating to health, safety and welfare
- 1.3 Statutory duties of employers, employees and the self-employed
- 1.4 Consequences of not complying with statutory duties
- 1.5 How individuals can contribute to establishing a good health and safety culture

Topic 1.1

Learners will know direct and indirect consequences of poor standards of workplace health and safety practice on both businesses and individuals, to include:

Financial eg:

- prosecution fines and legal fees
- compensation claims
- repairs/replacement of equipment
- recruit and train new staff
- increased insurance premiums

Emotional eg:

- guilt and grief
- stress

Reputation eg:

- loss of reputation
- bad publicity

Employees eg:

- reduced staff morale and productivity
- increased staff turnover and sickness

Social eg:

- loss of independence
- reduced social activity

Topic 1.2

Learners will know key legislation relating to health, safety and welfare within the workplace, for example, Health and Safety at Work etc. Act 1974 and the Management of Health and Safety at Work Regulations 1999. Learners will understand the importance of accident and incident reporting in accordance with the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013. Learners will understand the legal status and practical implications of approved codes of practice and industry specific best practice guidance.

Topic 1.3

Learners will know the statutory duties of employers, employees and the self-employed, to include:

Employers:

- provide a safe working environment
- provide safe equipment and systems of work.
- provide information, instruction, training and supervision.
- arrange for the safe storage, transport and use of articles and substances.
- provide adequate welfare facilities.

Employees:

- take reasonable care of their own health and safety.
- take reasonable care of other people who may be affected by what they do or don't do at work.
- cooperate with their employer on health and safety.
- not interfere with or misuse anything provided for their health, safety or welfare

Topic 1.4

Learners will know the powers of health and safety enforcement officers (eg inspection, investigation and guidance) and identify the range of enforcement actions and penalties that may be imposed (eg prohibition and improvement notices, intervention fee and prosecutions).

Topic 1.5

Learners will understand how individuals can contribute to establishing a good health and safety culture within their workplace, for example:

- prompt reporting of defective safety equipment or other matters of concern
- always use control measures and personal protective equipment (PPE) as instructed
- help others to work safely by sharing knowledge and good practice
- set a good example to others by always working safely
- follow instructions and safe working procedures.

Learning outcome:

2 Understand the risk assessment process

Topics

- 2.1 Principles of risk assessment
- 2.2 Workplace hazards
- 2.3 Risk assessment

Learning outcome 2 provides learners with the knowledge on the requirements and importance of carrying out risk assessments. Learners will be expected to carry out risk assessments in practice when performing their industry specific activities as required.

Topic 2.1

Learners will understand the legal requirement to carry out suitable and sufficient risk assessments. They will understand the responsibilities of the employer, self-

employed and employee within the risk assessment process and identify when expert advice and guidance may be required (eg lack of experience or knowledge).

Topic 2.2

Learners will know common hazards associated with a workplace which could result in serious harm to themselves or others (eg visitors, colleagues, members of the public).

Topic 2.3

Learners will understand how to undertake a detailed risk assessment within the context of their workplace, following the Health and Safety Executive 'Five Steps to Risk Assessment', to include:

- identification of the hazards
- identification of who might be harmed and how they might be harmed
- evaluation of the risks and decide how the level of risk may be controlled
- recording and implementation of the results, as well as communication to others who may be affected
- reviewing risk assessments and suggesting when risk assessments should be reviewed.

Learners will also know the hierarchy of risk control:

- elimination
- substitution
- safe working procedures
- training, instruction and supervision
- personal and respiratory protective equipment (PPE/RPE).

Learning outcome:

3 Understand first aid requirements

Topics

- 3.1 Planning for emergencies and first aid provision in the workplace
- 3.2 Procedures when encountering an accident or medical emergency
- 3.3 First aid for common emergencies

In this outcome learners will explore the importance of planning to and subsequently how to manage common first aid emergencies which may arise in the workplace, with emphasis upon their workplace. Learners should be aware of the aims of first aid (ie, preserve life, prevent injuries worsening and promote recovery) Evidence towards this outcome could come from a current first aid training qualification (ie, appointed persons or first aid at work).

Topic 3.1

Learners will understand the importance of emergency planning, especially for lone or isolated working, and the responsibilities of a first aider. Learners will also know the minimum requirements for first aid at work and identify supplementary

arrangements which may be appropriate for their workplace.

Topic 3.2

Learners will know the procedures to follow when encountering an accident or medical emergency. Learners will know how to check the incident site to minimize risk to themselves, assess the situation, and how and when to contact the emergency services and identify prioritisation of

activities (eg, 'DRABC').

Topic 3.3

Learners will know how to manage the following common situations as well as other significant situations appropriate to their workplace:

- wounds and burns
- choking
- severe bleeding
- shock
- concussion
- unconscious casualties
- falls from height
- suspected broken limbs and dislocations
- heart attacks.

Learners will know how to recognise their own limitations and explain how to monitor the condition of the casualty and prevent an injury from worsening.

Learning outcome:

4 Understand the principles of safe manual handling

Topics

- 4.1 Principles of safe manual handling
- 4.2 Safe manual handling of common items

In this outcome learners will need to investigate the principles of risk assessment relevant to manual handling in order to plan for and safely move a range of common items associated with their workplace. Learners should have access to a range of common mechanical aids and these should be used as appropriate.

Topic 4.1

Learners will understand how manual handling at work should be minimised and identify appropriate alternatives and mechanical aids. They will know the common causes of injuries associated with poor manual handling within the workplace.

Topic 4.2

Learners will understand how to safely move a range of common items within their workplace. They will know appropriate mechanical aids for a range of common manual handling activities within their workplace.

Learning outcome:

5 Understand the use of fire extinguishers

Topics

5.1 Use of fire extinguishers

Topic 5.1

Learners will know the types, use and colours of portable fire extinguishers, to include:

- water
- dry powder
- foam
- CO₂.

Learners will know how to recognise their own limitations in managing fires in the workplace.

Guidance for delivery

On completion of this unit, the learner will have developed an understanding of some of the key underlying principles and practices of health and safety to help prepare them to enter the workplace. It will be important that delivery relates to example situations that are vocationally relevant to the learners.

Visiting speakers eg paramedics, health and safety consultants or inspectors could enhance the relevance of the subject to learners.

Suggested learning resources

Books

Farmwise - Your Essential Guide to Health and Safety in Agriculture Health and Safety Executive
Published by: Health and Safety Executive Books, 2013 ISBN:
0717665097

Health & Safety at Work Essentials
Published by: Lawpack Publishing Ltd., 8th Edition, 2014
ISBN: 1910143006

Chadder, P & Duncan, M

Health and Safety at Work: An Essential Guide for Managers
Published by: Kogan Page, 9th edition, 2010
ISBN: 0749461195

Stranks, J

Websites

Health and Safety Executive (HSE) www.hse.gov.uk
The Royal Society for the Prevention of Accidents (ROSPA) www.rosipa.com

Unit 302 Undertake and Review Work Related Experience in the Land-base Industries

UAN:	F/507/4635
Level:	3
GLH:	30

What is this unit about?

The aim of this unit is to give learners the skills needed to identify, participate in and review work experience in the environmental and land-based sector. The unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or further education and training.

Learning outcomes

In this unit, learners will be able to

1. Determine employment opportunities in the environmental and land-based industries
2. Prepare for a work-based experience in the environmental and land-based industry
3. Understand the importance of effective interpersonal skills in the workplace
4. Review a work-based experience in the environmental and land-based sector

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 Determine employment opportunities in the environmental and land-based industries

Topics

1.1 Career and progression opportunities within an environmental and land-based industry

In this outcome, learners will explore the different job roles and responsibilities, and the job titles commonly associated with them in their specialist sector. This background understanding is likely to require some formal classroom teaching. Learners should be encouraged to explore the range of employment opportunities and career paths within their specialist sector. Learners will then consider the skills and qualifications that are required for appropriate jobs for themselves and should be encouraged to think about skills and qualifications that they may need to acquire to achieve their employment and careers ambitions. This should help them to identify suitable work experience.

Topic 1.1

Learners will know the job roles relevant to the land based sector, to include:

- managerial
- supervisory
- team worker
- trainee
- volunteer
- common job titles within the relevant sector,
- main duties and responsibilities.

Learners will also know the skills, qualifications and experience needed to fulfil duties and responsibilities of appropriate jobs, to include:

- job specific
- vocational
- personal.

Learning outcome:

2 Prepare for a work-based experience in the environmental and land-based industry

Topics

2.1 Appropriate work-based experience and the application process

2.2 Interview skills

This outcome involves learners going through the process of applying for work experience. They will need to locate suitable job adverts or work experience opportunities, but can be supported by centres suggesting suitable placements. When applying for work experience learners should produce, as a minimum, a detailed curriculum vitae and letter of application using a computer. It will be beneficial for learners to attend a real or simulated interview and reflect on their performance outlining how they could improve their effectiveness.

Topic 2.1

Learners will find a suitable job opportunity based on existing skills, experience, qualifications, development of skills and experience to achieve future employment goals. They will use a range of sources of information about work opportunities eg trade magazines, websites Learners will , complete an application form (if applicable), curriculum vitae and letter of application.

Topic 2.2

Learners will know how to prepare for an interview eg research the business and job role, suitable dress and personal presentation, information to find out and suitable questions to ask.

Learners will also know how to behave in an interview, eg:

- attend punctually
- dressed appropriately
- answering questions
- completion of other exams (eg practical, aptitude)
- reflection on interview performance.

Learning outcome:

3 Understand the importance of effective interpersonal skills in the workplace

Topics

3.1 The importance of effective interpersonal skills in the workplace

It would be appropriate for employers to be invited to outline to learners their expectations in the workplace.

Topic 3.1

Learners will understand the importance of effective interpersonal skills in the workplace when dealing with customers and colleagues, to include:

- effective communication (eg addressing others face to face, appropriate telephone manner, effective written communication, use of social media)
- courtesy and helpfulness
- appropriate dress and body language
- product knowledge
- use of technical terms.

Learning outcome:

4 Review a work- based experience in the environmental and land-based sector

Topics

- 4.1 Present evidence of activities and achievements during a work-based experience
- 4.2 Review a work-based experience, identifying strengths and areas for improvement
- 4.3 Evaluate future career aspirations

In this outcome, learners will use evidence from their work experience to present a report (eg written or visual), on their work experience business, job role, learning and achievements. They will then review the effectiveness of the workplace, making realistic and justified suggestions for improvement. Review of their own workplace performance and achievements should include all of the content identified, with reference to relevant evidence, eg reports, progress reviews, and the extent to which their aims, objectives/targets have been achieved. Learners should consider further training and experience that will help them to achieve their career ambitions.

Topic 4.1

Learners will present evidence of activities and achievements during a work-based experience to include, as appropriate: name of work experience provider, nature of the organisation (type of business, products or services, customers), organisation structure chart, main duties and responsibilities, regular daily working routine, evidence of safe working practices (eg PPE, risk assessments).

Topic 4.2

Learners will review their work-based experience, identifying strengths and areas for improvement, to include:

- work rate
- work quality and effectiveness
- punctuality
- attendance
- reliability
- dress and personal presentation
- working relationships with others work experience aims
- objectives and targets.

Topic 4.3

Learners will evaluate career aspirations, to include:

- advantages and disadvantages of identified pathways
- suitability to personal interests
- skills and qualifications.

Guidance for delivery

Learners on vocational courses should have experience of the type of work that they hope to do, and of the expectations of potential future employers.

Ideally this unit should be undertaken in a real business environment relevant to the subject interest of the learner, but actual work experience may be gained by a number of routes, eg as part of an industrial placement whilst within the programme, whilst working on a planned daily or weekly basis on the centre's commercial and/or educational facilities, whilst undertaking voluntary work within the industry, as previous relevant and current work experience in the industry or as a member of a group of learners invited to carry out practical work on a suitable business.

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.

Learners should complete a minimum of 150 hours of work experience to achieve this unit. If work experience is in the industry, centres should be mindful of their responsibilities for ensuring that work placements have appropriate supervision, insurance and health and safety policies in place.

It is recommended that a summary report is completed by the employer at the end of the work placement.

Unit 303 Animal Health and Husbandry

UAN:	L/507/7103
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is to provide learners with an understanding of the principles of animal health and how these can be put into practice. This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or to further education and training.

The learner will be able to recognise the signs of good and ill health in animals and evaluate these as indicators of health status. The learner will carry out health checks on a range of animals and produce animal health plans. The structure and role of pathogenic organisms will be examined, and prevention and treatment of a range of diseases and disorders covered. The learner will be able to carry out routine and non-routine treatments for animals.

Learning outcomes

In this unit, learners will be able to

1. Recognise indicators of health in animals
2. Understand common disease and disorders, their treatment and prevention
3. Monitor and record the health and wellbeing of animals
4. Recognise how to deliver and record basic animal treatments
5. Carry out animal husbandry tasks

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 as appropriate to the area of study:

- Horse care: horses, ponies (and donkeys if appropriate)
- Animal care: companion (dog or cat), small mammal (rabbit and rodents), exotics, large mammals (goat, camelids, donkey, pig, other available large mammals).

Learning outcome:

1 Recognise indicators of health in animals

Topics

- 1.1 Signs of health in animals
- 1.2 Legislation that relates to animal health

Learners will be required to recognise signs of health in animals. It is accepted that this outcome will require some formal delivery but it should also be delivered in practical situations where learners are visually assessing animals for health and undertaking health checks. Learners should be encouraged to handle a range of animals, with the emphasis on safe working practices and dealing with animals in a way which reduces stress and minimises injury to the learner, animals and others.

Topic 1.1

Learners must be able to recognise and demonstrate the following health indicators in animals, to include the normal range of the following:

- Temperature: procedure for taking and recording, including the use of digital and mercury thermometers
- Pulse Rate: procedure for taking and recording appropriate to animal species
- Respiration rate: procedure for taking and recording
- Capillary refill time (CRT): procedure for taking and recording.

Learners will need to be able to demonstrate and record routine health checks, to include:

- Appetite and water intake
- Behaviour
- Movement and gait
- Appearance of eyes, ears, nose, mouth /teeth
- Appearance of mucous membranes - identify different mucous membrane colours and give an example of a condition related to the colour – white, pink, red, blue and yellow
- Appearance of skin/ fur/ feathers/scales
- Limbs/feet
- Faeces and urine
- Genitals and anal area

- Signs of coughing, sneezing or vomiting
- Body condition
- Weight.

Learners need to know who to inform of any ill-health or problems recorded.

Topic 1.2

Learners must be able to summarise the aims and purpose of the following legislation, linking to other learning outcomes within this unit.

The following is a guided list of the legislation that applies in the Animal Care sector. For purposes of assessment, there is no requirement for detail; however, learners should be able to summarise the aims and purpose of the legislation, linking to other learning outcomes within this unit.

Centres should be up to date with legislation, policies and codes of practice used in the taught content.

Legislation

- The Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 2018
- Animal Welfare Act 2006 and Animal Health and Welfare Act (Scotland) (2006)
- Welfare of Animals (Transport) Order 2006
- The Welfare of Animals at Market Order 1993
- The Veterinary Surgeons Act 1966
- The Welfare of Farmed Animals Regulations 2007
- The Welfare of Animals Regulations 1999 (slaughter or killing).

For horse care, they would also need to cover:

- The Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 2018
- Animal Welfare Act 2006 and Animal Health and Welfare act (Scotland) (2006)
- Welfare of Animals (Transport) Order 2006
- The Welfare of Animals at Market Order 1993
- The Veterinary Surgeons Act 1966
- Horse Passport Regulations 2009
- The Welfare of Animals Regulations 1999 (slaughter or killing).

Learners may look at other legislation appropriate to their selected species.

Learning outcome:

2 Understand common disease and disorders, their treatment and prevention

Topics

- 2.1 The role of pathogenic organisms in animal disease
- 2.2 Common diseases and disorders in animals and their impact on health and welfare
- 2.3 Reasons and methods of preventative care and treatment measures used for animals
- 2.4 Causes, signs and treatment of animal nutritional deficiencies, excesses and disorders

Learners will cover a wide range of diseases and disorders that affect animals.

Topic 2.1

Learners must understand the role and relationship between the following pathogenic organisms and the immune system.

Pathogenic organisms:

Learners need to differentiate between the following pathogens, for each pathogen they need to include common types, structure and replication:

- Bacteria
- Viruses
- Fungi
- Protozoa
- Parasites.

Learners need to have a greater understanding of parasites to include:

- Endoparasites and ectoparasites – to include worms, fleas, , ticks, mites, lice
- Lifecycles of the parasites
- Symptoms, treatment and prophylaxis.

Learners need to be able to identify how diseases spread and their symptoms to the disease, to include:

- Methods of disease transmission – direct, indirect, airborne, vectors, fomites, inhalation, ingestion, environment
- Immunity (passive, natural, active and artificial)
- Symptoms (asymptomatic carrier).

Topic 2.2

Learners need to be able differentiate between a notifiable disease and zoonotic disease, making reference to DEFRA and the procedure for notification.

Learners need to explain the following in relation to the named diseases:

- Signs and symptoms
- Treatment
- Prevention and control of disease.

Notifiable diseases to include (relevant to species):

- Rabies
- Avian flu
- Swine Flu
- Bovine Spongiform Encephalopathy (BSE)
- Tuberculosis

- Bluetongue
- Foot and Mouth
- Newcastle Disease
- Equine Infectious Anaemia.

Zoonotic diseases to include (relevant to species):

- Ringworm
- Salmonella
- Campylobacter
- Cat Scratch Fever
- Leptospirosis
- Lyme Disease
- Psittacosis
- Cheyletiella
- Sarcoptic mange
- Toxoplasmosis.

Learners should be able to identify and explain of common diseases and disorders specific to chosen specie, to include:

- Signs and symptoms
- Treatment
- Control.

Topic 2.3

Learners must identify the different types and frequency of vaccination administration and diseases that the following animals are vaccinated against, which may include:

- Dog
- Cat
- Rabbit
- Horses.

Topic 2.4

Learners will be able to describe causes, signs and treatment of nutritional disorders relevant to species which may include:

- Anorexia
- Obesity
- Vitamins deficiencies and excess
- Minerals deficiencies and excess
- Protein deficiency (Taurine and Arachidonic acid)
- Constipation
- Diabetes
- Urolithiasis
- Laminitis
- Equine metabolic syndrome.

Learning outcome:

3 Monitor and record the health and wellbeing of animals

Topics

- 3.1 Plans to promote and maintain animal health and wellbeing
- 3.2 Monitor and record animal health and wellbeing

Learners will be required to develop plans to promote and maintain the wellbeing of animals. The emphasis should be on improving animal health and welfare underpinned by knowledge on disease prevention and control (bio security). Health plans should evolve over a period of time, identifying the current situation, health and welfare targets within given time frames and allow for reassessments over time.

Topic 3.1

Learners should understand the importance to monitor and record animal health and welfare using a health record card. The animal health plans should include:

- Animal identification details
- Date of observation
- Time of observation
- Weight of animal
- Previous history to include: current medication, breeding, allergies
- Medication administered (if applicable)
- Behaviour/temperament
- General demeanour
- Overall health status
- Diet – appetite / thirst
- Urination/defecation/vomiting
- Exercise.

The health plan should be updated over a period of time depending on the species and health status.

Topic 3.2

Learners must be able to design and evaluate an animal health plan.

Learners must implement an animal health plan (this can be issued by the centre) and record appropriately over a period of time using animals from the range.

Learners should have an understanding how the following records are used should an animal require veterinary treatment:

- Veterinary records
- Feeding and water intake records
- Monitoring of clinical signs against expected recovery
- Frequency of defecation and urination
- Pain management
- Adverse reactions.

Learning outcome:

4 Recognise how to deliver and record basic animal treatments

Topics

- 4.1 How to deliver a range of basic routine and non-routine animal treatments safely in line with codes of practice and legislation

Learners will be able to deliver and record basic treatments to animals. Learners should be allowed the opportunity to cover different types of treatments, including routine, such as those for internal and external parasites and non-routine, such as dealing with accidents and injuries. It is suggested that simulation is used for the delivery of this outcome.

Topic 4.1

Basic routine treatments:

- Routes of medicine administration to include topical, enteral, and parenteral and restraint techniques.
- Frequency of drug administration depending upon the drug choice and route
- Sourcing treatments to include: Vets, pharmacies, SQP, feed merchants
- Assessing animal for adverse reactions and the action to take with a suspected reaction and who to notify.

Non-routine animal treatments:

Learners must have an appreciation of the limitations of responsibilities and expectations in a first aid situation:

- Aims and rules of first aid
- Limitations of first aid
- Classification of first aid situations – minor, immediate and life-threatening condition's
- Assessing the first aid situation
- Examination of an injured animal.

Learners need to be able to identify and state the utilisation of the items needed in a First Aid box, to include (as appropriate for species):

- Selection of bandages
- Cotton wool
- Sterile dressing materials
- Adhesive tape
- Rectal thermometer
- Tweezers
- Gloves
- Scissors
- Hand sanitizer
- Eye wash, antiseptic solution
- Poultice
- Contact details for the local veterinary practice
- Carrier bag
- Blanket.

Learners to suggest appropriate actions for the common first aid situations, which may include:

- Shock
- Road Traffic Collision (RTC)

- Convulsions
- Fractures
- Wounds
- Dislocations
- Choking
- Poisoning
- Burns and scalds
- Bites and stings
- Foreign bodies
- Haemorrhages.

Learners to demonstrate:

- Bandaging techniques (this may include foot, limb, ear / head, abdomen and tail) and the different layers that are used – primary layer, secondary layer and tertiary layer to include padding
- Cleaning of wounds
- Consideration of working with an unpredictable animal and precautions to take
- The use of handling and restraint techniques and equipment.

Learning outcome:

5 Carry out animal husbandry tasks

Topics

- 5.1 Manage and maintain animal accommodation
- 5.2 Handle and restrain animals

Learners will be able to manage and maintain animal accommodation to promote animal welfare and maintain animal health. They will also be able to handle and restrain animals appropriately to minimise stress and maintain safety of animal and themselves.

Topic 5.1

Learners will identify the animal requirements and plan the accommodation to include:

- Animal welfare requirements:
 - Space
 - Size
 - Stocking densities
 - Social needs of animals
 - Life stages of animals
 - Opportunities for movement and exercise
 - Purpose for which the animal is being kept
 - Minimising stress
 - Provision of food and water
 - Enrichment.
- Environmental factors:
 - Humidity
 - Ventilation
 - Pollution
 - Prevailing weather

- Temperature
- Sunlight
- Accommodation plans:
 - Location taking into account predator/ prey contact
 - Location of services eg electricity, water
 - Weather elements eg direct sunlight, rain, extremes of temperature
 - Ease of access
 - Waste disposal
 - Security
 - Design and construction
 - Fixtures and fittings
 - Costs.

Learners will need to prepare and maintain suitable accommodation for chosen animal species, to include:

- Preparation:
 - Standard and alternative fixtures and fittings
 - Bedding materials
 - Lifestyle
 - Life stage of animal
 - Number of animals to minimise stress and to promote animal welfare
 - Suitable for long or short-term use
 - Enrichment.
- Maintenance:
 - Safety and security checks; safe for animals, self and others, prevent escape
 - Regular checks for: security, insecure fittings, broken fixtures, protrusions, faulty or damaged electrical and lighting sources, damage due to damp, oxidation, accident, wear and tear
 - Cleaning routines: complete clean, skip out, when animal accommodation should not be cleaned
 - Use of safe working practices throughout cleaning process in line with Health and Safety recommendations eg health and safety at work act, RIDDOR, COSHH, centre risk assessments.

Learners need to monitor and evaluate animal accommodation and the report the findings to the appropriate person following centre procedures, this may include:

- Safety security
- Environmental factors
- Sex and mix of animals
- Cleanliness and suitability of accommodation
- Health and wellbeing of animals eg signs of stress, stereotypical behaviour
- Suitability of construction materials, fixtures and fittings, bedding materials.

Topic 5.2

Learners need to plan for the handling and restraining of selected animal species, to include:

- Assess temperament
- Identify equipment to be used and size
- Assess if assistance is required
- Location
- Purpose for handling and restraint
- Welfare considerations.

The equipment that could be used for handling and restraining animals may include:

- Collar and lead
- Nets
- Muzzles
- Hooks
- Crush cage
- Goads
- Noose
- Crook
- Pillow case
- Box
- Personal Protective Equipment (PPE) eg steel top cap boots, overalls, gloves, hard hat).

Learners need to plan the movement (from one cage/ pen to another) and transport (from one location to another) of selected animal species, to ensure that legislation and animal welfare codes of practice are met, to include:

- Reasons for movement eg exercise, change enclosure
- Methods of movements
- Equipment available
- Time of day for move
- Size and weight of animal(s) being moved
- Health status of animal(s)
- Safety of area
- Available persons and their skills/ knowledge
- Legislation eg The Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 2018, EU Regulation 1/2005 – The Welfare of Animals (Transport) Order 2006, Dangerous Wild Animals Act (1976), Animal Welfare Act 2006
- Codes of practice eg, PETS Travel Scheme, Five Animal Welfare Needs.

Learners must handle, restrain and move selected animal species using correct techniques and equipment, complying with relevant legislation, codes of practice and minimises stress and injury.

Guidance for delivery

This unit is designed to provide the learner with sound knowledge and skills required to promote and maintain health in animals. Depending upon which qualification this unit is delivered through, the context of teaching will differ.

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. Emphasis needs to be placed on the duty of care of learners to the animals with which they are working, and at no time should any of the activities have a negative impact upon animal welfare, as far as is possible.

Learners working towards level 3 are likely to have experience of animal health and welfare. This unit aims to extend the learners knowledge and skills involved with ensuring the health and welfare of animals. Emphasis should be placed not only on 'doing', but also upon the importance of planning and strategies to promote health and welfare for animals nationally in accordance with government regulations and not only for those situations within their charge. It is important that the learner understands current legislation and Codes of Practice in relation to animal health and welfare.

It is accepted that formal lectures will be necessary at Level 3 but for this unit it is recommended that they are they are linked directly with interactive lessons 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.

Unit 304 Animal Feeding and Nutrition

UAN:	D/507/7106
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to develop their knowledge and understanding of the different nutritional needs of animals. The learner will be able to describe the function, digestion and absorption of the major nutrients. Learners will explore the nutritional values of different food types and be able to calculate the dietary requirements for animals at different life stages. This will be used to design, monitor, record and evaluate feeding regimes. Learners will also investigate nutritionally responsive disorders, the effect these have on animals and the impact on their dietary requirements.

Learning outcomes

In this unit, learners will be able to

1. Understand the basics of nutrition
2. Understand the nutritional values and properties of different food types
3. Understand the feeding requirements of animals at different life stages
4. Plan, monitor, record and evaluate diets and feeding regimes for animals

Scope of content

The unit will be focused on building learner knowledge of the basics of nutrition and working towards an understanding of the functions, digestion and absorption of the major nutrients. Learners will explore the nutritional values of different food types and discuss the suitability of these foods in a variety of species. Once learners have an understanding of the need for a balanced diet, the learner will calculate the energy content of different foods and the energy requirements for animals at different life stages. A further consideration when calculating energy requirements will be the impact of nutritionally responsive disorders on both the animal's health and adjustments to dietary requirements.

As learner understanding builds on individual animal needs, learners will design a feeding regime for a chosen animal, monitor the chosen animal, record the results and evaluate the effectiveness of the regime. The goal is by the end of the unit the learners can explain how and why we provide a balanced diet for a variety of species.

The unit should cover a range of species as appropriate to the area of study:

- Horse care: horses, ponies (and donkeys if appropriate)
- Animal care: companion (dog or cat) or, small mammal (rabbit and rodents) or exotics or large mammals (goat, camelids, donkey, pig or other available large mammals).

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.

Centres should be up to date with legislation, policies and codes of practice used in the taught content

Learning outcome:

1 Understand the basics of nutrition

Topics

- 1.1 Contribution of the major nutrients of an animal's diet to maintain health and wellbeing
- 1.2 Functions of the major nutrients within the animal's body
- 1.3 Digestion and absorption of the major nutrients within the animal's body

The learner will investigate the functions of the major nutrients in the diet and how they are used in the body of a monogastric animal and a ruminant. The learner will be expected to describe the chemical structure of monosaccharide, disaccharides, fatty acids, amino acids and dipeptides.

Topic 1.1

The learner will be able to describe the major nutrients required for a balanced diet, to include:

- Carbohydrates (monosaccharide, disaccharides and polysaccharides)
- Proteins (amino acids, peptides and polypeptides)
- Fats/lipids
- Vitamins
- Minerals
- Water

Topic 1.2

The learner will be able to describe the function of the major nutrients, to include:

- Energy
- Growth and repair
- Storage and insulation.

Topic 1.3

Learners will be able to describe the biological digestion and absorption for monogastric animals and ruminants, to include:

- Biological digestion:
 - Tissue layers of the intestinal wall to include the muscosal ducts and glands, lymph, blood vessels, circular muscle layer, longitudinal muscle layer, serosa.
- Monogastric stomach:
 - Digestive system organs and accessory glands
 - Dentition
 - Role of enzymes (Anabolism and catabolism)
 - Acidic and alkaline secretions
 - Absorption of nutrients and water
 - Hindgut fermenters (Role of microbes in digestion)
- Ruminant
 - Digestive system organs, to include compartments of the stomach, caecum, liver
 - Dentition
 - Role of microbial organisms in fibre fermentation
 - Partition of protein in the rumen.

Learning outcome:

2. Understand the nutritional values and properties of different food types

Topics

- 2.1 Nutritional components of food, suitability of different types of fresh and prepared foods and the considerations when developing a feeding plan

The learner will be able to compare different feeds with regard to the nutrient content, digestibility and palatability. There is an option to relate to the exotic species or zoological collections unit when looking at species that naturally feed on live prey.

Topic 2.1

Learners should be able to describe the nutritional value and properties of different foods, relating these to the nutritional needs and selection of an appropriate diet for chosen species.

Learners should be able to describe the nutritional content of different types of food, to include:

- Fresh/ natural: eg fruit, vegetables, forage eg grasses, meat (to include public perception and ethics of feeding live food)
- Prepared/ processed: eg dried, tinned, semi-moist, seeds, nuts, mixed compounds.

Learners should explore the influence of nutritional needs on a feeding plan and the effects of feeding an alternative to the planned diet

Learning outcome:

3. Understand the feeding requirements of animals at different life stages

Topics

- 3.1 Calculate rations for animal diets
- 3.2 Dietary requirements for different life stages and conditions, and how these influence the development of a feeding plan

The learner will calculate rations for animals within the range and will explain how the ration may change at different life stages. Reference sources eg food packets, may be required for the students to derive energy and protein requirements. Calculations will be required, so access to calculators will be needed.

Topic 3:1

The learner will be able to calculate the requirements of an individual animal and choose a diet to meet that requirement. The learner will need to include the following in the diet plan:

- Feed items and ingredients
- Calculate the amount and the content eg energy value (Kcal)
- Assess the quality of the food stuffs
- Compare the nutritional values of wet and dry diets
- Gross energy (GE), digestible energy (DE) metabolisable energy (ME),
- Resting energy requirements (RER)/ Basal metabolic rate (BMR)
- Calculate rations of different foods to meet requirements.

Topic 3:2

The learner will need to calculate the energy requirement of animals at different life stages and conditions, choose an appropriate diet to meet that requirement and compare the requirements of different life stages. Life stages and conditions may include:

- Juvenile
- Adult
- Geriatric
- Breeding/pregnancy/ lactation
- Working
- Obesity
- Anorexic
- Specialist veterinary diets eg diabetes, laminitis
- Recuperation.

Learners need to be able to compare the nutritional values of feed given to animals at a variety of life stages and conditions.

Learning outcome:

4. Plan, monitor, record and evaluate diets and feeding regimes for animals

Topics

- 4.1 Design a feeding plan
- 4.2 Understand how to monitor, record and evaluate the effectiveness of a feeding plan

The learner is required to plan the diet or feeding regime, including ingredients, quantities and frequency of feeding for each animal and describe the presentation of food and water to animals. The learner is then required to monitor the effectiveness of their feeding regime and evaluate the effectiveness of the feeding plan as a whole, taking into account the health status, quantities of food consumed, cost of feeding etc.

For this outcome, learners may use animals kept at the centre or individual animal kept outside the centre.

Topic 4.1

The learner will be able to design a feeding plan for a selected species, life stage and condition.

The plan should include:

- Fresh water and its delivery
- Choice of diet
- Appropriate quantities of food (eg fresh and dried or pre-prepared and any supplements required)
- Frequencies of delivering food
- Methods of food delivery (eg enrichment activity)
- Alternatives to the plan dependant on food availability.

Record card should include:

- Consumption of food and water
- Health status
- Animal behaviour
- Frequency and turbidity of urination
- Frequency and consistency of defecation.

Topic 4.2

The learner needs to apply and evaluate a given feeding plan over a period of 4 – 6 weeks. The learner will accurately record the results of observations and evaluate effectiveness of the results, to include:

- Health status (Overall health of the selected animal – has the feeding plan provided a balanced diet, has the diet had a positive/negative effect)
- Quantities of food and water consumption exactly how much is the animal consuming, is it enough to provide a balanced diet
- Condition (is the animal gaining or losing weight, is its coat in good condition)
- Calculate costs of feeding against budget and different food types (how much does it cost to feed the animal and is the cost reasonable for the species). This links to topic 3.1 and 3.2.

Guidance for delivery

A wide range of delivery techniques should be possible for this unit. Lectures, discussions, seminar presentations, internet and/or library-based research and practical and interactive lessons can all be employed.

Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant information to the learner. Learners must be given the opportunity to deal with a range of animals in different situations which reflect current industry practice.

Unit 305 Animal Behaviour and Communication

UAN:	M/507/7112
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to understand the principles of animal behaviour and communication. The learner will develop skills to interpret animal behaviour and understand the factors which influence such behaviour.

Learning outcomes

In this unit, learners will be able to

1. Understand behaviour patterns in animals
2. Observe animal behaviour
3. Understand the factors influencing behaviour
4. Understand social behaviour and animal communication

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.

Centres should be up to date with legislation, policies and codes of practice used in the taught content.

The unit should cover a range of species as appropriate to the area of study:

- Horse care - horses, ponies (and donkeys if appropriate)
- Animal care: companion (dog or cat) or small mammal (rabbit and rodents) or exotics or large mammals (goat, camelids, donkey, pig or other available large mammals).

Learning outcome:

1. Understand behaviour patterns in animals

Topics

- 1.1 Analysis of natural and atypical animal behaviour
- 1.2 Causes of atypical behaviour in animals
- 1.3 Behaviour of captive or domestic animal and wild counterpart

Learners will recognise and distinguish between natural and atypical behaviour in animals. The underlying causes of atypical behaviour will also be investigated. Learners will also investigate the difference between the behaviour of an animal in the wild and its domestic or captive counterpart.

Topic 1.1

Learners will need to observe a range of animal species to identify natural and atypical behaviours, to include:

- Foraging
- Hunting
- Sleeping
- Social behaviour
- Grooming
- Courtship
- Territorial
- Hyperactivity
- Excessive inactivity
- Displacement behaviour
- Stereotypic behaviours.

Topic 1.2

Learners will need to be able to identify causes of atypical behaviours relevant to species, to include:

- Confinement

- Unsuitable environment
- Inappropriate social grouping.

Topic 1.3

Learners will need to be able to compare a range of behaviours exhibited by a species in the wild and its domestic or captive counterpart (eg wolf compared to domestic dog, wild wolf compared to a wolf in a zoo, wild cat compared to domestic cat).

Learning outcome:

2. Observe animal behaviour

Topics

- 2.1 Studying animal behaviour
- 2.2 Monitoring and recording behaviour in animals
- 2.3 Interpreting behaviour in animals

Learners will become familiar with reasons and techniques for studying and recording animal behaviour, including the work of noteworthy ethologists, behaviour sampling techniques and analysis of results.

Topic 2.1

Learners will need to have an appreciation of the contribution of noteworthy ethologists eg Lorenz, Darwin, Tinbergen.

Learners need to identify the reasons for studying animal behaviour, which may include:

- Improving captive animal management
- Managing animal populations
- Improving animal welfare.

Learners will need to describe and identify the uses and limitations of behaviour sampling techniques, this may include:

- focal sampling
- behaviour sampling
- scan sampling.

Learners will need to identify behaviour sampling tools and equipment, which may include:

- Video cameras versus in situ observation
- Ethograms
- Recording charts.

Topic 2.2

Learners will need to observe one species of animal for a set period of time and note its behaviours. They will need to recognise whether the behaviours seen are states or events and describe the difference between the two. No interaction with the animal should take place and animal welfare guidelines should be followed.

Topic 2.3

Learners will need to record the behaviour observed using an ethogram. They will need to choose to record either the frequency or duration of behavioural states and events and create an appropriate graph.

Learners will need to produce a report detailing the observation results and offering reasons for behaviours seen.

Learning outcome:

3. Understand the factors influencing behaviour

Topics

- 3.1 Evolution of behaviour
- 3.2 Development of behaviour
- 3.3 Factors influencing behaviour

Learners will investigate how species-specific behaviour have evolved and how behaviour may develop. They will consider how internal and external factors may affect behaviour.

Topic 3.1

Learners will need to investigate how species-specific behaviour have evolved, to include:

- Link between environment and behaviour (adaptation, competition for resources)
- Heredity of behaviour
- Differences between development and evolution
- Darwinian Theory
- Domestication.

Topic 3.2

Learners will need to investigate the development of behaviour, to include:

- Difference between instinctive and learned behaviour
- Trial and error
- Observational learning
- Parental or social teaching
- Cultural behaviour.

Topic 3.3

Learners will need to investigate internal and external factors, these may include:

- Hormones
- Fixed action patterns
- Other animals
- Seasonal variation to include:
 - Food availability
 - Daylight
 - Weather

Learning outcome:

4. Understand social behaviour and animal communication

Topics

- 4.1 Methods of communication
- 4.2 Formation and maintenance of social grouping
- 4.3 Mating and parent-offspring behaviour

Learners will examine social behaviour and communication in animals. The learner will investigate how the senses listed in the unit content are involved in communication and how effective communication is involved in establishing and maintaining social groups and how it can reduce conflict between animals. The differences and similarities between bonding and imprinting and the importance of such mechanisms to survival will also be investigated.

Topic 4.1

Learners will need to define interspecific communication (eg predator-prey) and intraspecific communication.

Learners need to understand the methods of communication, to include:

- Vision (body language, facial expressions)
- Hearing (vocalisations and other sounds)
- Chemical (smell, pheromones, taste)
- Touch (eg allogrooming).

Topic 4.2

Learners will need to have an appreciation of social behaviour, to include:

- Hierarchies (linear versus complex)
- Maintaining dominance relationships (communication methods used by animals to reduce conflict)
- Agonistic behaviour
- Social bonding and affiliative behaviour
- Altruism.

Topic 4.3

Learners will need to have an appreciation of mating systems and strategies:

- Polygamy
- Monogamy
- Non-associative
- Courtship.

Learners will need to have an appreciation of parental behaviour and strategies:

- Biparental
- Intensive
- No parental investment
- Parent-offspring bonding
- Imprinting (to include filial and sexual).

Guidance for delivery

This unit is designed to help the learner to develop their understanding of the behaviour of animal species. They will appreciate how species-specific behaviour evolves and how to distinguish between normal and atypical behaviours in animals. Learners will explore innate and learned behaviour patterns and the factors which influence such patterns.

Throughout the unit, the emphasis should be on safe working practices and follow animal welfare guidelines.

It is expected that learners working towards Level 3 will have some previous awareness of animal behaviour. This unit aims to enhance such knowledge. Where direct observation of animals is not possible, then video footage can be used.

Any direct observations of animals must follow health and safety and animal welfare guidelines.

Unit 306 Biological Systems of Animals

UAN:	F/507/7115
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to develop their knowledge and understanding of the anatomical and physiological systems in animals. Learners will also investigate how selected systems, such as sensory organs and the skeleton, have adapted to meet the needs of animals living in different environments.

Learning outcomes

In this unit, learners will be able to

1. Understand the structure and function of biological systems in animals
2. Understand control mechanisms in animals
3. Understand the neural control mechanisms in animals
4. Understand how animals' senses have adapted to their environment

Scope of content

This unit will be focussed on developing learner understanding of how mammalian bodies are structured and how the different biological systems function in a range of animals. The goal is that by the end of this unit, all learners should be able to apply an understanding of adaptations to the structure and function of the biological systems of a range of animals. Learners should be able to explain how and why specific traits arose. The species covered should broadly be mammalian but reference to other living organisms should be made where appropriate.

This unit is designed to provide the learner with knowledge of the anatomical and physiological systems in animals. It will equip the learner with sound knowledge of the basis of how the animal body functions under normal conditions. The unit should cover a range of species as appropriate to the area of study, with reference to other species where indicated in the specification, for comparison purposes.

Unit range

Species should be broadly mammalian but reference to other living organisms to be made where appropriate, to illustrate comparative anatomy.

Learning outcome:

1: Understand the structure and function of biological systems in animals

Topics

- 1.1 Structure and function of the circulatory system
- 1.2 Structure and function of the respiratory system
- 1.3 Structure and function of the reproductive system
- 1.4 Structure and function of the excretory system
- 1.5 Structure and function of the musculoskeletal systems

This learning outcome is to cover the major body systems and reproductive processes in animals. The structures of the body systems can be observed through photographs, preserved specimens, or practical dissections. The use of case studies, comparing healthy organs with diseased or injured counterparts may help learners understand and relate the organs and systems of the functioning animal body. Learners will need to explain the link between the structure and function of the body systems. The learner will appreciate that the animal body has evolved from selective pressures in the natural environment.

Topic 1.1

Learners should be able to identify and describe the components that make up the circulatory system:

- Blood (blood cell formation and composition) – plasma, erythrocytes, leukocytes and platelets
- Components and function of the double circulation system:
 - Heart (four chambers, aorta, vena cava, pulmonary vein, pulmonary artery, bicuspid and tricuspid valves, chordae tendinae, sino-atrial node, atrioventricular node, bundle of His and Purkynje fibres)
 - The role of each of the structures in the heart beat
- Relative structure and function of blood vessels (capillaries, veins and arteries)

Learners should be able to recognise different types of circulatory systems including single circulation; open (Eg arthropods and molluscs) and closed (fish and mammals) circulatory systems

Topic 1.2

Learners should be able to describe the structure and function of the respiratory system and how it has adapted in certain species:

- Mammalian structure – nasal chambers, larynx, trachea, bronchi, bronchioles, lungs, alveoli and diaphragm
- Function – gas exchange in the alveoli and ventilation of the lungs.

Learners should be able to have an appreciation of comparative adaptations: Fish (gills), Amphibians (skin), birds (air sacs), Invertebrates (spiracles, tracheae and book lungs).

Topic 1.3

Learners should be able to describe the location, structure and function of the reproductive systems in a range of animals:

- Male: Penis, prepuce, urethra, bulbus glandus, epididymis, vas deferens, testis (testosterone, oestrogen) and prostate gland
- Female: Vulva, vagina, cervix, uterus, oviduct and ovaries.

Learners should have an appreciation of comparative adaptations (eg, in cats, whales, pigs).

Learners should understand the stages of:

- The oestrus cycle including hormonal control (oestrogen, progesterone, LH and FSH) and human influence on breeding (Eg Hormonal injections in bitches and broodmares)
- Sexual reproduction (copulation, fertilization, implantation, gestation and parturition (prolactin and oxytocin).

Learners should have an appreciation of comparative adaptations (oviparous, viviparous, ovoviviparous, egg-laying mammal and marsupials).

Topic 1.4

Learners must be able to identify the structures which make up the excretory system and describe their functions:

- Kidneys (ultrafiltration and reabsorption), ureters, bladder (voluntary and involuntary control), urethra.

Learners should have an appreciation of comparative adaptations (eg, in birds, desert mammals and aquatic animals).

Topic 1.5

Learners must be able to identify the structure and function of the mammalian musculoskeletal system.

Learners will be able to comment on the advantages and disadvantages of the mammalian skeletal adaptations, as well as applying the basic theory to other animals including extinct species lines. The use of timelines could be used to illustrate the great lengths of time involved in the process of evolution. Case studies comparing normal function of skeletal components against those that are diseased or injured can be useful to highlight the importance of the skeletal system.

Learners should describe skeletal adaptations in animals living in contrasting environments, linking structure to function which may include:

- Aquatic mammals (eg cetaceans)
- Flying mammals (eg bats)
- Hopping mammals (eg rabbits)
- Running mammals (eg horses, cheetah).

Learning outcome:

2. Understand control mechanisms in animals

Topics

- 2.1 Structure and function of hormonal mechanisms in the endocrine system
- 2.2 Structure and function of the lymphatic system
- 2.3 Structure and function and adaptations of the thermoregulatory system

This outcome covers the action and effects of control mechanisms in maintaining equilibrium within the body. This will include understanding of the function of hormones within the endocrine system, as well as the immune system and neural control of homeostasis.

Topic 2.1

Learners must be able to describe the structure and function of hormonal mechanisms in the endocrine system:

- homeostasis in relation to sugar and water levels in the blood
- requirement of receptors on cell surface
- circulating hormones (eg, insulin) versus locally acting hormones (eg histamine).

Learners must also be able to locate the major endocrine glands and describe their function:

- Hypothalamus
- Pituitary gland
- Pancreas
- Adrenal
- Thyroid and para-thyroid
- Ovaries
- Testes.

Topic 2.2

Learners should be able to describe the structure and function of the lymphatic system:

- Structure of glands and vessels
- Functions:
 - Drain excess fluid
 - Aid in fat digestion
 - Transport of materials
 - Immune system (thymus, T-lymphocytes and B-lymphocytes).

Topic 2.3

Learners should be able to describe thermoregulatory systems:

- Homeostasis in relation to temperature control
- Endotherms
- Ectotherms.

Learning outcome:

3. Understand the neural control mechanisms in animals

Topics

- 3.1 Gross anatomy of the brain
- 3.2 Neural control mechanisms in animals

This outcome covers the gross anatomy of the brain and the main components that make up the nervous system. Models or online dissections could be used to illustrate the structures within the brain, with links made as to functions.

Topic 3.1

Learners should be able to identify functions and describe the gross anatomy of the brain, to include:

- Forebrain (thalamus, hypothalamus, cerebral cortex and limbic system)
- Midbrain (reticular formation and neuron receptors)
- Hindbrain (medulla, cerebellum and pons).

Topic 3.2

Learners should be able to identify and describe the main components which make up the central, peripheral and autonomic nervous systems:

- Central Nervous System
- Peripheral Nervous System (afferent and efferent)
- Autonomic Nervous system (sympathetic and parasympathetic actions).

Learning outcome:

4. Understand how animals' senses have adapted to their environment

Topics

- 4.1 How animal's senses are adapted to their environment
- 4.2 Specialised senses

This outcome is to examine the interaction of the animal with its environment. A comparison between predator and prey species should be emphasised at each stage. The structure and function of the mammalian eyes would be enhanced by dissections if facilities allow and simple experiments (eg the blind spot, pupil shape in different animal species).

Topic 4.1

The learner needs to be able to describe the structure and function of the main senses and link them to their stimuli, and also compare between prey and predator:

- Eye (Cornea, pupil, iris, ciliary body, lens, sclera, retina (rod and cone cells), choroid, fovea, optic disc, optic nerve, medial and lateral rectus muscles)
- Ear (pinna, auditory meatus, tympanic membrane, malleus, incus, stapes, oval window, round window, cochlea, organ of Corti, cochlear nerve and semi- circular canals)
- Nose (nasal chambers, turbinates, olfactory nerve and olfactory bulb)
- Mouth (taste buds, soft palate and hard palate)
- Touch (Skin receptors).

Topic 4.2

The learner needs to describe a range of specialised senses and appreciate why they have evolved, to include two animals in contrasting environments (eg arid/ aquatic, cold/hot, high/ low altitudes, high/ low pressure):

- Tactile organs (Eg Platypus beak, lateral line in fish and vibrissae)
- Taste and smell (Eg Jacobson organ)
- Electroreception (ampullae of Lorenzini)
- Echolocation (bats and dolphins).

Guidance for delivery

Tutors have many opportunities to deliver the unit using a wide range of learning approaches including lectures, discussions, seminar presentations, supervised dissections and live animal handling. Where dissections are used this should be in line with the centres' ethical policies. Tutors should consider integrating the delivery and private study of this unit with other relevant units. It is particularly recommended that the unit covering Cellular Biology should be included for any learner looking to progress in a science based career or further training.

It is expected that learners will be familiar with safe working practices around potentially hazardous equipment, materials and animals. The learner should be taught how to recognise hazards and risks and should also be able to use information to manage potential risks to themselves and others as appropriate.

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.

Unit 307 Animal Welfare and Breeding

UAN:	J/507/7116
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to know about evolution, how animals have evolved and the processes of domestication. Learners will investigate the uses of animals in human society and the welfare issues that can arise from this. The learner will have a working knowledge of the current United Kingdom animal welfare legislation and the organisations that aim to promote animal welfare.

Learning outcomes

In this unit, learners will be able to

1. Understand animal evolution and the development of domestic breeds
2. Understand the roles of animals in human society
3. Understand current United Kingdom animal welfare legislation
4. Understand the roles and aims of animal welfare organisations
5. Understand how to manage breed stock and young animals
6. Understand the uses of reproductive technology.

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. Understand animal evolution and the development of domestic breeds

Topics

- 1.1 The principles of animal evolution
- 1.2 Development of selected domesticated breeds
- 1.3 The effect of domestication on the welfare needs of animals

Topic 1.1

Learners need to outline the principles of animal evolution to include:

- Darwin's theories of evolution
- Natural selection
- Survival of the fittest
- Mutations
- Adaptations.

Learners need to understand the causes of species extinction, to include:

- Pollution
- introduction of non-native species
- habitat destruction and climate change and natural disasters (eg earthquakes, flooding).

Topic 1.2

Learners need to understand the development of selected domestic breeds, to include:

- Processes involved in domestication (eg capturing, taming, selective breeding)
- Selection of breed characteristics: appearance, conformation, behavioural traits, characteristics of working animals and companion animals.

Topic 1.3

Learners need to understand the effect of domestication on the welfare needs of animals, to include:

- Hereditary conditions in breeds (eg progressive retinal atrophy in cats and dogs, hip dysplasia, epilepsy and collie eye anomaly)
- Roles of breed societies and breed improvement on the welfare needs of animals.

Learning outcome:

2. Understand the roles of animals in human society

Topics

- 2.1 The commercial use of animals and animal products in human society and how their welfare maybe affected
- 2.2 The role of working animals in human society and how their welfare maybe affected
- 2.3 The roles of animals in human cultures and how their welfare maybe affected

Topic 2.1

Learners need to understand the commercial use of animals and animal products in human society and how their welfare may be affected, to include:

- agriculture: meat, wool, skin, eggs and milk
- World trade: animal organs, meat, live animals, fur
- Medical: testing of products and medical procedures on animals (for example household products, animal drugs, human drugs).

Topic 2.2

Learners need to understand the role of working animals in human society and how their welfare may be affected, to include:

- Guide dogs
- Pets as Therapy (PAT) dogs
- Sniffer dogs
- Search and rescue dogs
- Military and police dogs and horses
- Draught animals (equines, oxen, elephants)
- Gun dogs.

Topic 2.3

Learners need to understand the roles of animals in human cultures and how their welfare may be affected, to include:

- animals in the media: film, television, advertising, media portrayal
- animals in sport and leisure, legal rural pursuits, hunting and angling, racing, horse trekking, riding schools and eventing, zoos, aquaria, wildlife parks and circuses
- influence of culture and religion eg cats in Egypt, Christianity (dominion over animals), Judaism (forbidden to hunt animals), Islam (does not accept animal suffering), Hinduism (animals have souls, cows are very sacred and must not be eaten), dogs and other animals as fashion accessories and status symbols.

Learning outcome:

3. Understand current United Kingdom animal welfare legislation

Topics

3.1 United Kingdom animal welfare legislation

3.2 The objectives of selected current United Kingdom animal welfare legislation

Topic 3.1

Learners need to explain current relevant United Kingdom legislation, to include:

- The Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 2018
- Animal Welfare Act 2006
- Pet Animals Act 1951
- Animal Boarding Establishments Act 1963

- Riding Establishments Act 1970
- The Breeding of Dogs Act 1973 (as amended 1991)
- The Breeding and Sale of Dogs (Welfare) Act 1999
- The Performing Animals (Regulation) Act 1925
- Dangerous Dogs Act 1991.

Topic 3.2

Learners need to explain the main aims and objectives of current relevant United Kingdom legislation to include:

- Duty of Care and carer's responsibilities
- Definitions
- Exceptions
- Licences
- Penalties.

Learning outcome:

4. Understand the roles and aims of animal welfare organisations

Topics

- 4.1 Roles and aims of specified animal welfare organisations
- 4.2 The effectiveness of specified animal welfare organisations in the promotion of animal welfare

Topic 4.1

Learners need to understand the roles in education and increasing public awareness for specific animal welfare organisations, which may include:

- Royal Society for the Prevention of Cruelty to Animals (RSPCA)
- World Society for the Protection of Animals (WSPA)
- International Fund for Animal Welfare (IFAW)
- The League Against Cruel Sports
- British Horse Society (BHS)
- Royal Society for the Protection of Birds (RSPB)
- British Veterinary Association (BVA)
- The Animal Health Trust (AHT)
- The Blue Cross
- People's Dispensary for Sick Animals (PDSA)
- Universities Federation for Animal Welfare (UFAW)
- People for the Ethical treatment of Animals (PETA)
- Greenpeace
- Rare Breeds Survival Trust and breed societies.

Topic 4.2

Learners need to compare organisations' effectiveness, which may include:

- Media attention
- Campaigns
- Role in amending legislation and influences through education eg the banning of cosmetic testing on animals.

Learning outcome:

5. Understand how to manage breed stock and young animals

Topics

- 5.1 Factors to consider when selecting and managing breed stock
- 5.2 Management of female from conception to birth
- 5.3 Potential problems that could occur in the management of the female from conception to birth
- 5.4 The care requirements of offspring from birth to weaning
- 5.5 Problems that could occur in the offspring from birth to weaning

Topic 5.1

Learners need to understand the reasons for breeding eg production, pet trade, animal shows, work, companion, endangered species and conservation.

Learners need to understand how breeding stock is selected eg breeding females, stud male, genotypes and phenotypes.

Topic 5.2

Learners need to describe how to manage a female animal from conception to birth, to include:

- The stages of oestrus
- Mating
- Timing of mating
- Stages of pregnancy, parturition, preparation for parturition
- Stages of labour
- Nutrition during pregnancy through lactation and weaning
- Hygiene, health and safety.

Topic 5.3

Learners need to have an appreciation of the potential problems that can occur:

- Infertility, problems with mating (eg non-compatible males and females)
- Eclampsia
- Dystocia
- Post-partum problems (eg retained placenta, uterine prolapse)
- Pyometra.

Topic 5.4

Learners need to describe the care requirements of offspring from birth to weaning, to include:

- Rearing
- Importance of colostrum
- Weaning, socialisation
- Early training
- Homing
- Regular checks eg weight gain, size, ears and eyes opening, eating normally and passing of urine and faecal waste.

Topic 5.5

Learners need to have an appreciation of problems that could occur in the offspring from birth to weaning, which may include:

- Congenital abnormalities and hereditary defects
- Orphans
- Hand-rearing
- Fostering
- Weaning
- Fading puppy/kitten syndrome
- Toxic milk syndrome
- Umbilical infection
- Swimmers
- Herpes
- Hernias
- Cleft palate
- Still births.

Learning outcome:

6. Understand the uses of reproductive technology

Topics

6.1 Types of breeding problems that can occur

6.2 Types of reproductive technologies that are available for animal breeders

6.3 How reproductive technologies can be used by animal breeders

Topic 6.1

Learners need to have an appreciation of the types of breeding problems that can occur, which may include:

- Infertility
- Restricted gene pool
- Health problems in the female, eg pseudo-pregnancy, ovarian imbalance, adult acromegaly, ovarian tumours
- Health problems in the male eg balanitis, phimosis, prostate problems, cryptorchidism, monorchidism, orchitis.

Topic 6.2

Learners need to describe the types of reproductive technologies that are available for animal breeders, which may include:

- Infertility treatments
- Superovulation
- Synchronisation
- Ovulation indicators

- Artificial insemination
- Embryo transplants
- Cloning
- Genetic analysis
- Genetic engineering.

Topic 6.3

Learners need to have an appreciation of how reproductive technologies can be used by animal breeders, which may include:

- Breed development and improvement
- Use of animals for breeding (eg use of teaser animals, surrogate mothers)
- To increase productivity
- To ensure timing of births enhances management of offspring.

Guidance for delivery

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. The unit should also emphasize animal welfare with due consideration to the Animal Welfare Act 2006 and the duty of care towards animals.

Learning outcome 1 covers the relationship between animal evolution and the development of a domesticated breed. Learners will need to have an appreciation of the effects of domestication of the welfare needs of animals. It is anticipated that this outcome will require formal delivery and discussion with learners. Emphasis should be placed on how the development of a selected breed has been influenced by humans (as opposed to evolution alone).

Learning outcome 2 is likely to be delivered by formal lectures and visits (for example to zoos, animal sanctuaries, city farms and racing stables). Learners should be allowed to explore areas, within the context of the outcome that they are particularly interested in.

Learning outcome 3 is likely to be delivered through formal lectures which could be enhanced by visiting speakers (for example RSPCA Inspectors and local Environmental Health Officers). Learners should have an overview of the range of legislation, though it is not expected that all will be covered in great detail. Specific relevant examples of legislation (for example the Animal Welfare Act 2006) may be covered in more depth.

In Learning outcome 4, learners will research different organisations that aim to promote animal welfare, in order to identify their roles and aims and compare their effectiveness. It is anticipated that this outcome will require some formal delivery, visits (for example to animal rescue centres) and visiting speakers (for example from Guide Dogs, PAT dogs and Police/ Armed Forces Dog and Horse Units).

Learning outcome 5 is likely to be delivered by formal lectures and discussion. Visits to animal breeding establishments (such as farms and rare breed centres) would enhance the delivery of this outcome. Visiting speakers (eg an animal breeder) would also be beneficial. Audio visual material will be useful. In Learning outcome 6, learners are required to explain the types of breeding problems that can occur in animals. Learners will be required to research different types of reproductive technologies that can be used and identify appropriate uses for those technologies. Visits to animal breeding establishments (such as farms and rare breed centres) would enhance the delivery of this outcome. Visiting speakers (eg an animal breeder or someone who practices artificial insemination) would also be beneficial.

Learners working at level 3 are likely to have some experience in animal welfare. This unit aims to extend the learner knowledge and skills involved in promotion of welfare and management of animals.

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.

Unit 310 Exotic Animal Health and Husbandry

UAN:	T/507/7127
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to understand the husbandry and management of exotic animals in captivity. This unit aims to extend the learners knowledge and skills involved with ensuring the health and welfare of exotic animals as well as reproduction, handling, restraint and nutrition. It is important that the learner understands current legislation and Codes of Practice in relation to animal health and welfare.

Throughout the unit, the delivery should be focused on aspects of health and safety (eg size, toxicity and disease transmission) incorporated when working with dangerous animal species and those subject to Dangerous Wild Animals Act 1976. It is anticipated that on completion of the unit, learners could progress to more advanced study in the subject.

Learning outcomes

In this unit, learners will be able to

1. Understand the sourcing and legislation of exotic animal species
2. Understand the health, welfare and reproductive requirements of exotic animal species
3. Prepare accommodation and feeding regimes for exotic animal species
4. Handle, restrain and transport exotic animal species

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.

Centres should be up to date with legislation, policies and codes of practice used in the taught content.

Learners should cover a minimum of two non-native species from the range:

- invertebrates
- amphibians
- fish
- reptiles
- birds
- mammals

Learning outcome:

1. Understand sourcing and legislation of exotic animal species

Topics

- 1.1 Ethical sourcing of exotic animal species
- 1.2 Legislation associated with keeping exotic animal species in captivity
- 1.3 The impact of the five animal 'needs' on exotic animal welfare

This outcome is concerned with the development of responsible ownership and care of exotic species. Learners will be made aware of what constitutes an exotic species, how ethical sources of exotics can be identified and of the conflict between conservation of such animals in their native environment and the pet trade. Relevant legislation will be summarised (CITES – Convention on International Trade in Endangered Species, Dangerous Wild Animals Act 1976, Animal Welfare Act 2006).

Topic 1.1

Learners need to develop an understanding of the potential sources and ethics of exotic animals to include:

- Pet trade and dealers
- Distinguish between the sources and origins which are ethical (do not deplete wild populations and are thus from a sustainable and captive bred source)
- Other sources (eg Captive farmed (CF), Long term Captive(LTC), Wild Caught (WC), Captive Bred (CB)) and impact on exemplar species and the global trade

Topic 1.2

Learners should have an appreciation of the relevant legislation associated with keeping exotic animal species:

- The Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 201
- Dangerous Wild Animals Act 1976
- CITES
- COTES
- Secretary of States Standards of Modern Zoo Practice
- Pet Animals Act (1951).

Topic 1.3

The Five Animal Welfare Needs should be discussed and the impact on exotic animals from failure to fulfil these needs. The relative needs of animals which are ectothermic and endothermic (temperature, light, humidity, ventilation, design):

- A suitable environment
- A suitable diet
- To be housed with or apart from other animals
- To exhibit normal behaviour
- To be protected from pain, injury, suffering and disease.

Learning outcome:

2. Understand the health, welfare and reproductive requirements of exotic animal species

Topics

- 2.1 The causes of ill health and consequences of poor welfare in exotic animal species from the range
- 2.2 How disease symptoms in exotic animal species are recorded, monitored and treated
- 2.3 Explore the reproductive strategies of exotic animal species

In this outcome the learner will be able to apply their knowledge of welfare gained in outcome 1 to specific exotic species. Instances of ill health (eg lesions, discharges, swellings and anorexia) will be identified and the causes of ill health and inappropriate welfare (inadequate housing, malnutrition and poor restraint/handling) described. The use of recording systems to record ill health (symptoms and development, treatment protocol, product, dose rate, duration and outcome of treatment) will be reviewed.

Topic 2.1

The learner will identify the causes of ill health and consequences of poor welfare in chosen exotic animal species. The learner will understand the role of pathogens and be able to identify symptoms and appropriate treatments:

- Bacteria, viruses, fungi and parasites
- Examples of diseases caused by each pathogen (eg chytrid fungus, pneumonia, necrotic stomatitis and dermatitis, endo parasites and ecto parasites, psittacosis)
- Non-pathogenic causes of ill health (eg metabolic bone disease, dysecdysis, dystocia, malocclusion, diseases caused by poor water quality)
- Scenarios that lead to poor welfare in exotic animal species, how these can be rectified and prevented
- An awareness of the impact of zoonoses, zoonoconosis (eg salmonellosis, fish TB, aspergillosis).

Topic 2.2

Learners need to recognise signs of health in context of:

- Body condition and appearance
- Behaviour, locomotion, posture, feeding, drinking, urination/ defecation and weight change.

The learner will have an understanding of how to assess disease symptoms and identify appropriate treatments for chosen exotic animal species, to incorporate:

- Recognising and reporting symptoms
- Identifying appropriate treatments
- Monitoring
- Recording.

Learners should also understand the measures that can be used to prevent and control disease (biosecurity) in exotic animal species to include quarantine and isolation.

Topic 2.3

The learner will explore the reproductive strategies of exotic animal species, understand correct terminology and conditions needed for breeding for species from the range:

- Oviparous, viviparous, ovo-viviparous
- Parental care
- Environmental requirements.

Learning outcome:

3. Prepare accommodation and feeding regimes for exotic animal species

Topics

- 3.1 Prepare appropriate accommodation to incorporate natural habitat features (clinical, artificial, natural)
- 3.2 Feeding requirements
- 3.3 Prepare and feed typical daily diets

In this outcome, the learner will be able to apply knowledge and understanding of the requirements of exotic species to ensure housing, accommodation and environment meet the needs of the chosen exotic species (to consider space, substrates, temperature, humidity, light intensity and stocking density). Additionally, appropriate feedstuffs will be identified, selected, prepared and presented in suitable proportions for the chosen exotic species at time intervals corresponding to their natural foraging routines. This will include live, dried, fresh and frozen sources plus supplements.

Topic 3.1

Learners will be able to identify and assemble appropriate materials and equipment into an enclosure to create a suitable habitat for a nominated exotic animal species:

- Furnishings
- Substrates
- Vegetation
- Water and feeding equipment
- Heating and lighting
- Humidity and ventilation

Learners should have an appreciation for the maintenance requirements for exotic animal species from different habitats and creating and maintaining an appropriate micro climate:

- Terrestrial
- Fossorial
- Arboreal
- Aquatic
- Semi aquatic.

Topic 3.2

Learners should understand species-specific feeding requirements, including:

- Creating a balanced diet
- Choosing appropriate feeds (ingredients, substitutes, supplements)
- Food preparation
- Food presentation
- Recording feeding
- Food storage
- Waste disposal.

Topic 3.3

Learners will be able to select, prepare and feed appropriate daily diets to a range of exotic animal species:

- Feeding groups (eg hunting, scavenging, foraging)
- How feeding strategies can meet requirements (eg frequency and amounts)
- Feeding methods to incorporate natural habitats (eg nocturnal, diurnal, crepuscular).

Learning outcome:

4. Handle, restrain and transport exotic animal species

Topics

4.1 Handle and restrain exotic animal species

4.2 Moving exotic animal species incorporating relevant transport legislation

In this outcome, the learner will be able to demonstrate effective restraint of nominated exotic species for the purposes of examination, administration of medication and transportation. Suitable equipment will be selected for use, such as snake hooks, bags, restraining tubes, tubs and containers, nets, and Personal Protective Equipment (PPE). Transportation boxes and associated paperwork will be prepared and an understanding of legislation which impacts on animal transportation will be described. This includes CITES and the Welfare of Animals (Transport) Act 2006.

Topic 4.1

The learner will use appropriate Personal Protective Equipment (PPE) and restraint equipment for selected exotic animal species and correctly demonstrate its use to safely and effectively restrain them.

PPE and restraint equipment may include:

- Gloves and gauntlets
- Eye protection
- Facemasks
- Protective clothing footwear

- Collars and leads
- Crush cage/ bags
- Graspers/nooses
- Towels/blankets
- Restraining tubes
- Padded tongs
- Nets
- Boxes
- Snake hooks.

When handling animal's learners need to appreciate safety considerations:

- Avoidance of bites, scratches, stings
- Toxic secretions
- Allergens
- Lashings from tails
- An awareness of venom protocols and policy (haemotoxins/neurotoxins)
- Avoidance of zoonotic disease.

Topic 4.2

When transporting exotic animal species, learners should be able to:

- Recognise suitable containers to transport exotic species between locations.
- Investigate current relevant statutory regulations
- Appreciate the importance of preparing appropriate paperwork and records required for transportation.

The learner should understand the main legislative statutes, interpret their application to the transportation of exotic species. This should include:

- CITES
- The Welfare of Animals (Transport) Order 2006
- IATA Regulations
- COTES 2009
- DEFRA.

Guidance for delivery

This unit is designed to provide the learner with principles and underpinning knowledge of factors that contribute to the health and welfare of a range of exotic species. It is anticipated that this could be applied to exotic animal species in retail outlets, specialist collections or hobbyists who keep animals in a domestic environment. Centres are encouraged to introduce employers and specific professionals from industry to provide interesting and relevant information to the learner.

The delivery of the unit will consist of a variety of forms including lectures, practicals, simulations and appropriate visits to premises where exotic species are maintained for education, conservation or acquisition. It is accepted that formal lectures will be necessary at Level 3 but for this unit it is recommended that they are linked directly with interactive lessons 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 in order to add depth to the learner experience.

It is important that the specific requirements of exotic animal species are considered in terms of housing and that reference is made to the range of habitats which form their natural range. Signs of normal health will be reviewed in context of body condition, behaviour, locomotion, posture, feeding, drinking, excretion/defecation and weight change.

Unit 311 Pet Store Design and Management

UAN:	J/507/7133
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to gain an understanding of how pet stores are designed, managed and find out the husbandry requirements of animals being sold. The learner will be able to identify both livestock and non-livestock products and their sources, methods of stock control and the ethics surrounding this. Learners will also cover marketing of pet stores and all relevant legislations. Learners will gain an understanding of good customer service and be able to deal with a range of store related scenarios in preparation for future employment.

Learning outcomes

In this unit, learners will be able to

1. Understand how to design a pet store
2. Understand how to apply for a pet shop licence and relevant legislation
3. Understand the sources of livestock and non-livestock products found in a pet store
4. Understand the husbandry requirements of animals sold in pet stores
5. Understand the importance of marketing for a pet store
6. Understand customer service skills applicable to the retail industry in the wider context.

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. A realistic range of animals needs to be covered which would typically be sold in a pet store. This can include small mammals, aquatic animals, exotics and birds.

Centres should be up to date with legislation, policies and codes of practice used in the taught content.

Learning outcome:

1. Understand how to design a pet store

Topics

- 1.1 Suitable layout and design for a pet store
- 1.2 Needs of the livestock in the pet store in regard to store layout

In this outcome, the learner is required to know what types of layouts can be used in pet stores and how this affects livestock, and non-livestock products as well as profitability. The aim is for learners to have an understanding of what is required to create a successful business.

Topic 11

Learners need to describe a suitable store layout (eg grid, spine, free-flow and loop), to include:

- Store location
- Entrance
- Exit
- Customer service area
- Store room
- Shelving areas
- Livestock housing areas
- Lighting, fire exits
- Customer facilities (toilets, drinks machine)
- Disabled access
- Parking and delivery area.

Topic 1.2

Learners need to recognise the requirements of the livestock in the pet store in regard to store layout to include:

- Safe access for maintenance (eg cleaning, water and electrical supplies)
- Viewing by the public
- Location of housing (eg away from noise, sunlight, crowded areas)
- Security (eg locking systems, cctv, constant supervision).

Learning outcome:

2. Understand how to apply for a pet shop licence and relevant legislation

Topics

- 2.1 How to apply for a pet shop licence
- 2.2 Standards required to maintain a licence and relevant legislations

In this outcome learners will understand how to apply for a pet store licence and know what standards are required to maintain the licence. The needs of livestock will be included as part of this outcome and the legislation which governs this.

Topic 2.1

Learners need to know how to apply for a pet shop licence, to include:

- On-line application forms
- Cost
- Difference between local authorities.

Topic 2.2

Learners need have an appreciation of what standards need to be met to maintain a licence and the evidence required to include:

- The Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 2018
- Animal Welfare Act 2006
- Pet Animals Act 1951

Learners need to describe the health and safety measures required as part of the licensing conditions, which may include:

- Disease prevention (eg cleaning routines, Personal Protective Equipment (PPE))
- Correct waste disposal)
- Safe manual handling (eg Personal protective equipment (PPE), lifting procedures)
- Licences for dangerous species
- Accommodation for dangerous species (eg enclosures within enclosures, locking systems, staff training)
- Fire safety and procedures (eg staff training, required equipment, evacuation plan).

Learning outcome:

3. Understand the sources of livestock and non-livestock products found in a pet store

Topics

- 3.1 The sources of livestock and non-livestock products
- 3.2 Ethics of sourcing livestock
- 3.3 The methods of stock control used by pet stores

This outcome focuses on the products which are sold in the pet store, and where they originated from. The learner should be able to identify a number of livestock, and non- livestock products which are sold within a pet store. To go along side this, the sources of these products should to be evaluated. Finally, the topic of stock control will be covered, including livestock control methods.

Topic 3.1

Learners need to be able to identify the sources of products, to include:

- Livestock (eg specialist breeders, hobbyists, shows, small pet stores, superstores, wholesalers, importers, farms)
- Non-livestock (eg wholesalers, suppliers, superstores, importers).

Non-livestock products include:

- Bedding (eg dog beds, cat beds, rodent, reptile)
- Substrates (eg sawdust, shredded paper, cat litter, sand paper)
- Handling equipment (eg leads and collars, harnesses, muzzles)
- Books, food, treats, toys (eg boredom breakers, gnawing blocks, mirrors)
- Housing (eg rodent houses, hutches, vivaria, glass tanks, wire cages)
- Fish equipment (eg tanks, filters, gravel, enrichments).

Topic 3.2

Learners need to understand the ethics of sourcing livestock comparing the advantages and disadvantages of using UK based suppliers over using international suppliers, which may include:

- Carbon footprint
- Welfare eg capture techniques, transport, accommodation
- Cost
- Quality of stock
- Captive bred/ wild caught.

Topic 3.3

Learners need to understand the methods of stock control to include:

- Monitoring stock eg stock taking, stock rotation, meeting demand
- Monitoring livestock eg animal temperament, re-homing older animals, animal adoption, surplus to demand.

Learning outcome:

4. Understand the husbandry requirements of animals sold in pet stores

Topics

- 4.1 Housing requirements of animals being sold in pet stores
- 4.2 Husbandry regime for animals being kept in pet stores

In this outcome the learner is required to understand the housing requirements of animals being sold in pet stores, both for the needs of the pet store and the animal. They will then need to understand the suitable housing requirements for these animals. Learners will understand the relevant health and safety measures involved when dealing with animals being sold in pet stores.

Topic 4.1

Learners need to understand the housing requirements of animals being sold in pet stores to include:

- Type of accommodation
- Material used for housing
- Substrate (eg wood shavings, hay, shredded paper, sand, bark)
- Size requirement of species
- Feeding provision, water provision
- Enrichment (eg toys, company, exercise)
- Heating, lighting (eg nocturnal/diurnal species).

Topic 4.2

Learners need to explain the husbandry regime for animals being kept in pet stores, to include:

- Feeding (time of day, how food is supplied eg bowls, scatter fed)
- Watering
- Cleaning (frequency, equipment required)
- Exercise
- Handling
- Regular health checking
- Record keeping.

Learning outcome:

5. Understand the importance of marketing for a pet store

Topics

- 5.1 Methods of marketing used by pet stores
- 5.2 Legislation relating to the marketing of pet stores

In this outcome, the focus is on the marketing surrounding pet stores. A number of marketing methods need to be identified and discussed and this could include incorporation of visits to pet stores, learners bringing in any advertising or marketing they have seen for a pet store, including photographs and videos. The relevant legislation of marketing a pet store will also be covered and learners should evaluate the impact this has on the store.

Topic 5.1

Learners need to know the methods of marketing, and their advantages and disadvantages, to include:

- Leaflets
- Posters
- Media (eg internet, television, newspapers, magazines)
- Food packaging, target market (eg local, national, pet owners)
- Time of marketing (eg seasonal, all year, bank holidays, weekends)
- Offers (eg buy one get one free, two for one)
- Company logo and slogans.

Topic 5.2

Learners need to appreciate the reasons for legislation (compliance, requirements, punishments, responsibilities) to include:

- The Trade Descriptions Act 1968
- The Sale of Goods Act 1968 (as amended 1979 & 1994)

- Weights and Measures Act 1985
- Animal Welfare Act 2006
- Health and Safety at Work Act 1974.

Centres should be up to date with legislation, policies and codes of practice used in the taught content.

Learners may look at other legislation appropriate to their selected species.

Learning outcome:

6. Understand customer service skills applicable to the retail industry in the wider context

Topics

6.1 Customer service skills

This outcome will focus on customer service skills. Learners will gain an understanding of how to deal with complaints and different situation within the retail industry.

Topic 6.1

Learners need to be able to differentiate between 'good' and 'poor' customer service skills.

Learners need to have an appreciation of how to deal with difficult situations and work within a team.

Guidance for delivery

This unit is designed to provide the learner with sound knowledge and skills required to understand suitable store layouts and successful management and care of the animals within it. The unit must cover pet stores which sell both livestock, and non- livestock products. Relevant legislation and customer services are to be covered.

Throughout the unit the emphasis must be put on safe working. It is expected that the learners will be aware of safe working practices and accepted practices and behaviours within the context in which they are working. This will link with industry links and possible career choices. Skills will be transferable for other industries as well as those in the retail sector.

In Outcome 1 could be delivered through visits to different types/sizes of store, and or theoretical sessions. The aim is for learners to have an understanding of what is required to create a successful business.

The delivery of outcome 3 would benefit from visits to pet store establishments and talks/discussions with personnel involved with sourcing/acquiring stock. Learners can debate the ethics of sourcing livestock and understand the pros and cons of each source.

Outcome 4 could be delivered using a mixture of theory-based sessions and practical demonstration, observation of husbandry routines in a pet store establishment would be beneficial, or even as part of work experience.

Delivery of outcome 5 could include the collection of marketing materials for a range of pet store and their products and group discussion around the effectiveness of the materials. Theory-based sessions could be used to deliver the aspects on legislation.

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.

Formal lectures will be necessary at level 3 but for this unit it is recommended that they are linked directly with interactive lessons in a real environment.

Unit 312 Animal Training

UAN:	Y/507/7136
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to combine knowledge of animal learning and behaviour to assess an animal's suitability for training, design a suitable training programme, select appropriate training aids and then train an animal to achieve a desired result. The learner will then be able to assess the training programme and modify it to improve future results.

Learning outcomes

In this unit, learners will be able to

1. Assess animal behaviour
2. Apply training aids within a training programme
3. Training 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.

All of the learning outcomes are closely linked and could be delivered in conjunction with one another.

Range of species:

Companion animals (dogs or cats) or small mammals (eg rabbits, rodents) or large mammals (eg goats, sheep), birds or zoo animals.

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. Assess animal behaviour

Topics

- 1.1 Behavioural assessment on animals
- 1.2 Design a training programme

In this outcome, the learner will be required to assess animal behaviour and based on this assessment and knowledge of learning theory, design a suitable training programme.

Topic 1.1

Learners need to have an understanding of learning theory, to include:

- Stimulus-response learning (habituation and sensitisation),
- Associative learning (classical and operant conditioning),
- Higher learning (social/observational, latent and insight learning, cognition).

Learners will need to carry out a behavioural assessment on a selected animal. The learner will need to include:

- Type of behavioural assessment (eg questionnaire versus observation-based tests)
- Consideration of species/breed requirements for training
- Designing a behaviour assessment and recording results (eg using scales for ease of replication).

Learner will need to understand the considerations for creating a training programme, which include:

- Species
- Breed
- History
- Temperament
- Health
- Behaviour.

Topic 1.2

Learners will need to design a training programme based on their behavioural assessment of their chosen animal, to include:

- End goal
- Training method (hands off versus hands on, luring/baiting, capturing, shaping)
- Duration
- Frequency of training
- Reinforcement method (eg positive reinforcement, food, social, praise rewards – the premack principle)
- Reinforcement schedule (how often to reward)
- Shaping plan
- Equipment (eg clickers, transport boxes, whistles, equipment will depend on planned training and species).

Learning outcome:

2. Apply training aids within a training programme

Topics

2.1 Training aids that can be used in training programmes for animals

2.2 The effectiveness of different animal training aids.

This outcome requires learners to demonstrate knowledge of training aids that can be used in training animals, their correct use and effectiveness.

Topic 2.1

Delivery of this outcome could be supported through practical demonstration, video, internet etc.

Learners will need to select training aids that are appropriate to the animal, these may include:

- Leads
- Collars
- Harnesses
- Muzzles
- Rewards (eg food, toys, praise)
- Chemicals (eg artificial pheromones)
- Whistles
- Clickers
- Targets
- Stations.

Learners will need to use the appropriate choice of training aids for the animal, considering the following:

- Species
- Breed
- Age
- Sex
- Appropriate application
- Appropriate use (when to use and when not to use, considerations for animal)

health and behaviour).

Topic 2.2

Learners will need to evaluate the effectiveness of the selected training equipment.

Learning outcome:

3. Training animals

Topics

- 3.1 Implement animal training programmes to achieve specific goals
- 3.2 Review the progress of an animal and modify training programmes accordingly
- 3.3 Impacts of stress on animal learning and training

In this outcome, the learner will be required to implement a training programme to meet a specific goal and regularly review progress and modify as needed. It is expected that this will require some formal delivery but mostly will consist of practical situations (usually outside the classroom) where learners can train animals. Any animals that are suitable can be used for the training programme. The training itself does not need to be complex, but should involve the setting of, and working towards, goals which are achievable given the type of learner and animal.

They will also be required to demonstrate knowledge of the impacts of stress on animal learning and training including consideration of commonly used potentially stressful training techniques and equipment.

Topic 3.1

The learner will need to implement the animal training programmes that they designed in learning outcome one. It may include the following animal training techniques:

- Baiting/luring
- Capturing
- Shaping
- Bridging
- Desensitisation.

They will also need to cover counter-conditioning reinforcement schedules, which may include:

- Continuous
- Variable
- Extinction.

The training programme will need to have specific goals, that are appropriate for the animal, which may include:

- House training (eg urination and defecation, silence and jumping up)
- Social referencing (i.e. Socialisation and habituation)
- Trick training (eg fetch, jump, balance)
- Obedience training (eg lead work, sit, stay, down, leave and come),
- Agility (eg flyball, dog agility courses)

- Working animals (eg following scents, hunting, retrieving, intimidation eg bark on command)
- Husbandry (eg stationing, box training, limb presentation).

Topic 3.2

Learners need to monitor and record the progress of the training programme, this may include:

- Paper, video and peer review
- Setting goals (shaping plan)
- Reviewing equipment
- Modify training based on on-going evaluation to improve results and/or further training,
- Common training problems (eg inadvertent reinforcement, poor progress).

This should include an evaluation of the effectiveness of the training programme.

Topic 3.3

Learners will need to understand the following:

- Definition and signs of stress
- Physiological effects of stress
- Effects of stress on memory and learning
- Explanation of and problems with using flooding as a training technique
- Results of flooding to include learned helplessness and chronic stress
- Use of potentially stress-inducing equipment (eg shock collars, whips, water sprays, prong collars).

Guidance for delivery

This unit is designed to provide the learner with a sound knowledge and understanding of animal behaviour, learning and training. The learner should also be able to demonstrate the ability to assess animals, plan training and implement, reviewing and modifying an animal training programme. The unit should cover a range of species appropriate to the study of animal training.

This unit aims to develop the learners' knowledge and understanding of animal training and gain the skills to successfully train animals.

Centres are encouraged to introduce specific employers, professionals and charitable organisations/volunteers from animal training organisations such as guide dogs, police dogs and other animal training centres, as well as take students on visits to training organisations, kennels and catteries. Lessons should be a mixture of formal lessons linked directly with interactive lessons in a real environment.

Unit 315 Animal Nursing

UAN:	L/507/7148
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to carry out routine patient care and follow procedures within veterinary practice. The learner will also gain knowledge of relevant legislation and be able to advise practice clients regarding the use of dispensed medications.

Learning outcomes

In this unit, learners will be able to

1. Understand veterinary terminology and common conditions
2. Understand veterinary practice procedures
3. Care for an in-patient
4. Recognise procedures and equipment within a veterinary 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.

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 following is a guided list of the legislation that applies in the Animal Care sector. For purposes of assessment, there is no requirement for detail; however, learners should be able to summarise the aims and purpose of the legislation, linking to other learning outcomes within this unit. Centres should be up to date with legislation, policies and codes of practice used in the taught content.

The unit should cover a range of species as appropriate to the area of study:

- companion (dog or cat) and small mammal (rabbit)

Learning outcome:

1. Understand veterinary terminology and common conditions

Topics

- 1.1 Recognise associated veterinary terminology
- 1.2 Common medical conditions
- 1.3 Common surgical conditions
- 1.4 Infectious diseases

This outcome requires the learner to use the different veterinary terminology associated with and uses of veterinary specific equipment. The learner should be able to identify common medical and surgical conditions as well as common infectious diseases affecting animals within the range.

Topic 1.1

Learners will be able to use veterinary terminology in context, to include:

- Anatomical directional terms to include: caudal, cranial, ventral, dorsal, palmar, plantar, distal, proximal, rostral, medial, lateral
- Common prefixes and suffixes eg – dys, -itis, -osis, -otomy, , -ectomy
- Common veterinary abbreviations eg RTC, TPR, NAD, BAR

Topic 1.2

Learners will have a basic understanding of common medical conditions which may include:

- Arthritis
- Colitis
- Pancreatitis
- Chronic renal failure
- Urinary tract disease (urolithiasis, cystitis,)
- Pyometra

- Diabetes mellitus
- Congestive heart failure

Topic 1.3

Learners will have a basic understanding of common surgical conditions, to include:

- Abscesses
- Wounds
- Fractures
- Foreign bodies
- Pyometra.

Topic 1.4

In this topic, learners will have a basic understanding of common infectious diseases. Learners need to identify the signs, symptoms and treatment of infectious diseases, which may include;

- Canine distemper
- Canine parvo-virus
- Leptospirosis
- Canine hepatitis
- Para-influenza
- Kennel cough
- Feline panleucopaenia (feline infectious enteritis)
- Feline upper respiratory disease (cat flu)
- Feline leukaemia virus
- Myxomatosis
- Viral Haemorrhagic Disease

Learners may choose to explore other infectious diseases.

Learning outcome:

2. Understand veterinary practice procedures

Topics

- 2.1 Roles of staff in a veterinary practice
- 2.2 The importance of communication when dealing with staff and clients
- 2.3 Legislation for veterinary practices

This outcome relates to staff within a veterinary practice and requires the learner to be aware of the different staff within the practice and their limitations. It also covers veterinary practice client care and requires the learner be aware of the range of situations that may arise in practice involving clients and their pets and how to deal with such situations. This is a vital part of any veterinary nursing unit as the learners are often placed in front of house or on reception in practices, and will therefore come face to face with clients of all types, including potentially difficult or emotive situations. They are also required to have an understanding of relevant legislation especially the Veterinary Surgeons Act – Schedule 3 procedures and the impact this has within the veterinary practice. Learners should be encouraged to research

appropriate industry specific books and websites for information on staff roles and legislation. Outside speakers from veterinary practice would enhance delivery.

Topic 2.1

Learners are to identify the job roles and responsibilities of the following staff members:

- Receptionist
- Student veterinary nurse
- Qualified Veterinary Nurse (registered and non-registered)
- Head Veterinary Nurse
- Veterinary Surgeon
- Practice manager
- Animal nursing assistants
- Lay people.

Topic 2.2

Learners are to identify the different method of communication, to include:

- Telephone
- Face to face
- Email
- Fax
- Social media and text message
- Letter
- Body language.

Delivery of this topic could be supported through discussion and role plays demonstrating how to deal with different client types and scenarios:

Different client situations to consider, may include:

- Age of person
- Person with additional needs eg hearing, visual, physical
- Emotional state eg angry, aggressive, upset / emotional
- Socio-economic status.

Scenarios may include:

- Emergency (eg RTC, severe haemorrhage)
- Admitting animals for surgery
- Euthanasia
- Complaint
- Dispute over payment.

Topic 2.3

Learners must be able to summarise the aims and purpose of the following legislation, linking to other learning outcomes within this unit.

The following is a list of relevant legislation that applies in the Animal Management sector. For purposes of assessment, there is no requirement for detail, but learners must appreciate that there is legislation and how these relate to daily regimes.

- Health and Safety at Work Act 1974,
- Control of Substances Hazardous to Health Regulations 2002 (COSHH) - to include how hazardous, non-hazardous, sharps and cadavers should be disposed of. Learners must also have an appreciation for safe handling and disposal of waste.
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR),
- Animal Welfare Act 2006
- Equality Act (2010).

Learners may look at other legislation appropriate to their selected species.

Learning outcome:

3. Care for an in-patient

Topics

- 3.1 Handle and restrain animals for veterinary procedures
- 3.2 Hospital accommodation
- 3.3 Medication

This outcome requires learners to monitor in-patients and perform health checks against specific veterinary criteria such as improvement of a condition or deterioration, checking for reactions to medications etc. Learners will also be required to handle and restrain animals in a way that enables veterinary personnel to perform necessary checks and procedures. Learners need to be aware of the requirements for housing these animals whilst in the veterinary practice depending upon the species and individual needs. These practical aspects of the unit can be simulated if either appropriate resources are not available or animal welfare would be compromised. All practical work involving animals must follow health and safety and animal welfare guidelines.

Prior to delivering this outcome, learners should revisit Unit 303 Animal Health LO1 – Recognise indicators of health in animals. Learners must be able to recognise signs of health in animals and carry out routine health checks.

Topic 3.1

Learners must be able to recognise the reasons and correct handling techniques for a range of species:

- Reasons for handling animals for Veterinary examinations (checking ears, eyes, teeth) and procedures (worming, flea treatment, vaccination, blood sampling, nail clipping, anal glands)
- Safe and correct handling techniques to include common restraint positions eg sternal and lateral recumbency
- Equipment specific to handling different animals i.e pet carriers, collars, halters, leads, muzzles, crates, dog catcher and cat grasper, cat muzzle, cat restraining bag, gauntlets, crush cage (for cats and small mammals), towel
- Sexing techniques for a selection of species from the range
- Safely and correctly handle different species, that are of different sizes, ages and temperaments.

Topic 3.2

Learners will need to understand the types accommodation used for inpatients, to include:

- Layouts, design and size
- Isolation
- Bedding / substrates.

Topic 3.3

This topic links to the 'Animal Health' unit. Learners will need to understand the administration of medication, to include:

- Routes of medicine administration to include topical, enteral, and parenteral and restraint techniques, advantages and disadvantages of these routes
- Drug categories – POM V, POM VPS, AVM – GSL, NFA – VPS
- Frequency of drug administration depending upon the drug choice and route
- Sourcing treatments to include: Vets, pharmacies, suitably qualified person, feed merchants
- Observation of the animal for adverse reactions and the action to take with a suspected reaction and who to notify.

Learning outcome:

4. Recognise procedures and equipment within a veterinary environment

Topics

- 4.1 Veterinary equipment
- 4.2 Veterinary anaesthesia
- 4.3 Radiography

This encourages learners to investigate practice equipment and its suitability and efficacy for veterinary procedures. Introducing the learners to veterinary anaesthesia and radiography. Learners will be able to demonstrate practical skills on how to gown and glove, identify surgical instruments, anaesthetic equipment and how to undertake some basic x-ray positioning. They are not expected to use this equipment, but to gain knowledge and understanding of its functions and uses

Topic 4.1

Learners need to understand how to prepare, maintain and select veterinary equipment for the specific procedure and animal, cleaning and safety checks of the equipment, may include:

Equipment:

- Autoclave
- Dental machine
- Infusion pump / syringe driver
- ECG/Pulse oximetry/capnograph

- Endoscope
- Oesophageal stethoscope
- Blood pressure monitor
- Equipment required to administer fluid therapy.

Learners to identify common veterinary surgical instruments, to include:

- Forceps
- Artery forceps
- Scissors
- Retractors
- Blade handles and blade sizes
- Needle holders
- Tissue forceps
- Orthopaedic instruments
- Dental instruments and needles.

Learners to identify the reasons for fluid therapy, routes for administration and fluids used.

Topic 4.2

Learners need to have an appreciation of veterinary theatre practice and anaesthesia, to include:

- The equipment used in anaesthesia (circuits, ET tubes, inhalation gases)
- A basic understanding of anaesthetic monitoring (reflexes, respiratory rate, rhythm and depth, body temperature, mucous membrane colour, eye position)
- Basic theatre practice eg gowns, gloves, facemasks, opening and preparing surgical kits.

They must also be aware of health and safety with regards to ventilation and volatile agents.

Topic 4.3

Learners need to have a basic understanding of the equipment used for radiography to include:

- X-ray machine
- X-ray cassettes
- X-ray film
- Digital x-ray
- Processing equipment
- Positioning aids
- Safe lights
- Dosimeters
- Warning signs.

Learners need to identify how an x-ray is taken using the x-ray machine.

Learners must have an awareness of the health and safety considerations when dealing with radiography, to include:

- Basic radiation safety to include shielding, hazard lights, distance, PPE, signs, service records, relevant legislations, maintenance and storage of equipment, exposure records.
- The responsibilities of both the Radiation Protection Advisor and Radiation Protection Supervisor
- Basic radiation safety to include shielding, hazard lights, distance, PPE, signs, service records, relevant legislations, maintenance and storage of equipment, exposure records.
- The responsibilities of both the Radiation Protection Advisor and Radiation Protection Supervisor.

Delivery of this outcome could be supported through demonstration of basic animal positioning for x – rays, to include x-ray of the abdomen, chest, and limbs.

Guidance for delivery

This unit is valuable to those who are attracted to a career in animal nursing in a veterinary practice. It provides the learner with useful background knowledge regarding caring for in-patients and an understanding of procedures within veterinary practice. Learners will gain an appreciation of practice layout and design with regard to patient recovery and how to deal with a range of situations that can occur in practice. Outside speakers could enhance delivery, along with site visits to veterinary practices and hospitals.

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 formal lectures will be necessary at Level 3 but for this unit it is recommended that they are they are linked directly with interactive lessons in a real environment. Learners should be given the opportunity to deal with a range of animals in different situations which reflects current industry practice.

Unit 318 Fundamentals of Science

UAN:	M/507/7160
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to provide a sound scientific foundation on which further study can be built on. This unit is primarily aimed at learners within a centre-based setting looking to progress into higher education or further training within the sector. It is envisaged that this unit will allow access to higher education courses including veterinary science; bio-veterinary science; animal science; zoology etc.

The aim of this unit is to enable learners to develop the practical techniques necessary to pursue a potential career in science. Learners will investigate the quantities necessary in chemical reactions, structure and functions of animal tissue, equilibrium concepts, principles of experimental design and develop skills in communicating scientific information.

This unit aims to provide learners with a grounding in a range of both theoretical and practical scientific skills that underpin the life sciences. It is envisaged that although the content of this unit is necessarily general it should, wherever possible, be contextualised to the final qualification being undertaken.

Practical laboratory investigations are an important feature of this unit and as such learners will be aware and familiar with relevant safe working practices before any investigation is undertaken.

Learning outcomes

In this unit, learners will be able to

1. Measure quantities for chemical reactions
2. Interpret the key features of equilibrium processes using the principles of good experimental design.
3. Identify structures and functions in different tissue types
4. Communicate scientific information

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. Measure quantities for chemical reactions

Topics

- 1.1 Identify hazards and controls associated with chemical reactions
- 1.2 Key features of the periodic table, atomic structure and chemical bonding
- 1.3 Prepare chemical solutions and test their accuracy
- 1.4 Carry out volumetric calculations leading to accurate chemical quantities required for reactions

This outcome introduces learners to the periodic table. It enables learners to produce a range of solutions and test their accuracy using analytical methods, the principles of which are used in industry or research laboratories. It also allows learners to gain knowledge about potential chemical hazards such as the preparation and mixing of alkali and acidic solutions.

Topic 1.1

Learner need to identify the hazards and controls associated with chemical reactions, which may include:

- Laboratory safety symbol interpretation
- Personal Protective Equipment (PPE)
- Hazard identification and risk assessment.

Topic 1.2

Learners need to understand the properties of the elements in the periodic table and atomic structure. This must include:

- Elements. Mixtures and Compounds
- Atomic structure (neutrons, protons, electrons)
- Mass and charge of Protons, Neutrons and Electrons
- Principle of electron shells and how these are filled
- Electronic configuration and place in the Periodic Table
- Electronegativity
- Structure and uses of isotopes.

Learners will need to outline the key features of chemical bonding, to include:

- The formation of Ionic and Covalent bonds
- The relevance of Hydrogen bonds and Van de Waals forces
- Hydrophilic/hydrophobic interactions
- Use of the periodic table to determine the structure of simple ionic and covalent compounds.
- Balancing chemical equation.

Topic 1.3

Learners will need to measure accurately amounts of solid, liquid and gaseous chemicals. This may be done by use of balances, measuring cylinders, burettes and gas syringes.

Learners will need to prepare chemical solutions and cover the following:

- Difference between precision and accuracy
- Handling and measurement of solids and liquids including both weight and volume measurements with an emphasis on safe working practice
- Preparation of solutions based upon w/w, w/v and v/v measurements and units used
- Serial dilution of solutions and mixing of solutions of different molarities to obtain the required concentrations.

Learners will need to test the accuracy of the prepared solutions by measurement of the concentration of solutions by a common industrial assay such as by a titration, colorimetric or spectrophotometric technique.

Topic 1.4

Learners will need to carry out calculations, which must include:

- Moles and molarity
- Avogadro's constant
- calculations involving mass, moles, concentrations and volumes (eg $M=CV$, $MaVa$
○ $= MbVb$)
- units and interconversions (eg mol, dm^3 , cm^3 , $mol\ dm^{-3}$, g, $gmol^{-1}$).

Learning outcome:

2. Interpret the key features of equilibrium processes using the principles of good experimental design

Topics

- 2.1 Principles of experimental design
- 2.2 Equilibria of liquids and gases across membranes

This outcome introduces learners to principle of analytical and diagnostic techniques used in industry and research laboratories and the importance of strong experimental design.

In this outcome learners will explore the nature of reversible reactions, the dynamic nature of equilibrium and the significance of equilibrium equations. Learners will apply the concept of equilibrium to biological processes. The learners will undertake practical investigations, but this will be underpinned by formal lectures.

Topic 2.1

Learner needs to know the importance of the following as part of good scientific experimental design.

The use of controls

Calibrations

- Only changing one parameter at a time
- The importance of known values or normal values
- Graphical representation of results

Topic 2.2

Learners must describe the following:

- Reversible reactions
- The Dynamic nature of Equilibrium
- The Equilibrium Constant Expression, and reaction quotient,
- Kinetic and Thermodynamic views of equilibrium.
- Le Châtelier's Principle.
- Calculation of the Equilibrium constant.
- The effect of temperature and catalysts on the establishment of equilibrium.

Learners need to analyse the equilibria of liquids and gases across membranes, to include:

- Diffusion
- Osmosis
- Water potential
- Membrane potential
- Oxygen-haemoglobin dissociation curve

Learners will investigate the drive towards equilibrium using potato cores and a range of sugar solutions.

Learning outcome:

3. Identify structures and functions in different tissue types

Topics

- 3.1 Microscopy
- 3.2 Observations of different types of tissues from a light microscope
- 3.3 Observation of electron micrographs of different types of tissues
- 3.4 Preparation of histological specimens

Electron micrographs provide sufficient magnification for learners to practice the identification and annotation of cell organelles and their function. This outcome also allows learners to study the organisation of cells into tissue types and the role of these tissue types in a variety of organs and organ systems. Learners will describe the different range of microscopes and their applications. Learners need to know how specimens are prepared and stained, this could be undertaken in the lab or via visits to local universities or hospitals.

For this outcome, learners should cover the following range:

- Tissue types: epithelial, connective, nervous, muscle
- Light microscopes, Transmission electron microscopes, Scanning electron microscopes.

In this outcome learners will discover how to use a range of microscopes; the preparation techniques used for a range of samples. Learners will become familiar to 'normal' tissue samples.

Microscopy is a very important diagnostic tool used in the veterinary science field. It is important for learners to appreciate what normal tissue will look like in order to diagnose potential disorders or diseases. In this unit learners will discover microscopy; the differences between light and electron microscopy and the applications of these techniques.

Topic 3.1

Learners will need to outline the key principles and function of a range of microscopes and their applications. This will include:

- Compound light microscope
- Stereo light microscope
- Transmission electron microscope
- Scanning electron microscope.

Topic 3.2

Learners need to record their observations of different types of tissues from a light microscope to include:

- Dense, loose, regular, irregular and fluid connective tissues
- Simple and stratified epithelial tissues
- Skeletal, cardiac and smooth muscle types
- Nervous tissue.

Topic 3.3

Learners need to interpret electron micrographs of different types of tissues to include:

- Dense, loose, regular, irregular and fluid connective tissues
- Simple and stratified epithelial tissues
- Skeletal, cardiac and smooth muscle types
- Nervous tissue.

Topic 3.4

Learners need know how histological samples are prepared and stained. These will include:

- Fixation, embedding (chemical and freezing), sectioning and staining
- Hematoxylin and eosin staining
- TEM samples
- SEM samples.

Learning outcome:

4. Communicate scientific information

Topics

- 4.1 Methods by which scientific information is communicated
- 4.2 Report on a scientific investigation

In this outcome, learners will review a variety of methods used to communicate scientific finding to academia, industry and the general public. Learners have the opportunity to evaluate each of these methods in terms of their reliability, impact, accuracy and bias. Learners should explore examples of good and poor practice in the reporting of scientific results especially where scientific results have been misinterpreted. Learners should explore how poor study design and interpretation can have serious implications, such as the debate over the MMR vaccine. Learners should also explore the impact of popular science television and radio documentaries which reach large numbers of the public and be able critically evaluate these sources. This outcome also allows learners to report on a scientific finding and should take the form of one of the form studied. Learners may use one of their own investigations for this unit or another suitable unit. Alternatively learners may take an existing publication, such as a journal paper, and produce a report in an alternative media such as a webpage, popular press article, podcast or broadcast.

Topic 4.1

Learners will need to outline the communication methods used for scientific information, which may include:

- Peer reviewed and non-peer reviewed sources
- Journals
- Books (academic texts, fiction and non-fiction)
- Newspaper and magazine articles
- Television and radio documentaries and advertising
- Academic and industry conferences
- Poster presentation
- Electronic distribution
- Websites and educational resources.

Topic 4.2

Learners will need to report of a scientific investigation that has been carried out. The scientific investigation can be sourced from published primary sources or from learner's own investigation which may be from this unit or another suitable investigation.

Guidance for delivery

This unit should be delivered in a varied fashion, using tutorials, problem solving and practical investigations alongside formal lectures and practice. Animations and games are available on the internet for use by learners or within teaching sessions. Learners should be given vocationally relevant contexts wherever possible and biological examples should be used to illustrate the relevance of the chemistry throughout.

Tutors must ensure that learners are aware of hazards involved in laboratory work, and that learners have appropriate personal protective equipment before commencing any practical investigations. Learners could begin practical work with putting together risk assessments specific to the laboratory in which the investigations are taking place, and would benefit from being able to see risk assessments produced by working laboratories. If possible, learners should be able to visit diagnostic laboratories and guest lectures by biomedical scientists are encouraged.

The preclinical curriculum for veterinary and biomedical sciences has biochemistry and physiology as core components. It is important that learners understand basic chemical concepts in order to go on to study these subjects at a higher level, as well as understanding the importance of chemical understanding within a biological context.

Concentrations of a range of solutions is regularly expressed within the fields of chemistry and biology, learners should be confident with these terms and the conversion between the units. Accurate interpretation of blood serum analysis requires chemical knowledge in areas such as behaviour of elements / molecules and the periodic table, chemical reactions and kinetics, quantitative chemistry and disassociation of acids and bases.

One of the most useful diagnostic tools available to biomedical practitioners is microscopy. It is very important that a learner can set up a microscope correctly in order to gain the best resolution of a specimen. The learner should know the techniques used to prepare a specimen and the importance of knowing what normal tissue looks like and how this knowledge can be used when looking at tumour borders etc.

The unit contains practical mathematics and tutors are strongly encouraged to build learners' confidence in more basic mathematical techniques prior to introducing the more advanced mathematics. Titration experiments provide an excellent opportunity for learners to test their calculations as well as allowing them to produce their own titration curves and investigate the range and capacity of buffers.

Unit 325 Pet Allied Services

UAN:	M/507/7174
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to identify the career and employment opportunities within the animal care industry. As part of this unit, learners will be required to understand what is involved in becoming self-employed with a focus on dog walking and pet sitting as examples of small businesses within the industry.

It is important that the learner understands current legislation and Codes of Practice in relation to animal health and welfare.

Learning outcomes

In this unit, learners will be able to

1. Know job roles and career pathways in the pet services industry
2. Understand how legislation and codes of practice impact on job roles within the pet service industry
3. Understand the roles and responsibilities of organisations that are involved in pet services
4. Understand the requirements and responsibilities of the self-employed job roles within pet services

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.

This unit allows the learner to explore the various career and employment opportunities available whilst being able to highlight the key legislation to be followed. Learners are to be encouraged to continuously apply the elements of this unit to their previous experience of retail and business management in order for them to develop a varied understanding of the wider industry. It is important that the learners do see the ongoing relevance of legislation to protect the animal, public and the employers and to allow them to expand their knowledge with the potential to set up their own business.

Learning outcome:

1. Know job roles and career pathways in the pet services industry

Topics

1.1 Job roles, career pathways and their requirements

Topic 1.1

Learners need to understand the job roles and career pathways that are available in the pet services industry and their requirements, which may include:

Job roles

- Animal Breeder (to include understanding of pedigrees and cross breeds)
- Animal Groomer (eg Dog groomer, Horse groomer, Sheep/Alpaca shearing)
- Animal Transport (i.e. Vet Trips, Airport taxi)
- Animal Hydrotherapist
- Animal massage
- Animal Showing
- Animal Trainer (eg. work, show, competition, media (movies))
- Animal Behaviourist
- Animal husbandry roles within charities (eg Guide Dogs For The Blind, Hearing Dogs For Deaf People, Dogs For Disabled People, Pets As Therapy, Compassion in World Farming, British Horse Society, Red Wings, Cats Protection, RSPCA, RSPB)
- International Charities (eg World Wild Fund for Nature)
- Animal Rescue (eg Blue Cross, Dogs Trust)
- Animal photographer (portrait or action shots)
- Pet Sitter
- Farming
- Kennel person (eg Boarding kennels, training kennels, quarantine kennels)
- Dog walker
- Dog training in the Armed Forces, Police Force and HM Customs and Excise
- Dog training instructor/ assessor
- Cat Boarding (catteries)
- Stable (groom) person (eg Livery, Training (Racing, Event, Hunting))

- Farrier
- Equine Dentist
- Riding instructor (eg teaching people to ride, BHS instructor/assessor)
- Riding for The Disabled
- Mounted Police
- Falconry
- Retail (i.e. pet shop, feed merchant)
- Wildlife sanctuary/ rescue (i.e. St Tiggy Winkles).

Requirements

- Training
- Qualifications
- CPD
- Insurance.

Learning outcome:

2. Understand how legislation and codes of practice impact on job roles within the pet service industry

Topics

2.1 Legislation and codes of practice

Topic 2.1

Learner need to understand how the Animal Welfare Act (2006) impacts the pet service industry.

Learners need to understand how other legislations and codes of practice impact the job roles within the pet services industry, which may include:

- The Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 2018
- Pet Animals Act 1951 (Pet shop regulations)
- The Abandonment Of Animals Act 1960
- Protection of Animals Act 1911
- The Theft Act 1968, Criminal Damage Act 1971, Animal Act 1971 and the Common Law Duty of Care – Relating to domestic cats and dogs.
- The Horse Passports Regulations 2009
- Farriers (Regulations) Act 1975
- Pet Travel Scheme (i.e. travel requirements and quarantine)
- The Wildlife and Countryside Act 1981
- Dangerous Wild Animal Act 1976
- Highway code (i.e. restraining animals whilst travelling in a car and rules for riding on the road)
- Zoo Licensing Act 1981
- Convention On International Trade In Endangered Species (CITES)
- Health and Safety at Work Act 1974
- Control of Substances Hazardous to Health Regulations (2015)
- Reporting of Injuries, Diseases and Dangerous Occurrences (2013)
- Microchipping of Dogs (England) Regulations (2015).

Learning outcome:

3. Understand the roles and responsibilities of organisations that are involved in pet services

Topics

3.1 Organisations in pet services

Topic 3.1

Learners need to understand the roles and responsibilities of a range of pet services organisations in the United Kingdom and how they affect the work of the industry, these may include:

Organisations

- Breed societies and councils, eg The Kennel Club, Governing Body of the Cat Fancy, Fancy Mouse Society, The Rare Breeds Society, International Cat Care, National Chinchilla Society, The Tortoise Club, Budgerigar Society, The Gerbil Society, The Parrot Society, Canary Council, National Council for Aviculture, The Cavy Club
- Welfare organisations eg The RSPCA, National Ferret Welfare Society
- Charities eg The Cat Protection League, The Blue Cross, PDSA, The Dogs Trust, Guide Dogs for the Blind
- Trade Associations eg Ornamental Aquatic Trade Associations, Reptile and Exotic Pet Trade Association

Effects on work of the industry

- Welfare standards
- Codes of Practice
- Breeding requirements
- Licensing
- Audits/ policing
- Registrations/ records.

Learning outcome:

4. Understand the requirements and responsibilities of the self-employed job roles within pet services

Topics

- 4.1 Requirements of a self-employed business
- 4.2 Requirements and responsibilities of a dog walker
- 4.3 Requirements and responsibilities of a pet sitter

This learning outcome will look at the requirements of being self-employed, and the roles and responsibilities of two job roles in the industry that are mainly offered by self-employed businesses; dog walking and pet sitting.

Topic 4.1

Learners need to understand the requirements of a self-employed business, to include:

- Book keeping and accountancy:
 - Tax and National Insurance (declaring self – employment)
 - Record keeping
 - Invoicing and payments
 - Business bank account
 - Preparing pensions for staff (if applicable)
- Outline the business:
 - Type of business (i.e. sole trader/ Franchisee)
 - Bank requirements eg specific accounts, bank loans
 - Obtaining premises
 - Business licenses (i.e. animal boarding, pet shops, breeding)
 - Insurance (self – employed policy and Employer liability to cover employees)
 - Registering business - Business name/ logo, owner details
 - Services offered
 - Service fees and mileage
 - Areas covered/ business location
 - Diary management and booking system
 - Terms and conditions of services including cancellation procedure
 - Contingency planning and Risk Assessments.

Topic 4.2

Learners need to identify the specific laws and laws pending relating to dogs, to include:

- The Control of Dogs Order 1992 (Identification and number of dogs that can be walked at any one time)
- Dangerous Dogs Act 1991 (banned breeds and breed regulations, 2014 amendment)
- The Clean Neighbourhoods and Environment Act 2005 (dog fouling)
- Road Traffic Act 1988 (dogs on roads)
- Dog (protection of livestock) Act 1953
- Compulsory micro-chipping (when will it come into effect, owner's responsibilities) for dogs
- Data Protection Act 1998.

Learners need to describe the roles and responsibilities of a dog walker, these to include:

- Taking animal history and exercise requirements from client
- Assessing dogs behaviour and temperament before and during exercise to establish the exercise plan/ routine eg equipment/ PPE, solitary or social walking
- Basic health checks of dogs before and after exercise
- Having access and use to a vehicle that is fit for purpose and maintained.
- Security of keys and clients house/ personal information
- Safe use of leads, collars, harnesses, head collars etc
- Owning all equipment needed for dog walking (eg spare leads, fresh water for dog and walker, poo bags, treats, suntan cream, hand sanitisers, water bowls, first aid kits) and making sure its fit for purpose.
- Ensuring equipment used is safe and secure (i.e. Leads and cages)
- Maintaining health, welfare and safety of dog(s) at all times
- Walking dogs to client's specifications
- Supply food and water to dog(s) if appropriate.

Learners need to describe the handling and restraining techniques required for walking dogs, to include:

- Applying equipment and PPE
- Health checks
- Moving and transporting

Learners need to explain the health and husbandry requirements for dog walking, which may include:

- Preventative care – ensuring with clients that all dogs are vaccinated, wormed and de-fleaed
- Life stage of dog –adapting walking routines and locations to dog’s life stage, eg bitches in season, age, use
- Provision of food and water
- Signs of health – fitness for walking.

Learners need to outline the risks and hazards for dog walking, to include:

- Risk to dogs
- Risk to person
- Risks from environment/ location of walk.

Topic 4.3

Learners need to describe the role and responsibilities of a pet sitter in relation to a client’s property, which include:

- Security of keys and owner’s property/ personal information (Data protection Act 1998)
- Staying overnight at the customers property
- Collecting post
- Refilling garden bird feeders
- Putting out and collecting bins
- Watering plants
- Discuss with the owner any other requirements they have (i.e. time spent away from the property in the owner’s absence).

Learners need to describe the role and responsibilities of a pet sitter in relation to the client’s animal’s health and welfare, which may include:

- access to a vehicle that is fit for purpose and maintained (in case of routine or emergency vet trip/ walking a dog in a different location)
- Maintaining the safety and welfare of any animals at all times
- In an animal emergency, act appropriately and within the client’s wishes.

Learners need to devise a property details sheet that could be used by a pet sitter for a client's property, to include:

- Name, address and telephone numbers for the customer
- Emergency contacts for the customer whilst away and friend or relative in case owner can't be contacted
- Location of fuse box, stop cock, candles and other storm equipment
- Electrical appliances and operating instructions.
- Who may visit the property in the owner's absence (i.e. cleaner, gardener)
- Vehicles left at the property whilst the owner is away
- Location of burglar alarm and operating instructions
- Emergency numbers for electrician, plumber, builder.

Learners need to devise animal care sheets that could be used by a pet sitter for a client's animals, to include:

- Animal details and medical history
- Routine
- Diet and feeding routines
- Accommodation maintenance
- Exercising (where appropriate)
- Routine/ on – going medication
- Vet contact details
- Insurance details
- Other emergency contacts in case owner is out of the country/unavailable.

Learners need to outline the risks and hazards for a pet sitter, to include:

- Risks to animals
- Risk to person
- Risks from environment.

Learners need to outline the accidents and emergencies that could be encountered by a pet sitter and how they could be dealt with, which may include:

Property

- Burglary
- Appliance damage or malfunction eg washing machine
- Utilities eg water pipes bursting, gas leak
- Fire

Animals

- Illness
- Death
- Injuries
- Stolen/ missing.

Guidance for delivery

Upon completion of this unit, the learner will be able to understand the processes involved in setting up a business and the importance of declaring self – employment.

The learner will be able to identify possible career and employment opportunities within the animal care industry. Also understand the main laws, legislations and codes of practice in relation to animal health and welfare.

The learner will then explain, and where appropriate, demonstrate the roles and responsibilities of a dog walker and pet sitter.

Suggested learning resources

Books

The Kennel Clubs Illustrated Breed Standards -

The Kennel Club

The Official Guide to Registered Breeds

Published by: Ebury press, 4th Edition, 6th March 2011 ISBN - 10:

0091928540

ISBN – 13: 978 – 0091928544

You & Your Dog

Taylor, D. and Scott, P.,

Published by: Dorling Kindersley Publishers Ltd,

second impression 1989 edition ISBN – 10: 0751302732

ISBN – 13: 978 – 0751302738

Straightforward Guide to Book Keeping and

Bannister, T.

Accounts for Small Business

Published by: Straightforward Publishing, 2009 ISBN –

10: 1847161146

ISBN – 13: 978 – 1847161147

The Small Business Start – up Work Book

Rickman, C, D.A

Step - by – step Guide to Starting The Business

You've Dreamed of

Published by: How To Books Ltd, 2005, reprinted 2007 ISBN: 978

– 84528 – 038 – 3

Journals and magazines

World Animals BBC

Wildlife

Your Dog Magazine Your Horse

Magazine Your Cat Magazine

Websites

The British Horse Society	www.bhs.org.uk
Pet Owners Association	www.pet-owners.co.uk
The Kennel Club	www.thekennelclub.org.uk
Department for Environment, Food and Rural Affairs	www.defra.gov.uk
Cat Protection	www.cats.org.uk
Pet Industry Federation	www.petfederation.co.uk Governing Body of the Cat Fancy www.gccfcats.org
Lantra jobs in the landbased industry	www.lantra.co.uk/careers
International Cat Care (formally Feline Advisory Bureau)	www.icatcare.org Pet Food
Manufacturers Association (PFMA)	www.pfma.org.uk Petsitters Alliance www.petsittersalliance.co.uk
HM Revenue and Customs	www.hmrc.gov.uk/startingup
www.hmrc.gov.uk/sa www.hmrc.gov.uk/nic	

Unit 326 Small Animal Rehabilitation

UAN:	T/507/7175
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to gain an introduction into the knowledge and skills required to work in small animal rehabilitation.

Small animal rehabilitation covers physiotherapy and hydrotherapy but may include complementary and alternative therapies such as chiropractics, osteopathy, acupuncture and massage. Consideration are also given to animal behaviour.

This unit mainly covers the treatment of dogs but could also include other domesticated animals such as cats, rabbits and ferrets. Horses may be used for comparisons.

Learning outcomes

In this unit, learners will be able to

1. Understand the therapies, organisations, job roles and career pathways within small animal rehabilitation
2. Understand legislation, codes of practice and codes of conduct that affect small animal rehabilitation
3. Understand how to communicate with clients and veterinary surgeons to obtain a patient's history
4. Understand how animal characteristics, behaviours and activities can impact rehabilitation therapy
5. Assist with a small animal rehabilitation therapy

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. Understand the therapies, organisations, job roles and career pathways within small animal rehabilitation

Topics

- 1.1 Small animal rehabilitation therapies
- 1.2 Organisations in small animal rehabilitation
- 1.3 Job roles and career pathways within small animal rehabilitation

Topic 1.1

Learners need to understand the therapies that are used with small animal rehabilitation, these may include:

- Physiotherapy
- Hydrotherapy
- Complementary therapies eg Chiropractic, osteopathy, acupuncture and massage.

Topic 1.2

Learners need to understand the roles and responsibilities of organisations involved with small animal rehabilitation, which may include:

- Association of Chartered Physiotherapists in Animal Therapy (ACPAT)
- British Small Animal Veterinary Association (BSAVA)
- Institute of Complimentary Animal Therapies (ICAT)
- Association of Complimentary Animal Therapies (ACAT)
- Animal Health Trust (AHT)
- Canine Hydrotherapy Association (CHA)
- National Association of Registered Canine Hydro therapists (NARCH)
- The Institute of Registered Veterinary and Animal Physiotherapists (IRVAP)
- International Association of Animal Therapists (IAAT)
- The Association for the Scientific Study of Animal and Veterinary Physiotherapists (ASSVAP)
- National Veterinary Accredited Programme (NAVAP).

Topic 1.3

Learners need to understand the job roles and their requirements within small animal rehabilitation, to include:

- Responsibilities
- Qualifications
- Affiliation with professional bodies
- Insurance and CPD requirements
- Risk Assessments.

Learners also need to know the career pathways within the small animal rehabilitation industry.

Learning outcome:

2. Understand legislation, codes of practice and codes of conduct that affect small animal rehabilitation

Topics

- 2.1 Legislation
- 2.2 Codes of practice and codes of conduct

Topic 2.1

Learners need to understand legislation that applies to small animal rehabilitation therapy and how it impacts practitioners and treatments, to include:

- Animal Welfare Act (2006)
- The Veterinary Surgeons and Veterinary Practitioners (Registration) Regulations Order of Council (2010)
- Veterinary Surgery (Exemptions) Order 1962
- Dangerous Dogs
- COSHH
- Data Protection
- Plus other legislation that is applicable to animal rehabilitation.

Topic 2.2

Learners need to outline codes of practice and codes of conduct that relate to small animal rehabilitation therapy and how it impacts practitioners and treatments, to include:

- Code of Practice for the Welfare of Dogs (DEFRA)
- Scope of Practice (ACPAT)
- Codes of conduct for any associated professional body.

Learning outcome:

3. Understand how to communicate with clients and veterinary surgeons to obtain a patient's history

Topics

- 3.1 Referral process from a veterinary surgeon
- 3.2 Patient history from a veterinary surgeon and a client

Topic 3.1

Learners need to understand the process that a client and patient are referred for treatment by a veterinary surgeon, to include:

- Records
- Legislative requirements.

Topic 3.2

Learners need to understand how to obtain patient history and information from a veterinary surgeon and client that can be used to assist with diagnosis and a treatment plan, to include:

- Health history: age, injuries, illnesses, past treatments, medications, any inherited issues
- Activity/ use: working, breeding, competition, pet
- Daily routines: feeding, exercise, rest periods
- Behaviour and temperament
- Individual characteristics.

Learning outcome:

4. Understand how animal characteristics, behaviours and activities can impact rehabilitation therapy

Topics

- 4.1 Breed characteristics and breed history
- 4.2 Hip-elbow scoring
- 4.3 Use of animal, physical effects and impact on treatments
- 4.4 Common injuries and major traumas

Topic 4.1

Learners need to describe the characteristics and breed history of commonly kept breeds in the United Kingdom and how they influence the rehabilitation therapy applied. These may include:

- Gundog eg Retrievers, Spaniels, Hunt/Point/Retrieve, Pointers and Setters
- Hound eg Beagle, bloodhound, whippet, greyhound
- Pastoral eg Welsh Border Collie, Old English Sheepdog, Samoyeds
- Terrier eg West Highland Terrier, Scottish Terrier, Jack Russell Terrier, Fox Terrier
- Toy eg Bichon Frise, Kings Charles Spaniel, Pekinese, Pug, Yorkshire Terrier
- Utility eg Bulldog, Dalmatian, Schnauzer, Poodle
- Working eg Bernese Mountain Dog, Newfoundland, Boxer, Siberian Husky, Rottweiler.

Characteristics and breed history

- Size
- Weight ranges and condition scoring
- Typical health problems
- Behaviours eg aggressive, nervous, excitable, territorial/protective
- Breeding
- Anatomy and physiological design, eg chondroplastic
- Skull structure eg brachycephalic, mesocephalic, dolichocephalic
- Movement and gait.

Influences on therapy

- Diagnosis – typical problems to look for
- Type of treatment – conservative or surgical
- Equipment and techniques used; appropriate modalities and contraindications for each
- Length and frequency of treatment.

Topic 4.2

Learners need to understand the process of hip and elbow scoring a patient and why this important for treatment and diagnosis.

Topic 4.3

Learners need to describe how the use or activity level of a patient can affect the animal's body and impact the treatment given, this may include:

- Low/ medium/ high exercise
- Competition/ breeding/ working/ pet/ retired
- Massage/ mobilisation/ hydrotherapy/ exercise
- Considerations of electrotherapies/medication with competition.

Topic 4.4

Learners need to understand the common injuries and major traumas that are treated in small animal rehabilitation therapy, this may include:

- Strains and sprains
- Impact injuries
- Road Traffic Accidents (RTA)
- Amputations
- Spinal conditions
- Orthopaedic
- Age related.

Learning outcome:

5. Assist with a small animal rehabilitation therapy

Topics

- 5.1 Assessing a patient for treatment
- 5.2 Assessing a patient while it is being treated
- 5.3 Handling and restraining a patient for treatment
- 5.4 Assisting with a rehabilitation therapy on a patient

Topic 5.1

Learners need to understand how a patient is assessed for diagnosis to include:

- Patient history
- Behaviour
- Movement/ gait
- Physical assessment.

Learners need to understand how the patient diagnosis and assessment is used to decide on treatment plan, this may include:

- Choice of therapy – massage, mobilization, hydrotherapy
- Frequency
- Length of treatment
- Home based exercise programme
- Restrictions on use or activities
- Husbandry advice.

Topic 5.2

Learners need to understand how to assess a patient while it is being treated and what indicators to look for to show that the treatment is beneficial or needs to be terminated or altered. This may include:

- Behavioural
- Physical.

Learners need to understand why behavioural assessments of a patient are important.

Topic 5.3

Learners need to know the equipment and personal protective equipment (PPE) used to handle and restrain patients during treatment, to include:

Equipment

- Leads/ harnesses/ slings
- Boots
- Wheels
- Lifejackets
- Treadmills
- Pools
- Land-based spas
- Electrotherapies
- Land-based equipment (poles, mats, gym balls)

Personal Protective Equipment

- Gloves
- Protective clothing
- Muzzles (for dogs).

Learners need to understand the techniques used to handle and restrain patients.

Topic 5.4

Learners need to assist with a small animal rehabilitation therapy, this could be:

- Massage technique
- Mobilisation – range of motion
- Exercise.

Learners should be supervised and adhere with health and safety legislation and animal welfare legislation throughout.

Learners need to evaluate the therapy used.

Suggested learning resources

Books

Animal Physiotherapy: Assessment, treatment and rehabilitation of Animals. Published by: Wiley-Blackwell, 2007
ISBN: 1-405-13195-0
McGowan, C. and Stubbs, N.

Canine Rehabilitation and Physical Therapy.
Published by: Saunders, 2013, 2nd edition
ISBN: 1-437-70309-7
Millis, D. and Levine, D.

Canine Sports Medicine and Rehabilitation
Published by: Wiley-Blackwell, 2013
ISBN: 0-813-81216-X
Zink, M.C. and Van Dyke, J.B.

Physical Therapy and Massage for the Dog
Published by: CRC Press, 2013
ISBN: 1-840-76144-X
Robertson, J. and Mead, A.

Swim to recovery: canine hydrotherapy healing Wong, E.
Published by: Hubble & Hattie Publishing Ltd, 2011 ISBN: 1-845-84341-0

The Dog Anatomy Workbook: A guide to the canine body.
Published by: J.A. Allen, 2014 ISBN: 0-851-31983-1
Gardiner, A.

Journals and magazines

Animal Therapy Media (www.animaltherapymedia.co.uk)
Canine Hydrotherapy (www.kgmazagine.com)
In Practice
Journal of the British Veterinary Association
Veterinary Nursing Journal

Websites

Animal Rehabilitation Centre	www.animalrehabilitation.co.uk
Association of Chartered Physiotherapists in Animal Therapy	www.acpat.org
Association of Complementary Animal Therapies	www.theacat.co.uk
Association of Pet Behaviour Counsellors	www.apbc.org.uk
BSAVA	www.bsava.com
Canine Hydrotherapy Association	www.canine-hydrotherapy.org
Canine Rehabilitation Institute	www.caninerehabilitationinstitute.com
Kennel Club	www.thekennelclub.org.uk
Institute of Complementary Animal Therapy	www.theicat.co.uk
Referrals to hydrotherapy	www.vetsonline.com

Unit 327 Kennel and Cattery Management

UAN:	A/507/7176
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners to gain an understanding of the principles of kennel and cattery management and how these can be put into practice. This unit is primarily aimed at learners within a centre-based setting looking to progress into the sector or to further education and training.

The learner will have knowledge of animal husbandry and specialist animal management techniques, administration procedures, how to deal with an emergency and kennel and cattery design. The unit will develop the learners' animal husbandry skills within a commercial environment as well as developing their customer care skills which is vital to such an industry.

Learning outcomes

In this unit, learners will be able to

1. Understand different designs and facilities of kennels and catteries
2. Admit animals to a kennel and cattery and follow administrative procedures
3. Carry out animal husbandry and specialist animal management techniques in a kennel and cattery

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.

This unit plays an important role in the running of a kennel and cattery establishment, allowing learners to be able to understand and demonstrate the working practices of a commercial setting. Learners are to be encouraged to continuously apply the elements from other units, including 301 Principles of Health and Safety and 303 Animal Health and Husbandry, and apply them to the commercial environment.

The following is a guided list of the legislation that applies to the workplace and specifically, the care of dogs and cats. Learners should be able to demonstrate the practical application of the legislation and be able to discuss consequences of such legislation not followed appropriately.

- The Animal Welfare (Licensing of Activities Involving Animals)(England) Regulations 2018
- The Animal Welfare Act 2006 (incorporating the Five Animal Welfare Needs)
- The Dogs Act 1871
- Code of Practice for the Welfare of Dogs
- Code of Practice for the Welfare of Cats
- Animal Boarding Establishment Act 1963
- Veterinary Surgeons Act 1966
- Pet Animals Act 1951
- The Dangerous Dogs Act 1991 (amended 2014)
- The Zoonoses Order 1989
- The Health and Safety at Work Act 1974
- The Personal Protective Equipment Regulations 2002
- Control of Substances Hazardous to Health Regulations 2002 (COSHH)
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR)
- Clean Neighbourhoods and Environment Act 2005
- Data Protection Act 1998
- National Minimum Wage Act 1998
- Working Time Regulations 1998
- Veterinary Medicines Regulations 2013 (amended)

Centres should be up to date with legislation, policies and codes of practices used within this area for the delivery of this unit.

Learning outcome:

1. Understand different designs and facilities of kennels and catteries

Topics

1.1 Designs of kennels and catteries

1.2 Layout of facilities included in kennels and catteries

1.3 Requirements of the Animal Boarding Establishment Act 1963 and The Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 2018

Topic 1.1

Learners will be able to understand the principles of design for kennels and catteries and make suggestions for improvements, to include:

- Individual kennel designs (single barrack, double barrack, circular, linear)
- Cat pen designs (penthouse, linear)
- Isolation and quarantine sections within the boarding establishment
- Designs of breeding/ rescue kennels and catteries
- Quarantine kennels and catteries (DEFRA authorised quarantine premises)

Learners to consider the needs of the animal, employer, client and inspector when carrying out the design process.

Topic 1.2

Learners need to understand how to layout required facilities found in kennels and catteries and make suggestions for improvement, to include:

- Security
- Mixing of animals (cats/dogs, multiple animals)
- Ease of cleaning
- Ease of access
- Client access
- Isolation
- Quarantine
- Suitability of site
- Ancillary services
- Layout for minimising stress
- Staff facilities.

Topic 1.3

Learners need to understand the requirements of the Animal Boarding Establishment Act 1963 and The Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 2018.

Learning outcome:

2. Admit animals to a kennel and cattery and follow administrative procedures

Topics

2.1 Policies and procedures

2.2 Admission and settling in procedures

2.3 Guidelines for dealing with a customer or animal emergency

Topic 2.1

Learners need to understand the procedures and policies in a kennel and cattery environment for:

- Administration
- Health and safety
- Animal welfare
- Licensing requirements
- Customer service.

This can include:

- Records for animals and finance/Health and Safety
- Health and Safety at Work Act (1974)
- The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1995,
- Animal Welfare Act 2006, animal welfare policy,
- Fire procedures, telephone call procedures, booking policy, insurance,
- Dealing with difficult/upset customers.

Topic 2.2

Learners need to carry out admission and settling in procedures for dogs and cats being kept in a kennel and cattery, to include:

- Taking information from owners, over the phone/ in person
- Advising owners on the animals stay
- Making the animal comfortable
- Minimising stress
- Meeting the individual needs of the animal, eg elderly, juvenile, ill health, behavioural issues, neutered or un-neutered
- Filling in necessary records
- Vaccination records
- Checking on the animal.

Topic 2.3

Learners need to understand the guidelines and procedures for dealing with a customer or animal emergency, to include:

- Dealing with an injury or death of an animal and how to approach the owner
- First Aid emergencies:
 - Fight
 - Escape
 - Cuts
 - Broken bones
 - Head injuries
 - Severe illness such as fitting or unconsciousness
- When and how to call the vet for advice on illness
- Dealing with a difficult or upset customer face to face or over the telephone.

Learning outcome:

3. Carry out animal husbandry and specialist animal management techniques in a kennel and cattery

Topics

- 3.1 Husbandry schedule for animals in a kennel and cattery
- 3.2 Typical and atypical animal behaviour in kennels and catteries
- 3.3 Breed characteristics
- 3.4 Specialist animal management techniques in a kennel and cattery

Topic 3.1

Learners need to plan a husbandry schedule for dogs and cats being kept in a kennel or cattery, this may include:

- Feeding
- Cleaning and maintenance of accommodation
- Exercise and enrichment
- Health checks
- Medication
- Completion of records
- Monitoring schedules.

Learners need to monitor a husbandry schedule for dogs and cats being kept in a kennel and cattery. This could be a husbandry plan given to them by the centre, kennel or cattery.

Topic 3.2

Learners need to understand normal and abnormal behaviours of dogs and cats that being kept in kennels and catteries, which may include:

- Fear
- Anger and aggression
- Stress
- Dominance
- Submission
- Contentment/relaxation.

Learners need to recognise signs of stress in dogs and cats, which may include:

- Physical:
 - Weight loss
 - Change in eating, drinking, urination and excretion
 - Hair pulling/ loss/ over grooming
- Behavioural:
 - Pacing
 - Hiding/ keeping out of sight
 - Vocalisations
 - Aggression.

Learners need to understand how to work with animals that are exhibiting signs of stress and atypical behaviour, this should include their own behaviours and body language, so that the situation is not escalated.

Learners need to monitor and record the behaviours of dogs and cats in kennels and catteries.

Topic 3.3

Learners need to identify commonly kept breeds of dogs and cats in the United Kingdom, which may include:

- Dogs
 - German Shepherd
 - Labrador Retriever
 - Golden Retriever
 - Springer Spaniel
 - Cocker Spaniel
 - Border Collie
 - Border Terrier
 - Jack Russell Terrier
 - West Highland White Terrier
 - Staffordshire Bull Terrier
 - Chihuahua
 - French Bulldog
- Cats
 - British short-hair
 - Persian
 - Russian Blue
 - Bengal
 - Maine Coon
 - Siamese
 - Burmese
 - Ragdoll
 - Birman
 - Abyssinian

Learners need to understand the breed characteristics for the commonly kept breeds of dog and cats in the UK and how these can affect the animal's needs and behaviours. Learners to be aware of current breed ownership statistics for dogs and cats, eg through the Pet Food Manufacturers Association and rescue centre statistics for admission, eg Blue Cross.

Learners need to understand how the use or activity of a dog or cat can affect their requirements of a kennel and cattery, to include:

- Use/ activity level
 - Working
 - Agility or high energy competing
 - Breeding
 - Retired
 - Indoor or house pet
 - Guard or protection
 - Assistance animals eg guide dogs, therapy animals

- Requirements
 - Diet
 - Exercise
 - Access to outdoor areas
 - Contact with people
 - Contact with other animals
 - Reason for boarding eg ill health of owners, holiday bereavement
 - Duration of boarding

Topic 3.4

Learners need to carry out specialist animal management techniques in a kennel and cattery, which may include:

- Selection and use of equipment for handling and restraint such as catch poles, cat bags, muzzles,
- policy and procedure for home checks and re-homing animals by matching animal to potential owner,
- full health checks and recording,
- exercise regimes for animals in different situations such as nervous, aggressive or stressed
- providing suitable diets and making decisions and recommendations to change them if necessary

Guidance for delivery

This unit highlights the safe working practices required to be carry out when working in a kennel and cattery establishment. It provides the learner with specific skills required to safely carry out the key processes and procedures needed daily. It will allow the learners to develop their understanding of the requirements of the animal, owner (client), employer and inspector. Full compliance with the Animal Boarding Establishment Act 1963 must be followed throughout, to allow learners to carry out suitable procedures to care of the animals. Although learners will commonly gain employment in boarding kennels and catteries, teachers must also incorporate rescue, breeding and quarantine establishments into their delivery to allow further opportunities for learners.

Outside speakers such as boarding kennel or cattery owners could enhance delivery by speaking to learners about daily protocols and challenges they face. Inviting a local inspector to speak to learners would also be very beneficial. Learners should be encouraged to visit a suitable kennel and cattery establishment. Learners that have carried out work experience placement at a kennels can also share their experiences with peers and be able to evaluate current practices.

Suggested learning resources

Books

Cattery Design: The essential guide to creating your perfect cattery Key, D. Published by: David Key
Kennel and Cattery Design, 2006

ISBN: 0-953-80021-0

Encyclopaedia of dog breeds Coile, D.C.

Published by: Barron's Educational Series, Inc., 2005 (2nd edition) ISBN: 0-764-
15700-0

FAB Boarding Cattery Manual Bessant, C.

Published by: Feline Advisory Bureau, 2002. ISBN: 0-
953-39421-2

Kennel and Kenneling: A Guide for Professional and Hobbyists McMains,
J.M.

Published by: John Wiley & Sons, 2000 (2nd edition) ISBN: 1-582-
45151-6

Kennel Design: The essential guide to creating your perfect kennels Key, D. and
Bailey, G.

Published by: David Key Kennel and Cattery Design, 2008 ISBN: 0-953-
80022-9

Running Your Own Boarding Kennels

The complete guide to kennel and cattery management Cavill, D.

Published by: Kogan Page, 2008 (4th edition)

The Complete Cat Breed Book DK Publishing

Published by: Dorking Kindersley, 2013

ISBN: 1-465-40851-7

The Dog: Its behaviour, nutrition and health
Published by: Wiley-Blackwell, 2005 (2nd edition)
ISBN: 0-813-81254-2

Case, L.P.

The Domestic Dog: Its evolution, behaviour and interaction with people
Published by: Cambridge University Press, 1995
ISBN: 0-521-42537-9

Serpell, J.

The Kennel Club's Illustrated Breed Standards
Club
Published by: Ebury Press, 2003 ISBN:
0-091-89028-4

The Kennel

The Ultimate Encyclopaedia of Cats, Cat Breeds and Cat Care Edwards, A.
Published by: Hermes House, 2014 ISBN: 1-
846-81300-X

Understanding Cat Behaviour
Published by: CreateSpace Independent Publishing Platform, 2014 ISBN: 1-500-
62020-2

Roberts, G.

What is my Dog Thinking? The essential guide to understanding pet behaviour Bailey, G.
Published by: Hamlyn, 2002 ISBN:
0-600-60423-3

Journals and magazines

Health and Safety at Work magazine
Health and Safety Newsletter (HSE)

www.healthandsafetyatwork.com

www.hse.gov.uk/pubns/books/newsletter.htm

Journal of Veterinary Medicine and Animal Health
Occupational Safety and Health Journal

Websites

Air Pets Quarantine Kennels

www.airpets.com/boarding-quarantine-kennels

Animal Medicines Training Regulatory
Authority

www.amtra.org.uk/

British Safety Council

www.britsafe.org/policy-and-opinion/publications

Data Protection Act 1998

www.legislation.gov.uk/ukpga/1998/29/contents

Department for Environment, Food and Rural Affairs	www.defra.gov.uk
DEFRA authorised quarantine premises	www.gov.uk/government/uploads/system/uploads/attachment_data/file/453890/quarantine-premises.pdf
Governing Body of the Cat Fancy	www.gccfcats.org
Health and Safety Executive – Health and Safety at Work Act 1974	www.hse.gov.uk/legislation/hswa.htm
HM Revenue and Customs	www.hmrc.gov.uk
International Cat Care (formally Feline Advisory Bureau)	www.icatcare.org
International Cat Care cattery design	www.icatcare.org/advice/catteries
Legislation.gov - Animal Welfare Act 2006	www.legislation.gov.uk/ukpga/2006/45/contents
Legislation.gov - Five Animal Welfare Needs	www.legislation.gov.uk/ukpga/2006/45/pdfs/ukpga_20060045_en.pdf
Personal Protective Equipment	www.hse.gov.uk/cosHH/basics/ppe.htm
Pet Food Manufacturers Association (PFMA) breed statistics	www.pfma.org.uk/statistics
The Kennel Club – dog breed and health information	www.thekennelclub.org.uk/health

Unit 362 Undertake Estate Skills

UAN:	K/507/4645
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is to introduce learners to common estate skills and knowledge and how these can be applied in practice. It is designed for learners in centre-based settings looking to progress into the sector or into further/higher education.

The learner will look at constructing, repairing and maintaining boundaries, structures and surfaces. They will build their experience and confidence in developing practical skills in a range of situations. The learner will be able to contextualise practical management work to a particular habitat that lies within their primary area of learning.

Learning outcomes

In this unit, learners will be able to

1. Construct, repair or maintain boundaries
2. Construct, repair or maintain structures
3. Construct, repair or maintain surfaces
4. Carry out practical habitat management work

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. Construct, repair or maintain boundaries

Topics

- 1.1 Prepare for work on boundaries
- 1.2 Select equipment and materials
- 1.3 Construct, repair or maintain boundaries

In this outcome learners will develop the practical skills needed to construct, repair or maintain at least **two** different boundaries.

Boundaries, eg:

- Hedge, bank, ditch,
- Fence (post and rail, post and wire, electric, netting)
- Wall (stone, brick).

Topic 1.1

Learners will plan the task, clear debris and prepare the site, ensure livestock and public safety, consider factors associated with the location (eg power supply, waste disposal, equipment and materials storage).

Topic 1.2

Learners will select materials and equipment relevant to the task, taking into account health and safety, sustainable practice and cost implications.

Topic 1.3

Learners will undertake the task safely (eg implementation of risk assessment and appropriate Personal Protective Equipment (PPE)) and to the required standards.

Learning outcome:

2. Construct, repair or maintain structures

Topics

- 2.1 Prepare for work on structures
- 2.2 Select equipment and materials
- 2.3 Construct, repair or maintain structures

In this outcome, learners will construct, repair or maintain at least two different structures. These may typically be constructed from wood, metal, stone or brick. Learners are not expected to be able to fully construct substantial structures such as animal or machinery housing, however, it is anticipated that delivery could include repair and maintenance of such larger structures as would be found in an estate setting.

Structures eg:

- Gate
- Stile
- Horse jump
- Bird box
- Table
- Bench
- Door
- Raised bed
- Composting area or swim platform
- Large structures requiring repair or maintenance may include animal house or pen, machinery or feed store, garden furniture, shed and pergola.

Topic 2.1

Learners will plan the activity, clear debris and prepare the site, ensure livestock and public safety, consider location factors (power supply, waste disposal, equipment and materials storage).

Topic 2.2

Learners will select materials and equipment relevant to the task, taking into account health and safety, sustainable practice and cost implications.

Topic 2.3

Learners will undertake the task safely (eg implementation of risk assessment and appropriate Personal Protective Equipment (PPE)) and to the required standards.

Learning outcome:

3. Construct, repair or maintain surfaces

Topics

- 3.1 Prepare for work on surfaces
- 3.2 Select equipment and materials
- 3.3 Construct, repair or maintain surfaces

In this outcome learners are required to construct, repair or maintain one surface (eg path, road and hard standing) which could be either solid (eg decking, concrete and paving), or loose (eg gravel, wood chippings and sand). Where appropriate, learners should be aware of timeliness considerations, for example preparing concrete at the right time for construction.

Topic 3.1

Learners will plan the task, clear debris and prepare the site, ensure livestock and

public safety, consider factors associated with the location (eg power supply, waste disposal, equipment and materials storage).

Topic 3.2

Learners will identify and select materials and equipment relevant to the task, taking into account health and safety, sustainable practice and cost implications.

Topic 3.3

Learners will undertake the task safely (eg implementation of risk assessment and appropriate Personal Protective Equipment (PPE)) and to the required standards.

Learning outcome:

4. Carry out practical habitat management work

Topics

- 4.1 Prepare for habitat management work
- 4.2 Select equipment and materials
- 4.3 Carry out practical habitat management work

In this outcome learners are required to undertake practical habitat management work (eg mowing, renovation, tree and shrub planting, clearing unwanted vegetation, coppicing, pruning, thinning, pond, stream and ditch clearance, and control of invasive species). Where appropriate, learners should be aware of time considerations, for example preparing concrete at the right time for construction.

Topic 4.1

Learners will plan the task, clear debris and prepare the site, ensure livestock and public safety, consider factors associated with the location (eg power supply, waste disposal, equipment and materials storage).

Topic 4.2

Learners will identify and select materials and equipment relevant to the task, taking into account health and safety, sustainable practice and cost implications.

Topic 4.3

Learners will undertake the task safely (eg implementation of risk assessment and appropriate Personal Protective Equipment (PPE)) and to the required standards.

Guidance for delivery

This unit has a very practical focus, and aims to enable learners to develop estate skills which can be applied to a range of situations and circumstances. The unit has been written such that naturally occurring and locally relevant opportunities can be used in selecting sites, structures and surfaces to construct, repair or maintain.

As learners will be engaged in practical activity there should be an emphasis on safe working practices, including the use of appropriate personal protective equipment (PPE), and appropriate risk assessments should be undertaken. At Level 3 it is expected that learners will take an active part in completing risk assessments, so that this becomes an integral part of all practical activity. Learners should also be made aware of the impact on the environment, and sustainability concepts should also be demonstrated where possible.

Learners should have the opportunity to undertake estate skills activity in a land-based setting wherever possible to maximise the vocational relevance. It will be most beneficial if the structures, boundaries and surface selected are for a clear purpose above and beyond delivery of this unit. It is recognised that there will not be opportunities to carry out construction, repair *and* maintenance in each of the categories, but it would be appropriate for the skills of construction, repair and maintenance to each be developed in one aspect of the unit.

It is anticipated that most delivery of this unit will take place in a practical setting, with supervised practice of skills. Delivery will also include some classroom-based activity in ensuring learners have a good understanding of planning, materials selection and preparation, and underpinning knowledge.

Suggested learning resources

Books

Dry Stone Walling: A Practical Handbook Adcock, S Published by: The Conservation Volunteers, 1999 ISBN-10: 0946752192	Agate, E (Ed); Brooks, A &
Fencing: A Practical Handbook Published by: The Conservation Volunteers, 2001	Agate, E
Footpaths: A Practical Handbook Published by: The Conservation Volunteer, 2001	Agate, E
Hedging: A Practical Handbook Published by: The Conservation Volunteer, 1998 ISBN-10: 0946752176	Agate, E & Brooks, A
Tree Planting and Aftercare: A Practical Handbook Published by: The Conservation Volunteer, 2001 ISBN-10: 0946752257	Agate, E (Ed)
Tool Care: A Maintenance and Workshop Manual Published by: The Conservation Volunteer, 2000	Agate, E
Waterways & Wetlands: A Practical Handbook Published by: The Conservation Volunteer, 2001	Agate, E

Woodlands: A Practical Handbook
Published by: The Conservation Volunteer, 2002
ISBN-10: 0946752338

Agate, E (Ed)

Hedges and Hedgelaying – A Guide to Planting, Management and Conservation
Published by: The Crowood Press, 2006 ISBN-10: 1847976174

Poultry House Construction
Published by: Gold Cockerel Books, 1997
ISBN-10: 0947870210

Roberts, M

The Smallholder's DIY
Published by: Gold Cockerel Books, 1999 ISBN-10: 0947870172

Roberts, M

Farm and Smallholder Fencing: A Practical Guide to Permanent and Electric Livestock Fencing on the Farm and Smallholding
Published by: Gold Cockerel Books, 2005
ISBN-10: 0947870423

Roberts, M.

Health and Safety Overview for Practical Conservation Project: A Guide to Good Practice for Conservation Groups and Land Managers
Published by: The Conservation Volunteer, 1999

Stokes, A

Websites

The Conservation Volunteers
for Environment, Food and Rural Affairs

www.tcv.org.uk Department

Health and Safety Executive

www.hse.gov.uk

The Wildlife Trusts

www.wildlifetrusts.org

Forestry Commission

www.forestry.gov.uk

Unit 364 Business management in the Land-Based sector

UAN:	A/507/4648
Level:	3
GLH:	60

What is this unit about?

The purpose of this unit is for learners look at the businesses within the land based sector, the role and responsibilities of those employed in land-based businesses and resource requirements.

This unit links closely to Unit 302: Undertake and review work related experience in the Land-based Industries.

Learning outcomes

In this unit, learners will be able to

1. Understand the breadth and importance of an industry in the land-based sector
2. Understand business resources and structures
3. Understand the business marketplace
4. Understand how to use financial and physical record keeping systems

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. Understand the breadth and importance of an industry in the land-based sector

Topics

- 1.1 Importance to the economy
- 1.2 Associated businesses

In this outcome, learners will investigate the size, scope and importance of their specialist sector within the environment and land-based industries, and how this has developed over the last 50 years or so. They will also investigate the range of business types and other organisations that are represented in their sector, including important regulatory, professional or representative organisations. Wherever possible this should be related to specific businesses and organisations.

Topic 1.1

Learners will understand the importance of businesses within the industry to the economy:

- Using measures available to the industry:
 - Value of output
 - Contribution to gross domestic product (GDP)
 - Employment
 - Land use
 - Economic and social benefits
 - Trends in importance
- Range of organisations:
 - Typical types of businesses and other organisations (eg representative, regulatory, not-for-profit)
 - Regional variations
 - Changes and developments in the last 50 years.

Topic 1.2

Learners will understand the range of associated businesses allied to the industry, to include:

- Relevant industries in primary, secondary and tertiary industrial sectors (eg suppliers of raw materials, processors, distributors, retailers, service providers)
- Associated organisations:
 - Specific interrelationships between one business and other associated organisations eg:
 - Suppliers of goods and services
 - Representative organisations and professional bodies
 - Regulatory bodies
 - Competitors
 - Customers
 - Aims and roles of important organisations in the sector.

Learning outcome:

2. Understand business resources and structures

Topics

- 2.1 Legal structure and organisation
- 2.2 Physical resource requirements
- 2.3 Job roles and responsibilities

This outcome focuses on the legal and resource implications of constituting a business. Learners will learn about the range of business organisations in the private and public sectors, and the legal and practical implications of different business types. This should be related to the types of business important in their sector. Learners will investigate the physical resource requirements of businesses, and how they are managed.

Topic 2.1

Learners will understand the legal structure and organisation for the following business types:

- Sole trader
- Partnership
- Limited company
- Not-for-profit organization
- Charity
- Public sector organisations
- Organisation staffing structure.

Topic 2.2

Learners will understand the physical resource requirements of a selected land- based business, to include:

- Property ie forms of tenure, appraisal of business potential
- Vehicles and machinery
- Tools and equipment
- Materials ie stocks control procedures
- Insurance of physical resources.

Topic 2.3

Learners will understand different job roles and responsibilities in a selected land- based business.

- Job roles relevant to the sector, including:
 - Director
 - Manager
 - Supervisor
 - Team worker
 - Trainee

- Administrator
- Volunteer
- Sub-contractor
- For each of the above job roles, learners will explore:
 - Job description (eg responsibilities for financial physical and human resources, staff motivation and performance management)
 - Person specification (typical skills, qualifications and experience required to fulfil the role)
 - Legal rights and responsibilities in work (eg pay, working hours, holidays, equal opportunities, health and safety, employment protection).

Learners will know relevant employment legislation, including:

- Employment Act 2002
- National minimum wage Act 1998
- Working times regulation Act 1998
- Equality Act 2010.

Learning outcome:

3. Understand the business marketplace

Topics

- 3.1 Marketplace, customers and competitors
- 3.2 Supply chain
- 3.3 Quality management

In this outcome, learners will analyse the market for a specific land-based business. This could involve a case study project and should identify, for that business, information on the content listed. External influences should be relevant and current to that business. Specific competitors should be identified and analysed to identify strengths and weaknesses to the case study business. When investigating the supply chain learners will need to identify the flow of resources from production of raw materials, through relevant manufacture and processing, to end consumers. Quality management will include reference to any formal standards or approvals that are relevant. It should also consider the quality standards required by the industry, any systems and practices that are used to achieve quality, and implications of failing to meet prescribed or assumed levels of quality.

Topic 3.1

Learners will understand the marketplace, customers and competitors for a land-based business by investigating the following:

- Size of market ie value of sales, number of customers
- External influences on the market ie political, economic, socio-cultural, technological
- Customer base ie number, type, characteristics, market segments
- Competitor analysis ie direct and indirect competitors.

Topic 3.2

Learners will understand the importance of efficiency and interdependency in a supply chain in a land-based context, considering the following:

- Suppliers
- Distributors
- Customers
- Supply chain assurance
- Ethics.

Topic 3.3

Learners will understand quality management systems and practices within a land-based business:

- Important aspects of quality in the sector
- Formal quality standards or approval eg BALI approved, Plant Passports, British Standards
- Informal systems and practices to achieve quality
- Problems arising if quality is not achieved.

Learning outcome:

4. Understand how to use financial and physical record keeping systems

Topics

- 4.1 Financial records
- 4.2 Physical records
- 4.3 Monitor business performance and progress

This outcome focuses on the range of financial and physical records that are required to meet legal requirements as well as to ensure effective business operation. Learners will complete a range of financial records. They should be aware of paper-based and computerised systems for financial records but are not expected to become competent in the use of IT accounts software. The range of physical records investigated should be related to the needs of the learners' specialist sector, and should include important current examples of legally required records. In addition to completing a range of records, learners will investigate how specific examples can be used to aid decision making, monitor and control business performance.

Topic 4.1

Learners will understand the importance of keeping accurate financial records for a selected land-based business in relation to legal requirements and management efficiency. Learners will understand the following financial records:

- Purchasing and ordering procedures
- Order forms and orders
- Deliveries and receipts
- Invoices and sales records
- Credit control
- Payment methods
- Bookkeeping ie cash analysis, petty cash, cash flow, budgets, computer accounts programmes

- Basic accounts ie trading account, balance sheet, depreciation
- Taxation ie VAT, income tax PAYE, national insurance contributions, corporation tax
- Wage calculation.

Topic 4.2

Learners will understand the importance of recoding physical records for a selected land-based business, to include:

- Production
- Inputs
- Staffing
- Customers
- Resource use
- Data protection
- Legal requirements to keep records eg pesticide use, veterinary medicines, transport, animal movement, passports.

Topic 4.3

Learners will understand how financial and physical records are used in monitoring business performance and progress, to include:

- Production levels
- Costs of production
- Financial efficiency
- Monitoring against targets
- Budgets
- Previous periods
- Relevant review periods ie weekly, monthly, annually
- Appropriate remedial actions
- Staff roles in recording and analysing information.

Guidance for delivery

This unit is designed to provide the learner with an understanding of the business aspects of their industry. It is applicable to all sectors of the environment and land-based sector and learners focus their study on the sector most relevant to their vocational interests.

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 formal lectures will be necessary at level 3 but for this unit it is recommended that they are linked directly with interactive lessons in a real environment.

Appendix 1 Sources of general information

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

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
- 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

The **centre homepage** section of the City & Guilds website also contains useful information on

- **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

E:

learnersupport@cityandguilds.com

International learners

General qualification information

E: intcg@cityandguilds.com

Centres

Exam entries, Certificates,
Registrations/enrolment, Invoices, Missing or late
exam materials, Nominal roll reports, Results

E: centresupport@cityandguilds.com

Single subject qualifications

Exam entries, Results, Certification, Missing or late
exam materials, Incorrect exam papers, Forms
request (BB, results entry), Exam date and time
change

E: singlesubjects@cityandguilds.com

International awards

Results, Entries, Enrolments, Invoices, Missing or late
exam materials, Nominal roll reports

E: intops@cityandguilds.com

Walled Garden

Re-issue of password or username, Technical
problems, Entries, Results, e-assessment,
Navigation, User/menu option, Problems

E: walledgarden@cityandguilds.com

Employer

Employer solutions, Mapping, Accreditation,
Development Skills, Consultancy

E: business@cityandguilds.com

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If you have a complaint, or any suggestions for improvement about any of the services that we provide, email: feedbackandcomplaints@cityandguilds.com

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. 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 is a leader in global skills development. Our purpose is to help people and organisations to develop their skills for personal and economic growth.

Made up of City & Guilds, City & Guilds Kineo, The Oxford Group and ILM, we work with education providers, businesses and governments in over 100 countries.

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City & Guilds
5-6 Giltspur Street
London EC1A 9DE
www.cityandguilds.com
