

Agriculture, Environmental and Animal Care: Animal care and management

T Level outline content: final version

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Introduction

Outline content

This outline content has been produced by [T Level panels](#) of employers, professional bodies and providers, and is based on the same standards as those used for apprenticeships. The outline content will form the basis of the specifications for T Level Technical Qualifications, which will be developed by awarding organisations for approval by the Institute for Apprenticeships and Technical Education. One awarding organisation will be appointed to develop and deliver each Technical Qualification following a procurement process.

Colleges and other education and training providers will decide how to structure the T Level courses they offer, based on the qualification specifications. This will enable them to deliver the study programme's mandatory components in the most effective way for students.

A T Level programme consists of a Technical Qualification, substantial industry placement, English and maths, and other occupation-specific requirements where essential for entry to skilled employment. This outline content relates solely to the Technical Qualification part of a T Level programme.

Further information about T Levels is available on the website of the Institute for Apprenticeships and Technical Education here: www.instituteforapprenticeships.org, and at www.education.gov.uk.

Agriculture, Environmental and Animal Care: Animal Care and Management

Awarding organisations will need to ensure that students have an up-to-date knowledge of the legal and regulatory obligations relating to employment in the occupations relevant to the T Level and understand the practical implication of these on their work.

Maths, English and digital skills are set out in a separate annex. Awarding organisations should integrate these within the qualification so that they are applied in occupationally relevant contexts.

Core content

The core content relates to the whole route 'route core'. The core knowledge and understanding is assessed through an examination and core skills through a practical employer-set project.

The core knowledge and understanding focuses on the students' knowledge and understanding of contexts, concepts, theories and principles relevant to the T Level. This could include, where appropriate, assessment of knowledge and understanding relevant to the route and the pathway.

The employer-set project provides the opportunity to develop and apply a minimum range of core skills important for employability. The allocation of content to each type of assessment will need to be approved by the Institute for Apprenticeships and Technical Education.

Core knowledge and understanding across Agriculture, Environmental and Animal Care Route

Sustainability

Key requirements of environmental legislation

- associated obligations for businesses, their employees and other stakeholders.

Key government environmental policies and initiatives

- the opportunities and risks they bring to the agriculture, environmental and animal care sector
- the associated environmental performance measure e.g. water and energy use.

The concept of sustainable development

- sustainable development goals at a macro (national and international) and micro (business) level
- types of sustainable solutions to meet development goals including social, environmental, economic and human
- concerns and expectations of key stakeholders.

The concept of climate change and scientific views on causes and impacts

- the impact of climate change upon environments, conservation practices, habitats, flora, fauna and water levels
- policies and initiatives to manage these changes at national and local level.

Waste management principles (e.g. recycle, reduce, reuse)

- key requirements of associated legislation
- types of materials that require specific actions (e.g. asbestos)
- measures in place by the sector and organisation to meet requirements.

Biosecurity

Principles of biosecurity

- factors influencing biosecurity e.g. international trade, new technologies
- biosecurity risk factors in different types of agriculture, environmental and animal care situations
- biosecurity measures including inspection, monitoring, regulation, passports, isolation and their importance in maintaining health production and service environments.

Working in the agriculture, environmental and animal care sector

Employment rights and responsibilities (e.g. union membership, working hours, contract or written statement, breaks, holidays) of the employer and employee

- different employment contracts, including agency contracts and related benefits and limitations to employers and employees
- expectations of professional conduct and behaviours in the workplace (including punctuality, cleanliness, respect for own and others work and work area, respect for the land, property and belongings of others
(including animals) including for volunteers
- typical activities that can lead to disciplinary and grievance procedures
- how these expectations are met and demonstrated by employees
- how employers support health and wellbeing of employees
- the importance of monitoring staff and colleagues for signs of slavery and people trafficking and signs of exploitation including loss of rights e.g. under Working Time Directive waivers.

Principles of effective teamwork

- how teams are developed, including the role of the team leader
- team dynamics and how they are managed, and behaviours influenced
- qualities of effective team members and team leaders and how these qualities are demonstrated
- the importance of team work to team and project performance
- techniques used to monitor and manage individual and team performance e.g. goal and objective setting, performance management reviews, providing constructive feedback
- techniques used to manage team conflict (e.g. mediation) and when and how they should be applied.

Progression opportunities which exist within the agriculture, environmental and animal care sector

- the purpose of continuing professional development (CPD) and the benefits it brings to the individual and their employer
- methods of personal and professional development (e.g. coaching, volunteering, independent research) and the types of organisations that can provide this type of support, including professional bodies
- their suitability for achieving planned outcomes.

Ethics

Ethical principles (e.g. honesty, transparency, justice)

- how these are used in codes of conduct, employment terms and conditions, workplace policies, supply chains
- how these are represented by ethical behaviours
- how these are incorporated into business ethics

- how these impact on business operations, including interaction with stakeholders and the supply chain.

Supply Chain

The supply chain

- different types of organisations involved and their role
- different ways in which the supply chain is sequenced and operates
- implications of failing to meet supply chain demands
- environmental and ethical impact of the supply chain including whole life cycle of a product
- types of procurement (e.g. competitive bidding, direct purchase) and their suitability for different situations.

Principles of stock management (including stock rotation, storage, conditions, monitoring stock levels, ordering stock, dealing with deliveries, maintaining records)

- how they are applied in different types of business
- implications to businesses of ineffective processes.

Business

The types of business organisations e.g. sole trader, partnership, limited company, not for profit

- common business structures and hierarchies
- the financial, legal and commercial implications of type of business
- typical organisational policies (e.g. health and safety, equality) and their relationship to legislation
- types of business objectives and values associated with different business structures.

The principles of enterprise skills e.g. risk taking, innovation, resilience

- how they are applied to develop business growth and change including sales opportunities and diversification of the business
- types of business risk (e.g. financial, reputational) and risk management methods that can be deployed.

How businesses measure success (including Key Performance Indicators (KPIs), Service Level Agreements (SLAs), benchmarking, supply chain requirements)

- the information used to determine if success measures are met
- quality standards, quality control and quality assurance ○ their purpose, differences and application to organisations quality standards expected by internal and external stakeholders and associated quality assurance requirements e.g. audits.

The principles of project management (including purpose and scope of the project, milestones and timescales, supply chain, people management, resources, budgeting).

Equality

Characteristics protected by equality legislation

Factors to consider (including equality legislation, cultural differences, religious needs) when working with people from diverse backgrounds and cultures

- how to show empathy and respect to those from different backgrounds and cultures to our own
- acceptable and unacceptable behaviours and language.

Communication

Different types of communication (including verbal and nonverbal)

- the formats used for the types of communication (e.g. business reports, emails, letters, websites) and associated business conventions
- the types and value of images and visual aids to support written text and oral presentations
- their suitability for different purposes and audiences
- the importance of spoken language, body language and tone in communication and how each is used to convey different messages to different audiences for different purposes
- the benefits and limitations of social media including risk of misuse, promoting the business.

Relationship Management

Principles of customer care (including first impressions, representing business and self, supporting customers, the difference between customer wants and needs, the importance of accurate knowledge, working to an expected timescale)

- how these can be applied when dealing with different stakeholders, including internal customers (e.g. volunteers)
- legal requirements (including legislation relating to consumer protection) when interacting with different types of customers and customer relationships including business to business (B2B)
- typical procedures used to deal with customer disputes and complaints, including escalation to relevant individuals and departments
- how to apply customer service principles and the benefits to the individual (e.g. increased motivation, positive feedback) and business (e.g. customer loyalty, customer confidence).

Roles of different stakeholders including internal and external customers

- their expectations
- interrelationships between stakeholders.

Finance

The concept of profit

- types of profit (including net and gross) and significance of each to business success
- types of cost incurred by business (products, ancillary products, types of overheads, labour), their classifications (direct, indirect, fixed, variable)
- measures used to reduce costs and implications of using these to profitability, reputation and quality
- types of taxation (including payroll, business)
- how costs and revenue are forecast
- how profit is calculated.

Health and Safety

Key requirements of health and safety legislation e.g. for lone working, for safe manual handling

- the respective duties imposed on employees and employers
- the importance of taking personal responsibility for health and safety of self and others
- the techniques and methods used to comply with legislation e.g. use of Personal Protective Equipment (PPE), regular communication with lone workers.

The purpose of risk assessments

- typical structures and content
- how they are developed, used and dynamically updated
- implications for poor development and application
- hierarchy of controls and their application.

Hazards and risks associated with working in the agriculture, environmental and animal care sector (e.g. working with hazardous materials, lone working)

- typical control measures in place to minimise risks, including the types of PPE used, fatigue and stress management for lone workers.

Procedures to follow when dealing with emergency situations e.g. spilt cleaning materials, slurry exposure, flooding.

Information and data

Key requirements of legislation relating to the security of information and data

- types of information and data protected by legislation including client data, intellectual property
- methods used by businesses to manage information and data including. version control, access controls, indexing, cyber security.

Employer-set project

The employer-set project ensures students have the opportunity to combine core knowledge and skills to develop a substantial piece of work in response to an employer set brief. The employer-set project forms part of the Technical Qualification and is a separate part of the T Level programme to the Industry Placement.

To ensure consistency in project scope and demand, awarding organisations will develop assessment objectives, which require students to:

- plan their approach to meeting the brief
- apply core knowledge and skills as appropriate
- select relevant techniques and resources to meet the brief
- use maths, English and digital skills as appropriate
- realise a project outcome and review how well the outcome meets the brief.

The awarding organisation will work with a relevant employer or employers, to devise a set brief that:

- ensures a motivating starting point for students' projects, for example, a real-world problem to solve
- ensures students can generate evidence that covers the assessment objectives
- is manageable for providers to deliver
- is officially approved by the awarding organisation and employer.

For Animal Care and Management, in achieving the assessment objectives and meeting the brief, students must demonstrate the following core skills:

- **Analysing:** qualitative and quantitative data and information and identifying common features, organising into types, discerning patterns, deconstructing, classifying, ordering ○ e.g. identifying common features of data obtained on options to develop a new product or service, classifying and organising data into types, discerning patterns.
- **Communication: using a range of communication methods tailored to the audience** with different audiences through reading, writing, listening and speaking through the use of visual, oral and written methods, demonstrating active listening, building a rapport, engaging an audience, adapting style and tone to audience needs and nature of the message ○ e.g. using visual and oral methods to engage an audience with proposal for improving representation and diversity in the sector.
- **Critical thinking:** in relation to problem solving, decision making, researching and planning to include questioning, evaluating pros and cons, using logic and reasoned argument, synthesising, concluding ○ e.g. questioning information and data, evaluating pros and cons of developing the business to meet animal care accreditation criteria.
- **Decision making:** in work related contexts including clarifying logical choices, identifying likely impact, using evidence and advice, justifying, substantiating, concluding ○ e.g. identifying likely impact if biosecurity plan in the business and using evidence to substantiate conclusions.

- **Investigating:** to obtain information and data including identifying potential sources, developing search criteria or queries, interrogating data, designing and carrying out tests ○ e.g. developing search criteria or queries for secondary research and designing and carrying out surveys for primary research into the opportunities to develop a business for animal assisted therapies.
- **Working in a team:** to plan, carry out research, solve problems and make decisions including shared vision, mutual support, open communication, respect and honesty, role allocation, sharing ideas and interpretations, developing new ideas and interpretations, monitoring own and others progress, providing support, advice and guidance, reflecting, inviting and providing feedback on own and others performances, managing time, conflict management, achieving team goals ○ e.g. developing and implementing a digital marketing plan for the introduction of a new product or service.

Occupational Specialist Content

Specialist content is structured into different occupational specialisms, which correspond to the apprenticeship standards listed on the relevant occupational map. Occupational specialisms ensure students develop the knowledge and skills necessary to achieve a level of competence needed to enter employment in the occupational specialism, and are organised around 'performance outcomes' that indicate what the student will be able to do, as a result of learning and applying the specified knowledge and skills.

Each Performance Outcome sets out the knowledge and skills required to meet that Performance Outcome. As a result, the same content areas may appear in more than one Performance Outcome where it would be contextualised to that Performance Outcome.

There are some content areas that are included in both the Core and Occupational Specialism sections, this is intentional. Where in Core, it is because it is content that is applicable to all Agriculture, Environmental and Animal Care students, regardless of the Occupational Specialism. If the same content area is also in the Occupational Specialism, it is because the knowledge is needed to achieve the relevant Performance Outcome. In the Occupational Specialism, it is therefore likely to require different content to reflect the Performance Outcome.

Occupational Specialist Content

Occupational Specialism: Animal Care and Management

Performance Outcome 1: Optimise health and welfare of animals

Students must learn about a range of mammals, birds, herptiles, aquatics and invertebrates through the knowledge. They must demonstrate their skills of working with a mammal and one of the following types of animal – birds, herptiles, invertebrates.

Knowledge Specific to Performance Outcome

Health, safety and the environment

How organisational policies and procedures are designed to meet current legislation including animal welfare (e.g. relating to zoo licensing, licensing of activities involving animals) and health and safety legislation (e.g. lone working).

Hazards associated with optimising health and welfare of animals (including disease, bites)

- associated risks including for high risk animals and environment
- organisational and personal control measures used to manage risks.

The key risk factors associated with zoonosis and common zoonotic diseases and their management including infection controls, quarantine, anthroponosis and isolation protocols.

Strategies and techniques for compliant and sustainable waste management and recycling and how these are applied in different animal care environments.

Types of emergency situations that may be encountered in different types of animal care providers.

Animal biology

The structure, function and control of bodily systems and key adaptations of different taxa

- including digestive, reproductive, respiratory, cardiovascular and nervous systems
- how these systems affect health and welfare including diseases and disorder that may arise.

The classification of taxa (to species) and the implications for animal care and the implications for reporting and record keeping.

Typical animal diseases:

- their causes and symptoms and routes of transmission
- their potential effect on animal health and welfare
- how to assess the risk of outbreak
- measures to prevent and control spread the of disease
- which diseases are notifiable and zoonotic, and the process involved with reporting and managing them.

The natural behaviour (including eating habits, sleeping habits, social behaviour, lifecycles, ecological niche) of different types of animals and breeds and how the knowledge can be used to best optimise their health and welfare.

Types of nutrients required by animal species

- how they may change over different life stages
- additional supplements and their sources
- how different nutrients affect the health and welfare of animals
- sources of nutrients
- how nutrients and supplements are used to manage weight
- how foods and water are presented to animals to reflect natural feeding behaviour.

How foods are safely and hygienically stored, formulated, prepared, and delivered.

Animal welfare

The animal welfare frameworks (including freedoms, needs and domains) and legislation

- best practice in ensuring they are implemented when optimising health and welfare of animals
- implications to health and welfare animals of non-compliance.

Techniques for safe and welfare - orientated animal handling including capture and restraint.

Different ways that can be used to identify animals (e.g. for sex determination), their suitability in different situations and their impact on the health and welfare of the animal.

Social needs of animals (e.g. social grouping), how they may vary at different life stages, different ways in which they can be met and how they affect the health and welfare of animals.

Physical, clinical and behavioural signs of good and poor health and welfare and how they vary according to life stage.

Techniques (including observation, clinical tests, weighing) used to assess health and welfare of animals

- how they are applied

- their suitability for different animals and environments
- sensitivities and perceptions of key stakeholders when carrying out assessments
- the tools, equipment and materials required for use.

Techniques used for preventative health care (including grooming, vaccinations) the health care issue they prevent and how they are applied.

Methods of taking samples (e.g. urine) for health assessment including correct storage, hygiene or biosecurity and record keeping.

Opportunities for animals to be active that can be provided for different animal species

- how it may vary according to needs including life and health stages
- how they can be applied in different environments
- the benefits it brings
- the types of hazards that may be encountered through activities.

The principles and methods for the movement and transportation of animals

- the factors to be considered for the most suitable approach e.g. species, duration, animal welfare considerations, health and safety, legislation
- the types of equipment that might be required e.g. carry cage, crate
- the techniques used minimise stress to the experience
- how these are applied
- the effects these have on animal health and welfare.

Ethics of human-animal interaction with animals, the freedoms and opportunities that are available and restricted and how these are applied when optimising the health and welfare of animals in different environments.

Procedures for managing stock of veterinary medicines (including stock levels, stock ordering, storage).

Techniques used to administer medicines and their suitability for different purposes.

Legal requirements of medical procedures that can be undertaken by non-qualified staff.

How to apply first aid to animals e.g. wound management.

Relationship management, customer service, communication

Types of data and information (including social media) created, retrieved and recorded for different types of stakeholders

- procedures used to manage information and data, including their security

- techniques used to interpret information and data
- how information and data is used to organise schedules, prioritise tasks
- implications for misuse.

Methods of communication used to convey and receive information and their suitability for different purposes.

Key local, regional, national and international stakeholders for different animal care environments, their mission, roles and rights and implications for animal care providers.

Principles of customer service.

Skills

Health check using techniques as appropriate to species and consideration for animal freedoms

- identify animals
- lift animals
- place animals down
- place animals within a 'container'
- manoeuvre animal bodily parts safely with consideration for animal emotion
- fit restraint equipment or devices
- restrain animals for a health check
- determine animals' temperature
- monitor animals' life signs e.g. pulse, breathing
- check animals' coat (e.g. skin, scales, fur) for signs of 'damage'
- check animals for signs of 'disrepair'
- check animals body parts e.g. eyes, teeth, genitals
- assess animals' mobility
- monitor animals' behaviour
- measure animals e.g. weight
- condition score an animal
- use an animal's flight zone to create movement
- record animal information and data.

Administer treatment

- apply a bandage to an animal's limb
- remove discharge
- apply topical medical treatments
- apply oral medical treatments e.g.
tablets, syringe.

Prepare feed

- weigh food
- prepare food e.g. chop, grate
- measure prepared food with precision e.g. weight, size
- inspect food items for signs of spoilage or disease.

Preventative care using techniques as appropriate to species and consideration for animal freedoms

- trim (e.g. nails)
- brush (e.g. coat)
- clean (e.g. shedding reptile).

Use questioning techniques (e.g. open questions, probing questions) to obtain and clarify information on an animal.

Model appropriate behaviours.

Apply appropriate force when restraining animals e.g. when moving animals, when preparing animals for transportation.

Demonstrate physical dexterity with delicacy when interacting with animals.

Apply bio security controls e.g. for infection.

Performance Outcome 2: Optimise animal environments to meet their needs

Students must develop knowledge about a range of mammals, birds, herptiles, aquatics and invertebrates.

Students are not required to demonstrate any skills working directly with animals for this performance outcome. Students can monitor and determine animal needs and current behaviours through direct observation, a video, images, transcripts, reports or other formats. They can use the information from these sources to support decision making regarding the environment required for the animal. They must develop skills needed to optimise the environment to maximise animal welfare.

Knowledge Specific to Performance Outcome

Health, safety and the environment How organisational policies and procedures are designed to meet current legislation including health and safety legislation (e.g. COSHH, manual handling).

Hazards associated with optimising animal environments (including zoonosis, injuries),

- associated risks
- organisational and personal control measures used to manage risks
- the types and purpose of PPE available.

Strategies and techniques for compliant and sustainable waste management and recycling and how these are applied in different animal care environments.

Animal biology

The structure, function and control of bodily systems and key adaptations of different taxa

- including digestive, reproductive, respiratory, cardiovascular and nervous systems
- how these systems affect health (including diseases and disorders that may arise), welfare and environment requirements.

The natural habitats (including environmental parameters (e.g.

temperature, humidity, pH and UV) of different types of animals and how the knowledge can be used to best optimise their environment e.g. quiet environments to meet psychological needs.

The natural behaviour including social behaviour and dynamics of different types of animals and how the knowledge can be used to best optimise their environment.

Animal welfare

The animal welfare frameworks (including freedoms, needs and domains) and legislation

- best practice in ensuring they are met through their environment
- implications to animals of noncompliance.

The principles and techniques of animal environment management e.g. cleaning replenishing materials

- how these are applied
- products, tools and equipment used
- benefits and potential harms these can bring to animals when managing their environments.

The five categories of enrichment (environmental, social, cognitive, sensory, nutritional)

- the types of enrichment in an environment that can be used to enable animal natural behaviour to be displayed
- enrichment items that can be used
- techniques used to create enrichment
- how enrichment can be evaluated.

Environment design

The principles of animal environment design including

- the need to facilitate best practice in human-animal interactions and minimise unintentional contact
- how to best meet the needs of the animals (e.g. places to hide, opportunities for exercise and exhibit natural behaviours)
- how to minimise potential health and safety hazards including toxic plants, fire, sharp objects and biohazards including poor waste disposal, access by other species
- components and furnishings to meet the needs of the various stakeholders and animals
- how the need to move animals is considered and managed in designs
- how animal locomotion is included in environmental design
- how to ensure design minimises animal fear and distress
- the implications of poor design to animal health and welfare.

How to create animal environments designs including using digital software.

Techniques used to evaluate the animal environment (including enrichment) and its effect on animals.

Information and data

Information about the environment needed by different stakeholders (e.g. visitors, vets, colleagues) and methods of communication needed to respond to those needs.

Types of data and information created, retrieved and recorded and the procedures used to maintain their security.

Skills

Measurement

- monitor accommodation environmental conditions e.g. temperature
- measure the accommodation environment
- measure resources e.g. bedding area, building materials.

Cleaning

- sterilise equipment
- classify waste
- prepare waste for disposal
- disinfect accommodation areas
- apply bedding or substrate
- clean food and water receptacles
- clean accommodation environment
- mix chemicals
- prepare tools and materials for storage.

Construction maintenance

- install accommodation fixtures and fittings
- use tools and equipment effectively to carry out tasks.

Enrichment

- create enrichment
- install enrichment
- monitor animal behaviour before enrichment.

Present a digital design for animal accommodation.

Assess a design for animal accommodation for potential adverse effects on the animal.

Performance Outcome 3: Apply techniques to influence positive animal behaviour

Students must learn about a range of mammals, birds, herptiles, aquatics and invertebrates through the knowledge. They must demonstrate their skills of working with a mammal and one other type of animal.

Knowledge Specific to Performance Outcome

Health and safety

How organisational policies and procedures are designed to meet current legislation including health and safety legislation (e.g. manual handling).

Hazards associated with applying techniques to influence positive animal behaviour

- the tools and activities undertaken
- associated risks
- organisational and personal control measures used to manage risks and included in training plans.

Animal biology

The structure, function and control of the nervous systems and key adaptations of different taxa and how this knowledge can be used to plan for and implement techniques to influence behaviour.

The natural behaviour at different life stages (including eating habits, activity habits, social behaviour, ecological niche) of different types of animals and breeds and how the knowledge can be used to plan for and implement techniques to influence behaviour.

Animal welfare

The animal welfare frameworks (including freedoms, needs and domains) and legislation

- best practice in ensuring they are implemented when planning and implementing activities to influence behaviour
- implications to health (including diseases and disorders that may arise), welfare and behaviour of animals of non-compliance.

Typical animal diseases:

- their causes and symptoms and routes of transmission
- their potential effect on behaviour and response to training
- measures to prevent and control spread the of disease
- which diseases are notifiable and zoonotic, and the process involved with reporting and managing them.

Techniques for safe and welfare-orientated animal handling.

Indicators that an animal would be responsive to change

- techniques used to assess an animal's responsiveness to change.

Techniques to protect an animal from fear, including personal behaviour and how these are applied.

Positive and negative indicators of animal welfare when implementing activities to influence behaviour.

Animal behaviour

Characteristics and causes of natural, atypical, desirable and undesirable behaviour for a species and how these are used to determine training plans and monitoring requirements.

How required behavioural changes are identified (including through observation sampling techniques, scrutiny of records), the types of information provided and how these are used to support planning and evaluating impact of activities to influence behaviour.

The impact that nutrition (e.g. type of nutrients, diet, timing of food and water intake) can have on animal behaviour and how this can be managed to positively influence behaviour.

Relationship between environmental factors (e.g. bedding, noise), health, wellbeing, learning and positive behaviour and how this is used to assess suitability of the animal for training and to develop and implement training plans.

Social needs of animals, how they may vary at different life stages, different ways in which they can be met and how they affect the behaviour and potential for learning.

Types of communication (including posture, vocalisations, body language) used by animals for different purposes and how this is used to monitor the response of animals to learning.

Animal training

Principles of the design of the learning environment and how these are applied to achieve specific objectives.

Learning theory

- including stimulus response learning (habituation and sensitisation)
- associative learning (classical and operant conditioning)
- higher learning (social or observational, latent and insight learning, cognition)
- types of reinforcement (positive and negative) and when they are appropriate to use

- reinforcement schedules
- the suitability of different techniques to meet different goals for different species and the potential effects on the animal.

Learning plans

- types of training goals and how they are determined
- how to incorporate learning theory into training plans
- types of training aids (e.g. cues, markers) and reinforcers suitable to support meeting training goals
- how they are incorporated into training plans
- how they are used to implement and monitor the effectiveness of the animal response to the training.

Ethics of training including the use of aversive strategies, coercion, deprivation, choice, opportunity, freedom.

Ethics of human-animal interaction with animals, the freedoms and opportunities that are available and restricted and how these are applied when influencing animal behaviour.

Communication

Types of records used (e.g. ethograms, progress log) in animal training and behavioural monitoring and how they are used to support behavioural change.

Methods of communication with an animal used to convey and receive information and their suitability for different purposes.

Skills

Behaviour assessment

- identify signs of stress
- identify natural motivators
- monitor changes to animal behaviour.

Risk assessment

- assess potential health and safety risks
- monitor health and safety risks.

Training

- monitor an animal's behaviour
- respond to animal behaviour
- apply reinforcement using precise and controlled movements
- use training aids (e.g. cue, marker) safely and effectively

- apply appropriate tone
- apply appropriate timing
- make appropriate use of personal space and movement
- apply appropriate body language e.g. posture.

Record animal behaviour e.g. ethogram.

Performance Outcome 4: Provide information researched on an animal to promote animal welfare and conservation

For this performance outcome the expectation is that students research an animal with which they are unfamiliar.

Knowledge Specific to Performance Outcome

Animal biology

The classification of taxa (to species) and the implications for animal care.

The natural history of different types of animals including adaptations and how it can be used in the conservation of a species and breeds.

Animal welfare and conservation

The animal welfare frameworks (including freedoms, needs and domains) and legislation

- best practice in ensuring they are implemented when optimising health and welfare of animals
- implications to health and welfare animals of non-compliance.

Physical and behavioural signs of good and poor health and welfare and how they arise.

The principles of the movement and transportation of animals and how these are applied in conservation activities.

Ethics of human-animal interaction, the freedoms and opportunities that are available and restricted and how these are applied in conservation activities.

Ethical concerns of the public and how actions of key stakeholders mitigate those concerns.

The changing role of zoos and other national and international organisations (e.g. International Union for Conservation of Nature (IUCN), One Plan) in conserving species and breeds and their habitats and techniques and actions that are used (e.g. IUCN red listing, ZSLs Edge programme, and Biodiversity Action Plan (BAPS)).

Techniques (e.g. direct observation, genetic mapping) and technologies (drones, GPS) used to assess the conservation status of a species and breeds and habitats

- how they are applied by key stakeholders
- factors that affect the need for conservation

- methodologies for resolving conservation issues including captive population management and its effectiveness (e.g. same sex groups, breed and cull)
- impact of conservation action and lack of action on biodiversity and ecosystems.

The importance of genetic diversity and the consequences of hybridisation and inbreeding.

Research

Hazards associated with undertaking primary research and presenting information to an audience

- associated risks
- organisational and personal control measures used to manage risks.

The importance of animal research, the types of research undertaken, key stakeholders involved in research and the contribution they make to conservation and improved animal care and welfare.

Principles of research design including hypothesis or question to be answered, ethics, information sources (authoritative, valid, reliable, ethics), research plan, methodologies (e.g. behavioural sampling techniques), recording of information.

Techniques used to analyse and interpret information and data.

Communication

Information needs of different stakeholders and factors to be considered in meeting those needs.

Methods of communication including digital media used to convey and receive information, tools, equipment and materials that can be used and their suitability for different purposes and audiences.

Skills

Break down a complex task into individual steps.

Sequence and prioritise steps.

Allocate time and resources to steps.

Optimise work processes.

Identify search criteria.

Identify questions to be answered.

Validate information and data.

Assess suitability of information and data.

Organise data into usable forms.

Interpret mathematical diagrams.

Represent information and data using mathematical diagrams.

Create digital media.

Edit digital media.

Input, process, manipulate and interrogate data digitally.

Use digital tools to engage an audience.

Convey technical information to different audiences e.g. technical and nontechnical.

Present information and ideas orally to others.

Summarise information and ideas.

Synthesise information.

Create texts e.g. web page, report, abstracts.

Identify sources of information.

Develop search criteria or questions to be answered.

Gather relevant information and data.

Substantiate conclusions with evidence.

Manage own time to achieve objectives.

Occupational Specialism: Animal Care and Science

Performance Outcome 1: Apply research methods to collect and analyse scientific information on animal conservation

For this performance outcome the expectation is that students research an animal with which they are unfamiliar.

Knowledge specific to Performance Outcome

Sources of knowledge

Internal sources including the importance of confidentiality.

External sources.

Characteristics of reliable sources, e.g., accuracy, availability of references, acknowledgement of peer review.

Fact, opinion and bias: what each means and the differences between them.

Scientific nomenclature of taxa used for gathering information.

Research process, methods and design

Research briefs including instructions, objectives, context, target audience, format of output.

Research methods including the differences between qualitative and quantitative collection methods and how they are used.

Design characteristics, e.g., descriptive and comparative.

Primary and secondary research methods.

Hazards associated with undertaking primary research

- associated risks
- organisational and personal control measures used to manage risks.

The importance of animal research, the types of research undertaken, key stakeholders involved in research and the contribution they make to conservation and improved animal care and welfare.

Data collection, handling and processing

Purpose of data collection including its role in answering questions, making decisions and implications of findings.

Formats including:

- those requiring future accessibility, for example, non-proprietary, open, with

- documented standards
- appropriate formats, for example, image, text, audio, database.

Data analysis including that of quantitative (e.g., descriptive statistics, mathematical) and numerical (e.g., graphs, tables, charts and diagrams) and qualitative, e.g., themed data.

Animal conservation

Ethics of human-animal interaction, the welfare needs and opportunities that are available and restricted and how these are applied in conservation activities.

Ethical concerns of the public and how actions of key stakeholders mitigate those concerns.

The changing role of zoos and other national and international organisations (e.g., International Union for Conservation of Nature (IUCN), One Plan) in conserving species and breeds and their habitats and techniques and actions that are used (e.g., IUCN red listing, ZSLs Edge programme).

Techniques (e.g., direct observation, genetic mapping) and technologies (drones, GPS) used to assess the conservation status of a species and breeds and habitats

- how key stakeholders apply them
- factors that affect the need for conservation
- methodologies for resolving conservation issues including captive population management and its effectiveness (e.g., same sex groups, breed and cull)
- impact of conservation action and lack of action on biodiversity and ecosystems.

Validation and presentation

How to interpret findings from research including validity, reliability, limitations and how to draw conclusions.

Presentation methods for example graphical, tabular, reports, presentation software and including awareness of audience type.

Skills specific to Performance Outcome

Identify and source suitable information for analysis.

Use appropriate primary and secondary research methods to gather information for scientific analysis.

Use appropriate tools to gather information including survey tools, key word research tools, scientific nomenclature and desktop research.

Check and verify information to ensure it is complete, accurate, appropriate and of good quality.

Present research data to inform conservation and improved animal care and welfare.

Interpret research briefs.

Assess the validity of research findings against original proposal or brief.

Present scientific research findings in an appropriate format for the information obtained and target audience.

Performance Outcome 2: Observe the behaviour, security and breeding practices of animals

Students must develop knowledge about a range of mammals, birds, herptiles, aquatics and invertebrates.

Knowledge specific to Performance Outcome

Legislation

Legislative requirements for breeding animals including the Animal Welfare Act and species' specific legislation.

Animal biology

Classification, including the use of modern technologies for classification, of living organisms and their evolutionary relationships

- the basic principles of natural selection and evolution that lead to speciation
- different classification systems and how they may change in response to new evidence
- distinguishing features used to establish evolutionary relationships between animals

Breeding captive animals

Planning considerations for population management.

Reproductive strategies and conditions needed for breeding for species

- mate recognition systems, survival strategies and how these are used to benefit species, maternal and paternal care of neonates and strategies used by mammalian and avian species.

How animal evaluation before mating can maximise breeding success.

Breeding programmes

- selection and mating schemes and response to selection
- breeding value estimation
- pedigrees and inbreeding

Breed profiles, sources of information, use of equipment, handling techniques.

Breeding management

Factors to consider when selecting and managing breeding stock

- management of female from conception to birth
- potential problems that could occur in the management of the female from conception to birth
- the care requirements of offspring from birth to weaning and the problems that could

- occur in the offspring from birth to weaning
- care plans and implementation including the monitoring and recording progress of the offspring's first 24–48 hours of life and development to weaning or adulthood
- lifetime reproductive performance

Genetics and genetic manipulation

Reproductive technologies including

- infertility treatments
- superovulation
- ovulation indicators
- embryo transplants
- artificial insemination
- genetic engineering, pregnancy diagnosis and gene therapy.

Gene interactions, mutations (spontaneous and induced mutations) and gene manipulation techniques used including the advantages and disadvantages.

Mendelian inheritance and genetics including the interpretation of Punnett Squares.

Animal behaviour

Characteristics and causes of natural, atypical, desirable and undesirable behaviour for a species.

How required behavioural changes are identified, including through observation sampling techniques, scrutiny of records, the types of information provided and how these are used to support planning and evaluating impact of activities to influence behaviour.

The impact that nutrition (e.g. type of nutrients, diet, timing of food and water intake) can have on animal behaviour and how this can be managed to positively influence behaviour.

Relationship between environmental factors (e.g. noise, food shortage, inclement weather), health, wellbeing, learning and positive behaviour.

Social needs of animals, how they may vary at different life stages, different ways in which they can be met and how they affect the behaviour and potential for learning.

Ethics

Regulatory issues and regulation of genetic technologies in animals including the role of the Food Standards Agency. (FSA and Department for Environment, Food and Rural Affairs (Defra).

Ethical considerations of changing animals through genetic modification.

Use of animals that have been genetically transformed in biotechnology including advantages and disadvantages.

Skills specific to Performance Outcome

Create plan(s) for population management:

- introductory meeting of a species
- individual suitability
- practical set up
- potential issues.

Identify the uses for reproductive technologies.

Analyse and interpret gene interactions.

Observe, record, report and interpret the behaviour of captive or wild animals in response to a range of stimuli.

Investigate the development of behaviour in captive or wild animals has led to evolutionary benefits for the species.

Analyse the inherited characteristics of domestic animals to identify gene interactions.

Assess the regulatory and ethical dimensions of the genetic manipulation of animals.

Performance Outcome 3: Plan for and manage the good health and welfare of animals

Students must develop knowledge about a range of mammals, birds, herptiles, aquatics and invertebrates.

Knowledge specific to Performance Outcome

Animal biology

How body systems function when in good health including the circulatory, respiratory, reproductive, excretory, nervous, integumentary and endocrine and musculoskeletal systems and adaptations to lifestyle and diet.

Cells and tissues and how they are controlled, how substances are transported in and out of cells and how they contribute to the normal functioning of body systems in animals.

Animal husbandry and welfare

Animal welfare frameworks (for example the five domains: nutrition, environment, health, behaviour and mental state).

Husbandry and welfare considerations

- feeding and watering including dietary needs and ways of presenting food
- grooming and bathing including practical methods and equipment used as appropriate to species
- exercise needs including type, frequency and quantity, environment

Animal diseases

Typical diseases, their clinical signs, treatments and prevention including measures to control the spread of disease and which diseases are notifiable and zoonotic.

Typical disorders in domestic animals including nutritional, endocrine and metabolic.

Growth and reproduction of pathogens, parasites, viruses and fungi and how organisms defend against disease.

Nutrients

Structure of key nutrients, carbohydrates protein and fats.

Types and sources of nutrients required by animal species

- functions of major nutrients within the animal's body
- digestion and absorption of the major nutrients
- how they may change over different life stages
- additional supplements and their sources
- how different nutrients affect the health and welfare of animals
- how nutrients and supplements are used to manage weight.

Causes, signs and treatment of animal nutritional deficiencies, excesses and disorders.

Skills specific to Performance Outcome

Identify and assess severity of and report potential health issues in animals.

Monitor changes in health of animals and report findings e.g. signs of ill health or injury, behaviour monitoring, body condition scoring, faecal scoring, food intake.

Collect, document and store information as part of health monitoring.

Identify and assess the need for basic treatments.

Record and monitor the effectiveness of treatment plans.

Interpret nutritional information.

Record, monitor and evaluate diets for animals.

Propose modifications in diet to meet nutritional needs of a given animal.

Performance Outcome 4: Carry out safe animal handling practices

Students must develop knowledge about a range of mammals, birds, herptiles, aquatics and invertebrates.

Knowledge specific to Performance Outcome

Legislation

The aims and purposes of relevant (and current) legislation that applies to the animal care sector and related to the safe handling of animals for example Animal Welfare (Licensing of Activities Involving Animals) (England) Regulations 2018, Animal Welfare Act 2006, Welfare of Animals (Transport) Order 2006, The Veterinary Surgeons Act 1966, The Animals (Scientific Procedures) Act, 1986.

Health and safety

Risks and hazards of working with animals including the importance of risk assessments, high risk groups of those handling animals, variety of hazards of handling animals e.g., allergens, physical injury.

Safe working practices.

Handling animals

Reasons for handling, moving and restraining animals.

Techniques for safe and welfare-orientated animal handling.

Equipment used for handling animals.

Movement of animals

The principles and methods for the movement, restraining and transportation of animals

- the factors to be considered for the most suitable approach e.g., species, duration, animal welfare considerations, health and safety, related legislation
- the types of equipment that might be required e.g., carry cage, crate
- the techniques used minimise stress to the experience
- how these are applied
- the effects these have on animal health and welfare.

Environment

Influencing factors, types of accommodation design (including enhanced accommodation) and materials to meet animal welfare needs, and their practical implications.

Suitability and maintenance of accommodation to meet animal welfare and human safety and stakeholder needs.

Skills specific to Performance Outcome

Follow current or relevant health and safety legislation and work place policies.

Assess risk and respond according to level of risk.

Monitor risks in line with safe working practices.

Identify which equipment, methods of approach, capture, handling, restraint and loading are best for specific situations and species.

Create plans for and make informed decisions to facilitate best approach, capture, handling, restraint and loading for specific situations and species.

Apply appropriate force when restraining animals e.g., when moving animals, when preparing animals for transportation.

Demonstrate physical dexterity with delicacy when interacting with animals.

Identify the most appropriate methods of successfully transporting animals considering species, level of risk, duration, animal welfare considerations, health and safety, legislation.

Assess the strengths and weaknesses of different accommodation designs from the point of view of each stakeholder group (e.g., animals, keepers, vet team, visitors, educators, researchers).

Performance Outcome 5: Plan, perform, record and communicate findings of scientific investigations in animal science

Knowledge specific to Performance Outcome

Investigation

Principles for design of and controls for scientific investigations.

Planning criteria including objectives, hypothesis, milestones and resources required.

How to work safely in laboratories including

- hazard identification and risk management
- personal protective equipment
- laboratory safety symbols
- setting up of equipment
- use of bench space
- safe working policies
- Good Laboratory Practice (GLP)
- Good Clinical Practice (GCP).

Recording and analysis of data, use of log books and evaluation techniques.

Scientific communication methods including standard format of scientific reports, scientific representation and terminology.

Microbiology

Concepts of bacterial identification, media and growth needed to carry out useful microbial investigations.

Techniques required for microbial investigations.

Hazards and uses of microorganisms.

Techniques required for effective use of microscopes.

Biochemistry

Working safely with chemicals

- selection of correct glassware.
- measuring mass, and liquid or gas volumes to specified accuracy, producing standard solutions and serial dilutions.
- applying pH indicators, including universal and paper.
- determining the endpoints of reactions using simple acid or base titration.
- varying reaction conditions including temperature changes, different concentrations, reactant surface area, differential pressure, employing chemical and biological catalysts.

- measuring rates of reaction using chemical and biological catalysts.
- selection of adequate eye, hand and other specified personal protection equipment.

Basis of biochemical reactions

- principles of biochemical reactions.
- atomic structure and ion formation including bonding and attractive forces.
- rates of reaction, the role of enzymes as biological catalysts, the state of equilibrium.

The production of adenosine triphosphate in cellular respiration for animals to utilise energy

- aerobic respiration, Anaerobic respiration, Other respiratory substrates.

Skills specific to Performance Outcome

Design and implement scientific investigation(s); including a small number of variables or indicators, using tried and tested research methods e.g., single animal case studies.

Analyse results and summarise findings using reporting tools including:

- descriptive statistics
- listing methods of dissemination of results including where the investigation(s) might be published
- consideration of the implications of findings for practices.

Measure quantities for chemical reactions.

Measure the size of an object viewed with an optical microscope.

Use microscopes to make observations (of biological specimens).

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

Identify structures and functions in different tissue types.

Record, retrieve and communicate scientific information.

****DEVELOPMENT CURRENTLY PAUSED****

Occupational Specialism: Equine Care and Management

Performance Outcome 1: Optimise the physical and psychological well-being of horses

Knowledge Specific to Performance Outcome	Skills
<p>Safe Working Practices Key requirements of health, safety and security legislation, codes of practice and policies and their application to equine yards.</p> <p>Typical hazards encountered when optimising equine welfare, associated risks and control measures that are best applied.</p> <p>Key requirements of Codes of Practice (e.g. DeFRA Code of Practice for the Welfare of Horses, Ponies and their Hybrids, National Equine Welfare Council (NEWC) Code of Practice for Welfare Organisations involved in the Keeping of Horses, Ponies and Donkeys) and ethics and how they are applied when optimising the care of horses.</p> <p>Yard and Field Routines and Management Typical yard and field duties involved in managing the welfare of horses and how these are organised and communicated.</p> <p>Different types of rugs</p> <ul style="list-style-type: none"> • their purposes and suitability for different situations • their application. <p>Principles of stock management (including stock rotation, storage conditions, monitoring stock levels, ordering stock, dealing with deliveries, maintaining records) and implications to the business and horses of ineffective processes.</p>	<p>Determine temperature using appropriate techniques.</p> <p>Determine respiration rate using appropriate techniques.</p> <p>Determine pulse rate using appropriate techniques.</p> <p>Assess body parts e.g. joint mobility, hooves.</p> <p>Palpate body for signs of heat, swelling, abrasions.</p> <p>Determine equine hydration using appropriate techniques e.g. capillary and circulation refill test, skin elasticity.</p> <p>Visually assess equine posture and movement.</p> <p>Apply medication orally with syringe.</p> <p>Calculate dosage of medication e.g. wormer.</p> <p>Assess a horse for lameness when trotting up.</p> <p>Make up feed based on information in a feed chart.</p>

<p>Types of stabling and stable yard design (including foaling boxes)</p> <ul style="list-style-type: none"> • their characteristics • fixtures and fittings • types of enrichment • considerations and potential impacts on equine welfare including horses with atypical needs. <p>Different types of bedding</p> <ul style="list-style-type: none"> • their characteristics • their suitability to meet a variety of horses needs • their disposal. <p>Types of yard design</p> <ul style="list-style-type: none"> • shapes, sizes and materials used • layouts • impact of yard design on equine physical and psychological health and welfare. <p>Types of grazing</p> <ul style="list-style-type: none"> • their characteristics • potential positive and negative impacts on equine welfare. <p>The need for and techniques used to work in an environmentally, economic and socially sustainable manner and how these are implemented.</p> <p>The types of business that provide services and supplies to support the welfare of the horses</p> <ul style="list-style-type: none"> • how their services are procured • how their quality is monitored. <p>Principles of customer care and how these are applied when dealing with different stakeholders.</p>	<p>Assess overall equine health and fitness.</p> <p>Clean feed and drinking equipment.</p> <p>Provide forage to horses e.g. fill and hang a hay net, provide loose hay in a field.</p> <p>Clean feed room.</p> <p>Apply manual handling techniques when lifting and moving heavy equipment or materials e.g. feed bags, hay bales.</p> <p>Pick out hooves.</p> <p>Tie quick release knot.</p> <p>Bath a horse including after care.</p> <p>Apply a rug for a specified purpose.</p> <p>Prepare stable (e.g. fittings, bedding) for a specific purpose e.g. foaling, box rest.</p> <p>Muck out stable.</p> <p>Manage waste.</p> <p>Manage grassland accommodation e.g. remove fences, check fences.</p> <p>Assess a field for hazards e.g. faeces, damaged fencing, poisonous plants.</p> <p>Provide enrichment.</p>
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Information and data requirements of a yard (including financial, human resources) and the associated documents produced.

Horse Anatomy, Physiology and Welfare

The anatomy of the equine body

- skeletal and muscular systems including the lower limb and hoof
- principles of conformation
- how the anatomy contributes to conformation
- techniques used to assess conformation
- potential injuries and problems resulting from anatomical issues
- common developmental issues in foals and growing youngstock.

The physiology of the equine digestive, respiratory and circulatory systems,

- the parts of each system and their functions
- how the parts inter-relate to enable the system to function
- potential diseases and disorders that may arise
- how risks of these diseases and disorders are managed
- common developmental issues in foals and growing youngstock.

Indications of good and poor equine welfare, health and fitness for different uses (e.g. breeding, competing) and the techniques used to assess these.

- Typical equine diseases: their causes and symptoms and routes of transmission
- their potential effect on horse welfare
- how to assess the risk of outbreak
- measures to prevent and control spread the of disease

Present yard e.g. sweep floor, decobweb, store tools.

Stack muck heap e.g. for disposal of waste.

Fit a head collar.

Apply restraint equipment for leading a horse from the ground e.g. a strong horse.

Lead a horse from one location to another e.g. to a horse walker.

Release horse in a location e.g. field.

Catch a horse in a field.

Record actions.

Create texts e.g. health assessment records.

Work with proportion (e.g. feed rations).

Interpret mathematical diagrams (e.g. temperature, pulse and respiration charts).

Analyse equine health data.

Optimise work processes (e.g. daily routines).

Manage own time to meet objectives.

Apply appropriate application of pressure.

- which diseases are notifiable and zoonotic, and the process involved with reporting and managing them.

Common minor equine ailments and injuries and the first aid and treatments needed to deal with these.

Situations that require isolation and sick nursing and typical procedures to be followed.

Techniques used to measure clinical signs (e.g. temperature, hydration, weight) in horses

- expected acceptable levels
- implications of not monitoring rates
- how they are applied.

Different types (including topical, orally administered with feed, orally administered with syringes) of equine medication used

- the control procedures and protocols that should be followed, including storage and reference to regulations.

Horse Handling, Care and Appearance

Techniques and equipment used to handle and restrain horses and their use and suitability for different situations.

Requirements and procedures for daily grooming (including trimming, clipping, bathing) to meet welfare needs and the resources required to complete these.

The horse's hoof

- different types of shoes and their suitability for different situations
- how shoes can be used to treat health issues and injuries
- how to remove a loose or twisted shoe including the tools required.

Nutrition and Fitness

Nutritional and hydration requirements of horses

- at different life stages including in foals and growing youngstock
- for different work, exercise and or competition
- the types of feed that can meet these requirements.

Fitness requirements for a variety of horses

- at different life stages
- for different work, exercise and or competition
- implications of poorly designed and implemented fitness programmes.

Different types of non-ridden exercise

- the benefits to horses' health and welfare of non-ridden exercise
- health and welfare issues arising from poor technique used during non-ridden exercise.

Performance Outcome 2: Prepare horses for transportation

Knowledge Specific to Performance Outcome	Skills
<p>Safe Working Practices Key requirements of legislation, codes of practice and policies (including those relating to health, safety and security) and their application to horse transportation.</p> <p>Typical hazards encountered when preparing horses for transport (including during loading)</p> <ul style="list-style-type: none"> • associated risks • control measures that are best applied. <p>Key requirements of Codes of Practice (e.g. DeFRA Code of Practice for the Welfare of Horses, Ponies and their Hybrids, National Equine Welfare Council (NEWC) Code of Practice for Markets and Sales involved with the selling of Horses, Ponies and Donkeys) and ethics and how they are applied when preparing horses for transportation (including during loading).</p> <p>Routines and management for travel Different types of transport available for transporting horses the factors to consider when selecting transport including types of vehicle, facilities available to aid loading (e.g. loading ramp), purpose of journey, duration of journey, cost.</p> <p>The need for and techniques used to work in an environmentally, economic and socially sustainable manner when transporting horses and how these are implemented.</p> <p>The techniques used for accurate, recording of equine data and information</p>	<p>Apply protective equipment for travelling.</p> <p>Assess health and safety risks.</p> <p>Gather transportation documentation.</p> <p>Visually assess condition of the transport for horse safety and wellbeing e.g. partition security, level of ventilation.</p> <p>Load a horse onto transport.</p> <p>Secure a horse in transport.</p> <p>Unload a horse from transport.</p> <p>Apply biosecurity controls.</p> <p>Use equipment to support loading a difficult loader.</p>

and the implications of poor processes and unethical practice.

Requirements when planning travel for horses including equipment, supplies, protective equipment and documentation.

Horse Anatomy, Physiology and Welfare

Indications of good and poor equine welfare and health and the techniques used to assess these,

- how horse health and welfare are monitored during transportation
- the effect of transportation on welfare and health.

Common minor equine ailments and injuries and the first aid and treatments needed to deal with these.

Typical equine diseases:

- their causes and symptoms
- situations that require isolation and sick nursing and typical procedures to be followed
- the implications for transporting diseased horses
- which diseases are notifiable.

Horse Handling, Care and Appearance

Techniques and equipment used to handle and restrain horses

- their use and suitability for different transportation situations including when loading and travelling.

Nutrition and Fitness

Nutritional and hydration requirements for horses being transported

- the types of feed that can meet these requirements.

Performance Outcome 3: Prepare horses for different types of work and competition

Knowledge Specific to Performance Outcome	Skills
<p>Safe Working Practices Key requirements of health, safety, security and biosecurity legislation, codes of practice and policies and their application when preparing horses for different types of work and competition.</p> <p>Typical hazards encountered when preparing horses for work or competition, associated risks and control measures that are best applied.</p> <p>Key requirements of Codes of Practice (e.g. DeFRA Code of Practice for the Welfare of Horses, Ponies and their Hybrids, The British Horse Society Code of Practice for the Welfare of Horses and Ponies at Events) and ethics and how they are applied when preparing horses for work or competition.</p> <p>Yard and field routines and management Typical yard and field duties involved in preparing horses for, during and after work and competition and how these are organised and communicated.</p> <p>Competition rules for tack and equipment • their implications for preparation • technical terms used by regulatory bodies.</p> <p>Principles of customer care and how these are applied when dealing with different stakeholders including competition riders, owners.</p>	<p>Apply and fit snaffle bridle.</p> <p>Apply and fit a double bridle.</p> <p>Apply a saddle.</p> <p>Assess the fit of a saddle.</p> <p>Apply and fit a martingale.</p> <p>Apply and fit a breastplate.</p> <p>Apply and fit a training aid.</p> <p>Plait a horse's mane for competition.</p> <p>Present a horse's tail for competition e.g. plait pull.</p> <p>Apply quarter marks.</p> <p>Assess tack for safety.</p> <p>Clean tack e.g. remove dirt, apply saddle soap.</p> <p>Clip a horse for competition.</p> <p>Trim a horse for competition.</p> <p>Turn out horse for competition e.g. chalking, coat shine.</p> <p>Prepare mane for plaiting e.g. pulling, trimming, using a thinning comb.</p> <p>Apply and fit leg protection e.g. overreach boots, brushing boots.</p>

Different saddlery and equipment requirements for work and competition

- standards required
- how to clean and prepare for specific disciplines
- how these are applied and correctly fitted when preparing horses
- implications of poor fitting tack on welfare
- fitting of exercise sheets and rugs pre, during and post exercise.

Horse Anatomy, Physiology and Welfare

The anatomy of the equine body

- skeletal and muscular systems including the lower limb and hoof
- principles of conformation
- how the anatomy contributes to conformation
- techniques used to assess conformation
- potential injuries and problems resulting from anatomical issues.

The physiology of the equine respiratory and circulatory systems

- the parts of each system and their functions
- how the parts relate to enable the system to function
- potential issues that may arise
- how risks of these issues are managed
- how issues are resolved.

Indications of good and poor equine welfare, health and techniques used to assess these.

Common minor equine ailments and injuries associated with different types of work and competition and the first aid and treatments needed to deal with these.

Apply studs.

Remove studs.

Remove competition tack and equipment from a horse.

Identify discrete steps involved in completing a complex task (e.g. preparing for a competition).

Sequence and prioritise steps.

Estimate time and resources.

Allocate resources (including people, equipment, materials, time) to steps.

Apply physical dexterity with delicacy e.g. when plaiting.

Typical equine diseases

- their causes and symptoms
- their potential effect on horse welfare and ability to work and compete
- how to assess the risk of outbreak when working or in competition
- measures to prevent and control spread the of disease when working or in competition.

Different types (including topical, orally administered with feed, orally administered with syringes) of equine medication used

- the effect of competition on their use
- the control procedures and protocols that should be followed during competition, including storage and reference to regulations.

Horse Handling, Care and Appearance

Techniques and equipment used to handle and restrain horses and their use and suitability for different situations.

Grooming requirements (including pulling, plaiting, clipping, trimming) for different work and competition and the resources required to complete these.

The horse's hoof

- different types of shoes and their suitability for different situations
- how shoes can be used to treat health issues and injuries
- how to remove a loose or twisted shoe including the tools required
- types of studs, their suitability for different situations and how to fit them.

How tack is fitted correctly for the safety and welfare of the horse and implications of

poor fitting to the health and welfare of the horse.

Nutrition and Fitness

Nutritional and hydration requirements for horses

- at different life stages
- for different work, exercise and or competition
- the types of feed that can meet these requirements
- prohibited substances.

Care routines to be applied post work, exercise and competition including cooling down and rehydrating.

Fitness requirements for a variety of horses with different work, exercise and or competition requirements.

Performance Outcome 4: Prepare a horse for breeding

For the purpose of this performance outcome, the skills to be developed are transferable and are written in the context of breeding but do not need to be demonstrated on a brood mare.

Knowledge Specific to Performance Outcome	Skills
<p>Safe Working Practices Key requirements of health, safety and security legislation, codes of practice and policies and their application when preparing horses for breeding.</p> <p>Typical hazards encountered when preparing a horse for breeding and control measures that are best applied.</p> <p>Key requirements of Codes of Practice (e.g. National Equine Welfare Council (NEWC) Code of Practice for Tethering of Equines, Horserace Betting Levy Board (HBLB) Code of Practice for Artificial Insemination (AI)) and ethics (e.g. use of unlicensed, ungraded stallions and mares, indiscriminate breeding) and how they are applied when selecting (e.g. grading of stock) and preparing a horse for breeding.</p> <p>Yard and field routines and management Typical yard and field duties involved in managing and preparing a horse for breeding and how these are organised and communicated.</p> <p>Types of stabling</p> <ul style="list-style-type: none"> • their characteristics • their suitability for different stages in the breeding process including youngstock, brood mares, mare and foal, stallions • how they are prepared for specific purposes. 	<p>Identify a horse from documentation provided.</p> <p>Assess the suitability of a mare for breeding.</p> <p>Adjust size of stocks.</p> <p>Lead a horse into stocks e.g. mare.</p> <p>Secure a horse in stocks e.g. mare.</p> <p>Wrap a horse's tail.</p> <p>Clean a horse's genitalia e.g. mare.</p> <p>Lead a horse out of stocks e.g. mare.</p> <p>Check provenance of semen.</p> <p>Assess quality (motility) of semen.</p> <p>Fit a foaling alarm.</p> <p>Configure a digital foaling alarm.</p> <p>Move and restrain a strong horse.</p> <p>Restrain a horse in position and keep it still.</p>

Types of grassland

- their characteristics
- their suitability for managing breeding stock.

The types of breeding records (including passports, terms of service and nomination contracts, veterinary certificates, pedigrees) maintained by the yards

- content and purpose of records
- software used
- the information they record
- how the information is shared with key stakeholders.

The techniques used for accurate, confidential recording of equine data and information and the implications of poor processes and unethical practice.

The need for and techniques used to work in an environmentally, economic and socially sustainable manner and how these are implemented.

Horse Anatomy, Physiology and Welfare

The anatomy of the equine body

- skeletal and muscular systems including the lower limb
- principles of conformation
- how the anatomy contributes to conformation and the horse's suitability for breeding
- techniques used to assess conformation
- potential hereditary problems resulting from anatomical issues.

The physiology of the male and female equine reproductive systems,

- including gestation and parturition

- the parts of the system and their functions
- how the parts relate to enable the system to function
- hormonal control of the male and female reproductive system
- potential issues that may arise
- genetics and inheritance
- how risks of these issues are managed
- how issues are resolved.

Characteristics used to identify horses including and associated terminology.

Indications of good and poor equine welfare, health and fitness

- when preparing a horse for breeding
- when mares are in foal including early signs of foaling and emergency foaling situations (e.g. breech) • techniques used to assess these
- technology used to support this.

Typical equine diseases and ailments likely to occur at different breeding stages e.g. youngstock, brood mares, stallions:

- their causes and symptoms
- their potential effect on successful breeding
- how to assess the risk of outbreak
- measures to prevent and control spread the of disease
- diseases that are notifiable.

Breeding

The purpose and content of breeding programmes

- characteristics of horses suitable for breeding e.g. pedigree, temperament, conformation, health records

- data and records used to support selection
- implications of indiscriminate breeding and poor selection methods
- stallion and mare grading.

Pre-entry tests required to meet regulatory requirements for mares and stallions at stud

- purposes of these tests
- implications of non-testing.

Techniques for artificial manipulation of the reproductive processes

- suitability of the techniques for different situations
- veterinary techniques that are applied
- when techniques occur
- how to prepare the horse for these techniques.

Different types of pregnancy testing (e.g. scanning, blood tests)

- timings of tests
- situations where scanning is not suitable.

Natural and non-natural covering techniques (including artificial insemination techniques, embryo transfer),

- their characteristic
- their purposes
- the benefits and drawbacks of use for different horses and purposes
- the benefits and drawbacks of using fresh, chilled and frozen semen.

How health and wellbeing care routines are adapted for breeding stock at different stages of breeding.

Horse Handling and Care

Techniques and equipment used to handle and restrain horses during different stages of breeding and their suitability for different purposes.

Requirements and procedures for grooming for horses during different stages of breeding and the resources required to complete this.

Technology

Technology used to support the breeding process e.g. heat lamps, CCTV, foaling alarms.

Artificial insemination and embryonic transfer

- preparation, actions required, benefits and limitations
- benefits and limitations of fresh, chilled and frozen materials
- implications for the use of fresh, chilled and frozen materials including timings for insemination.

Nutrition and Fitness

Nutritional and hydration requirements for horses at different stages of breeding and implications for inappropriate application.

The relationship between levels of fitness and breeding potential and implications of inappropriate application.

Performance Outcome 5: Support horses' recovery, recuperation and rehabilitation

<p>Knowledge Specific to Performance Outcome</p>	<p>Skills</p>
<p>Safe Working Practices Key requirements of health, safety and security legislation, codes of practice and policies and their application in equine yards.</p> <p>Typical hazards encountered when supporting horses' recovery and rehabilitation, associated risks and control measures that are best applied.</p> <p>Ethical issues and implications associated with recovery and rehabilitation of horses.</p> <p>Yard and field routines and management Types of stabling</p> <ul style="list-style-type: none"> • their characteristics • suitability for different recovery and rehabilitation needs of horses • the contribution of location and layout to providing enrichment • how they are prepared for those purposes. <p>Types of grassland</p> <ul style="list-style-type: none"> • their characteristics • suitability for different recovery and rehabilitation needs of horses. <p>Methods used for accurate recording of support provided for horses through recovery and rehabilitation equine and the implications of poor processes and unethical practice.</p> <p>The types of business that provide services to support the recovery and rehabilitation of horses</p> <ul style="list-style-type: none"> • how their services are procured 	<p>Set up a footbath.</p> <p>Provide enrichment in stable for horse on box rest.</p> <p>Demonstrate how to remove a shoe.</p> <p>Apply a bandage.</p> <p>Manipulate limbs e.g. lift and extend legs.</p> <p>Prepare a wound for dressing e.g. cleanse an area for veterinary inspection, trim hair around a wound.</p> <p>Apply dressings to a wound e.g. to hooves, joints.</p> <p>Administer medication e.g. oral, topical.</p> <p>Prepare medication.</p> <p>Plan pole layout for specific purposes.</p> <p>Position poles for a specific purpose e.g. for lungeing.</p> <p>Secure tack for lungeing.</p> <p>Fit a lunge cavesson.</p> <p>Fit a lunge roller.</p> <p>Fit a training aid.</p> <p>Start a horse lungeing.</p>

<ul style="list-style-type: none"> • how their quality is monitored. <p>Principles of customer care and how these are applied when dealing with different stakeholders e.g. yard visitors, owners.</p> <p>Horse Anatomy, Physiology and Welfare</p> <p>The anatomy of the equine body</p> <ul style="list-style-type: none"> • skeletal and muscular systems including the lower limb and hoof • principles of conformation • how the anatomy contributes to conformation of different breeds and individual horses • techniques used to assess conformation • potential injuries and problems resulting from anatomical issues • natural processes for tissue repair and wound healing • how recovery and rehabilitation activities can affect skeletal and muscular system including bone modelling, muscle development and impact on ligaments and tendons. <p>The physiology and control of the equine respiratory, circulatory and thermoregulatory, immune systems</p> <ul style="list-style-type: none"> • the parts of each system and their functions, • how the parts relate to enable the system to function, • potential issues including deterioration that may arise from recovery and rehabilitation activities • how risks of these issues are managed • how issues are resolved • how recovery and rehabilitation is used to improve physiology and other beneficial effects it can provide. 	<p>Maintain a consistent circle size whilst lungeing.</p> <p>Use a lunge line and lunge whip simultaneously.</p> <p>Maintain a consistent pace whilst lungeing.</p> <p>Start the horse long-reining.</p> <p>Maintain distance from a horse whilst long-reining.</p> <p>Perform turns and circles whilst longreining.</p> <p>Work a horse over poles e.g. longreining, lungeing, in hand work.</p> <p>Start a horse loose schooling.</p> <p>Keep a horse moving loose in school.</p> <p>Direct a horse when loose schooling.</p> <p>Estimate a horse's weight.</p> <p>Calculate medicine requirements based on a horse's weight.</p> <p>Convey technical information to technical and non-technical audiences (e.g. conveying a recovery plan to a vet or owner).</p> <p>Present information and ideas orally to others.</p> <p>Summarise information and ideas.</p> <p>Synthesise information.</p>
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~~Characteristics and causes of natural, atypical, desirable and undesirable behaviour in horses and how these are used to determine training plans and monitoring requirements.~~

~~How required behavioural changes are identified (including through observation sampling techniques, scrutiny of records)~~

- ~~• the types of information provided~~
- ~~• how these are used to support planning and evaluating impact of training.~~

~~The impact that nutrition (e.g. type of nutrients, diet, timing of food and water intake) can have on equine behaviour and how this can be managed to positively influence behaviour.~~

~~Relationship between environmental factors (e.g. bedding, noise), health, wellbeing, learning and positive behaviour and how this supports the horse in training and with the development and implementation of training plans.~~

~~Social needs of horses~~

- ~~• how they may vary at different life stages and different incidents~~
- ~~• different ways in which they can be met~~
- ~~• how they affect horse behaviour.~~

~~Types of communication (including posture, vocalisations, body language) used by horses for different purposes~~

- ~~• how this is used to monitor the response of horses to training.~~

~~The natural behaviour (including eating habits, sleeping habits, social behaviour,~~

~~Use open questioning and listening (e.g. deep, active) techniques to obtain and clarify information.~~

~~Identify sources of information to support problem solving related to a horse's recovery, recuperation and or rehabilitation.~~

~~Develop search criteria or questions to be answered to obtain information for a specific purpose.~~

~~Demonstrate precise and controlled movements.~~

~~Apply a logical approach to solving problems when interacting with horses.~~

lifecycles) of horses and how the knowledge can be used to best optimise their health and welfare.

Indications of good and poor equine health and fitness

- techniques used to assess these
- the considerations needed for recovery, recuperation and rehabilitation.

Typical equine injuries

- factors likely to lead to these injuries
- their impact on recovery, recuperation and rehabilitation
- methods of monitoring recovery from injury.

Different types (including topical, orally administered with feed, orally administered with syringes) of equine medication used

- the control procedures and protocols that should be followed, including storage and reference to regulations.

Differences between recovery, recuperation and rehabilitation:

- recovery — why are they in recovery, (injury, illness) management of horses in recovery e.g. box rest, wound management, different treatments available, e.g. bandaging, holistic, when veterinary assistance is required
- recuperation — why do they need recuperation, e.g. neglect, poor welfare, stress, management of horses in recuperation e.g. enrichment, grooming, when veterinary assistance is required
- rehabilitation — getting the horse to work, when rehabilitation is appropriate, acceptable rehabilitation

methods, expected timescales, potential deterioration, when veterinary or other professional assistance is required.

Horse Handling, Care and Appearance

Techniques and equipment used to handle and restrain horses and their suitability for use during recovery, recuperation and rehabilitation.

The horse's hoof

- different types of shoes and their suitability for different situations
- how remedial shoeing can be used to support recovery and recuperation
- how to remove a loose or twisted shoe including the tools required.

Different saddlery and equipment requirements for recovery and rehabilitation

- their suitability for different activities and implications for inappropriate selection and use
- how tack is fitted correctly for the safety and welfare of the horse and implications of poor fitting to the effectiveness of recovery and rehabilitation
- welfare and safety standards required
- how to clean and prepare for use
- how these are applied when preparing horses for recovery and rehabilitation.

Nutritional and hydration requirements for horses during recovery, recuperation and rehabilitation.

Exercise

Different types of non-ridden exercise

- the benefits to horse's health and welfare of non-ridden exercise
- different techniques that can be applied including lungeing, longreining, loose schooling, in-hand exercises
- the suitability of the techniques for different horses and situations
- how the techniques are implemented effectively including the types of exercises involved
- the equipment required to implement techniques
- how to use voice, posture and position to support effective fitness programmes.

How to safely and effectively exercise a horse on the road in accordance with the highway and countryside code.

Use of pole work in rehabilitation

- distances of poles
- configuration
- suitability of exercise.

Training

Factors that negatively impact the success of recovery and rehabilitation

- risks associated with these factors
- how risks are minimised.

The use of ridden exercises such as transitions, variation of pace and lateral movements to support recovery and rehabilitation.

Types of technology to support recuperation and rehabilitation (e.g. horse walker, aqua-treadmill)

- the benefits and limitations of their use for different situations
- how they are used effectively.

Learning theory

- including stimulus response learning (habituation and sensitisation)
- associative learning (classical and operant conditioning)
- types of reinforcement and punishment.

Recovery plans

- types of recovery goals and how they are determined
- how to incorporate learning theory into recovery plans
- types of training aids and reinforcers suitable to support meeting recovery goals
- how they are incorporated into recovery plans
- timescales and sequencing of activities in recovery plans
- scaffolding of activities to lead to physical development
- when a recovery plan needs to be adapted, typical changes required and how they are communicated and implemented
- how to assess progress against programme requirements
- how they are used to implement and monitor the effectiveness of the equine response to the recovery plan (including if there are detrimental effects) and to take follow up actions where required.

The importance of following owner's, employer's and manager's instructions during recovery, recuperation and rehabilitation.

Positive and negative influences the rider can have on horses' recuperation and

rehabilitation and how these can be used to beneficial effect.	
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Performance Outcome 6: Develop a horse's ridden performance on the flat

For the purpose of this performance outcome, students can use artificial aids.

Knowledge Specific to Performance Outcome	Skills
<p>Safe Working Practices Key requirements of health, safety and security legislation, codes of practice and policies and their application to riding horses on the flat.</p> <p>Typical hazards encountered when developing a horse's performance on the flat, associated risks and control measures that are best applied.</p> <p>Yard and field routines and management Methods used for accurate, recording of training provided for a horse's performance development and the implications of poor processes and unethical practice.</p> <p>The types of business that provide services to support performance improvement • how their services are procured</p> <ul style="list-style-type: none"> • how quality is monitored. <p>Horse Anatomy, Physiology and Welfare The anatomy of the equine body</p> <ul style="list-style-type: none"> • skeletal and muscular systems including the lower limb and hoof • principles of conformation • how the anatomy contributes to conformation of different breeds and individual horses • techniques used to assess conformation and the horse's suitability for working on the flat • potential injuries and problems resulting from anatomical issues and training on the flat 	<p>Use natural aids when riding.</p> <p>Manage a whip when riding e.g. swap the hand of a schooling whip in motion.</p> <p>Maintain a secure lower leg.</p> <p>Ride transitions.</p> <p>Ride transitions within a pace.</p> <p>Maintain a consistent rein contact.</p> <p>Ride a horse between the rider's leg and rider's hand.</p> <p>Ride in balance with the horse with and without stirrups.</p> <p>Ride school figures.</p> <p>Ride in a consistent rhythm.</p> <p>Ride on a long rein in walk or trot.</p> <p>Pick up contact in walk or trot.</p> <p>Ride in open and closed order.</p> <p>Ride shoulder in.</p> <p>Ride changes of leg in canter through walk.</p> <p>Ride counter canter.</p> <p>Ride leg yield in walk, trot and canter.</p>

<ul style="list-style-type: none"> • how training on the flat affects skeletal and muscular system including bone modelling, muscle development and impact on ligaments and tendons. <p>The physiology and control of the equine respiratory, circulatory and thermoregulatory systems</p> <ul style="list-style-type: none"> • the parts of each system and their functions • how the parts relate to enable the system to function • potential issues including injuries that may arise from training on the flat • how risks of these issues are managed • how issues are resolved • how training is used to improve physiology and other beneficial effects it can provide. <p>Conditions of the nervous system (including wobblers, shivers, stringhalt)</p> <ul style="list-style-type: none"> • their symptoms • the considerations needed for training on the flat. <p>Indications of good and poor equine health and fitness</p> <ul style="list-style-type: none"> • techniques used to assess these during training • the considerations needed for a training on the flat. <p>Typical equine injuries resulting from training on the flat</p> <ul style="list-style-type: none"> • types of training activities, training aids and environments (including training and accommodation) that could lead to these injuries 	<p>Ride turn on the haunches.</p> <p>Ride changes of rein.</p> <p>Give and retake reins in different paces.</p> <p>Ride straight lines and circles.</p> <p>Ride half circles.</p> <p>Change stirrup length whilst mounted and stationary.</p> <p>Adjust girth when whilst mounted and stationary.</p> <p>Mount a horse.</p> <p>Dismount from a horse.</p> <p>Assess equine performance on the flat.</p> <p>Set personal goals.</p> <p>Monitor own performance and standards.</p> <p>Demonstrate precise and controlled movements.</p>
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- effects of injuries on performance, health and welfare and training programmes
- diagnostic techniques used.

Horse Handling and Care

Techniques and equipment used to handle horses and their suitability for use when developing performance on the flat.

The horse's hoof

- different types of shoes and their suitability for different situations
- how remedial shoeing can be used to support training on the flat
- how to remove a loose or twisted shoe including the tools required
- types of studs, their suitability for different situations and how to fit them.

Different saddlery and equipment requirements for training on the flat

- their suitability for different training activities and implications for inappropriate selection and use
- how tack is fitted correctly for the safety and welfare of the horse and implications of poor fitting to the effectiveness of training on the flat
- welfare and safety standards required
- how to clean and prepare for training
- how these are applied when preparing horses for training on the flat.

Nutrition and Fitness

Nutritional and hydration requirements for horses at different stages of performance training.

Fitness requirements for horses during different stages of performance training and

implications of poorly designed and or implemented fitness programmes.

Training

The principles of training (e.g. German, Spanish, classical)

- the reasons for them
- how they are used to influence and develop the horse's way of going.

The use of exercises such as transitions, variation of pace and lateral movements to improve performance on the flat.

Learning theory

- including stimulus response learning (habituation and sensitisation)
- associative learning (classical and operant conditioning)
- types of natural and artificial reinforcement and implications to equine welfare
- the suitability of different techniques to meet different goals and the potential effects on the horse.

Training plans

- types of training goals (e.g. improve speed, improve precision) and how they are determined
- how to incorporate learning theory into training plans
- types of training aids (e.g. horse walker) and reinforcers suitable to support meeting training goals
- how they are incorporated into training plans
- timescales and sequencing of activities in training plans
- scaffolding of activities to lead to development
- when a training plan needs to be adapted, typical changes required

and how they are communicated and implemented

- how to assess progress against training goals and the follow up actions where required
- how to incorporate warm-up, warm down and recovery into training plans.

The importance of following owner's, employer's and manager's instructions for schooling or exercising.

Characteristics, purposes and intended outcomes and implications of inappropriate use of different types of ridden (e.g. roadwork, schooling) and non-ridden exercise (lungeing, long-reining).

Equitation

Riding positions and how they influence the horse's way of going.

Procedures for safe mounting (including adjusting of tack whilst mounted) and dismounting a horse

- adaptations required for different situations.

Impact of the rider on the horse's balance e.g. the use of trot diagonals, canter leads.

Sequence of footfalls within the paces.

How to use natural aids (including voice, posture and position) to influence the horse's way of going.

How to use artificial aids to influence the horse's way of going.

How to ride school figures, direct and acute transitions and lateral work to influence the horse's way of going.

~~How to ride in open and closed order in an arena and in the open following correct school rules and appropriate legislation and codes of practice e.g. Highway Code.~~

~~The movements included in British Dressage tests to elementary level and where to find information on general British Dressage rules.~~

Performance Outcome 7: Develop a horse's ridden performance over poles and fences

For the purpose of this performance outcome, students can use artificial aids.

Students must work in small groups (e.g. pairs) to build a show jumping course.

Students must develop skills to jump over 90cm cross country and 1m for show jumping.

Knowledge Specific to Performance Outcome	Skills
<p>Safe Working Practices Key requirements of health, safety and security legislation, codes of practice and policies and their application when riding horses over poles and fences.</p> <p>Typical hazards encountered when developing a horse's performance over the flat, associated risks and control measures that are best applied.</p> <p>Yard and field routines and management Methods used for accurate, recording of training provided for a horse's performance development and the implications of poor processes and unethical practice.</p> <p>The types of business that provide services to support performance improvement • how their services are procured</p> <ul style="list-style-type: none"> • how quality is monitored. <p>Horse Anatomy, Physiology and Welfare The anatomy of the equine body</p> <ul style="list-style-type: none"> • skeletal and muscular systems including the lower limb and hoof • principles of conformation • how the anatomy contributes to conformation of different breeds and individual horses 	<p>Ride through a grid.</p> <p>Ride a course of fences.</p> <p>Ride a double fence.</p> <p>Ride a related distance.</p> <p>Jump a vertical.</p> <p>Jump a spread fence.</p> <p>Maintain correct bend when riding a course of fences.</p> <p>Warm up a horse for performance over poles and fences.</p> <p>Cool off a horse after performance over poles and fences.</p> <p>Maintain balance in upper and lower body when riding over poles and jumping over fences.</p> <p>Maintain balance when making turns before and after riding over poles and jumping over fences.</p> <p>Maintain rhythm on approach and departure to poles and fences.</p>

<ul style="list-style-type: none"> • techniques used to assess conformation and the horse's suitability for jumping • potential injuries and problems resulting from anatomical issues and training over poles and fences • how training over poles and fences affects skeletal and muscular system including bone modelling, muscle development and impact on ligaments and tendons. 	<p>Maintain a consistent rein contact when riding over poles.</p> <p>Jump a fence in jumping position.</p> <p>Give with the reins over the fence when riding over poles and jumping over fences.</p> <p>Ride a straight line over canter poles.</p> <p>Set up canter pole distances.</p>
<p>The physiology and control of the equine respiratory, circulatory and thermoregulatory systems</p> <ul style="list-style-type: none"> • the parts of each system and their functions • how the parts relate to enable the system to function • potential issues including injuries that may arise from training over poles and fences • how risks of these issues are managed • how issues are resolved • how training is used to improve physiology and other beneficial effects it can provide. 	<p>Stride poles and jumps for a given situation.</p> <p>Stride different types of fences e.g. bounce, offset, three stride.</p> <p>Stride out placing poles before and after fences.</p> <p>Stride out and set up a jumping grid of three or more fences.</p> <p>Walk a course of show jumps.</p> <p>Assess the performance of a horse over fences.</p>
<p>Conditions of the nervous system (including shivers, stringhalt)</p> <ul style="list-style-type: none"> • their symptoms • the considerations needed for training over poles and fences. 	<p>Measure jumps and poles with precision.</p> <p>Check understanding of others.</p> <p>Collaborate with team members to set up a course.</p>
<p>Indications of good and poor equine health and fitness and techniques used to assess these during training and the considerations needed for a training over poles and fences.</p>	<p>Exchange ideas with others.</p> <p>Set personal goals.</p>
<p>Typical equine injuries resulting from training over poles and fences</p>	

<ul style="list-style-type: none"> • types of training activities, training aids and environments (including training and accommodation) that could lead to these injuries • effects of injuries on performance, health and welfare and training programmes • diagnostic techniques used. <p>Horse Handling and Care Techniques and equipment used to handle horses and their suitability for use when developing performance over poles and fences.</p> <p>The horse's hoof</p> <ul style="list-style-type: none"> • different types of shoes and their suitability for different situations • how remedial shoeing can be used to support training over poles and fences • how to remove a loose or twisted shoe including the tools required • types of studs, their suitability for different situations and how to fit them. <p>Different saddlery and equipment requirements for training over poles and fences</p> <ul style="list-style-type: none"> • their suitability for different training activities and implications for inappropriate selection and use • how tack is fitted correctly for the safety and welfare of the horse and implications of poor fitting to the effectiveness of training over poles and fences • welfare and safety standards required • how to clean and prepare for training • how these are applied when preparing horses for training over poles and fences. 	<p>Monitor own performance and standards.</p> <p>Ride precise and controlled movements.</p>
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Nutrition and Fitness

Nutritional and hydration requirements for horses at different stages of performance training.

Fitness requirements for horses during different stages of performance training and implications of poorly designed and/or implemented fitness programmes.

Training

The principles of training (e.g. German, Spanish, classical)

- the reasons for them
- how they are used to influence and develop the horse's way of going.

The use of exercises such as transitions, variation of pace and pole work, gridwork to improve performance over fences.

Learning theory

- including stimulus response learning (habituation and sensitisation)
- associative learning (classical and operant conditioning)
- types of natural and artificial reinforcement and implications to equine welfare
- the suitability of different techniques to meet different goals and the potential effects on the horse.

Training plans

- types of training goals (e.g. improve gymnastic ability, improve jumping technique) and how they are determined
- how to incorporate learning theory into training plans
- types of training aids (e.g. Pessoa, side reins, draw reins, Market

Harborough) and reinforcers suitable to support meeting training goals

- how they are incorporated into training plans
- timescales and sequencing of activities in training plans
- scaffolding of activities to lead to development
- when a training plan needs to be adapted, typical changes required and how they are communicated and implemented
- how to assess progress against training goals and the follow up actions where required
- how to incorporate warm-up, warm down and recovery into training plans.

The importance of following owner's, employer's and manager's instructions for schooling or exercising.

Characteristics, purposes and intended outcomes and implications of inappropriate use of different types of ridden (e.g. gridwork) and non-ridden exercise (loose jumping).

Equitation

Riding positions and how they influence the horse's way of jumping.

Phases of the jump including approach, take off, bascule, landing, getaway and how the rider impacts on these.

How to use natural aids (including voice, posture and position) to influence the horse's way of jumping.

~~How to use artificial aids including whips and spurs to influence the horse's performance over poles and fences.~~

~~Features of a course layout (e.g. distances, lines) and their implications for riding.~~

~~Types of fences, related distances, distances through doubles and combinations, British Eventing to novice level, British Showjumping to newcomers and where to find information on general British Showjumping and Eventing rules and exercises to improve performance over distances and fences.~~

~~Speeds to ride across country and in the showjumping arena and how these are developed through training.~~

~~How to set up ground poles, feeder poles, gymnastic exercises and gridwork using the appropriate distances for the training programme.~~

~~How to ride in open and closed order following correct school rules.~~