



# **Agriculture, Environmental and Animal Care: Animal care and management**

**T Level outline content: draft version for  
consultation**

**June 2020**

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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](http://www.instituteforapprenticeships.org), and at [www.education.gov.uk](http://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

Element	Content
Sustainability	<p>Key requirements of environmental legislation</p> <ul style="list-style-type: none"> <li>• associated obligations for businesses, their employees and other stakeholders.</li> </ul> <p>Key government environmental policies and initiatives</p> <ul style="list-style-type: none"> <li>• the opportunities and risks they bring to the agriculture, environmental and animal care sector</li> <li>• the associated environmental performance measure e.g. water and energy use.</li> </ul> <p>The concept of sustainable development</p> <ul style="list-style-type: none"> <li>• sustainable development goals at a macro (national and international) and micro (business) level</li> <li>• types of sustainable solutions to meet development goals including social, environmental, economic and human</li> <li>• concerns and expectations of key stakeholders.</li> </ul> <p>The concept of climate change and scientific views on causes and impacts</p> <ul style="list-style-type: none"> <li>• the impact of increased rainfall and higher temperatures upon environments, conservation practices, habitats, flora, fauna and water levels</li> <li>• policies and initiatives to manage these changes at national and local level.</li> </ul> <p>Waste management principles (e.g. recycle, reduce, reuse)</p> <ul style="list-style-type: none"> <li>• key requirements of associated legislation</li> <li>• types of materials that require specific actions (e.g. asbestos)</li> <li>• measures in place by the sector and organisation to meet requirements.</li> </ul>
Biosecurity	<p>Principles of biosecurity</p> <ul style="list-style-type: none"> <li>• factors influencing biosecurity e.g. international trade, new technologies</li> <li>• biosecurity risk factors in different types of agriculture, environmental and animal care situations</li> <li>• biosecurity measures including inspection, monitoring, regulation, passports, isolation and their importance in</li> </ul>

	<p>maintaining health production and service environments.</p>
<p><b>Working in the agriculture, environmental and animal care sector</b></p>	<p>Employment rights and responsibilities (e.g. union membership, working hours) of the employer and employee</p> <ul style="list-style-type: none"> <li>• 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)</li> <li>• typical activities that can lead to disciplinary and grievance procedures</li> <li>• how these expectations are met and demonstrated by employees.</li> </ul> <p>Principles of effective teamwork</p> <ul style="list-style-type: none"> <li>• how teams are developed, including the role of the team leader</li> <li>• team dynamics and how they are managed, and behaviours influenced</li> <li>• qualities of effective team members and team leaders and how these qualities are demonstrated</li> <li>• the importance of team work to team and project performance</li> <li>• techniques used to monitor and manage individual and team performance e.g. goal and objective setting, performance management reviews, providing constructive feedback</li> <li>• techniques used to manage team conflict (e.g. mediation) and when and how they should be applied.</li> </ul> <p>Progression opportunities which exist within the agriculture, environmental and animal care sector</p> <ul style="list-style-type: none"> <li>• the purpose of continuing professional development (CPD) and the benefits it brings to the individual and their employer</li> <li>• methods of personal and professional development (e.g. coaching, independent research) and the types of organisations that can provide this type of support, including professional bodies</li> <li>• their suitability for achieving planned outcomes.</li> </ul>

<b>Ethics</b>	<p>Ethical principles (e.g. honesty, transparency, justice)</p> <ul style="list-style-type: none"> <li>• how these are used in codes of conduct, employment terms and conditions and workplace policies</li> <li>• how these are represented by ethical behaviours</li> <li>• how these are incorporated into business ethics</li> <li>• how these impact on business operations, including interaction with stakeholders and the supply chain.</li> </ul>
<b>Supply Chain</b>	<p>The supply chain</p> <ul style="list-style-type: none"> <li>• different types of organisations involved and their role</li> <li>• different ways in which the supply chain is sequenced and operates</li> <li>• implications of failing to meet supply chain demands</li> <li>• environmental impact of the supply chain including whole life cycle of a product</li> <li>• types of procurement (e.g. competitive bidding, direct purchase) and their suitability for different situations.</li> </ul> <p>Principles of stock management (including stock rotation, storage, conditions, monitoring stock levels, ordering stock, dealing with deliveries, maintaining records)</p> <ul style="list-style-type: none"> <li>• how they are applied in different types of business</li> <li>• implications to businesses of ineffective processes.</li> </ul>
<b>Business</b>	<p>The types of business organisations e.g. sole trader, partnership, limited company, not for profit</p> <ul style="list-style-type: none"> <li>• common business structures and hierarchies</li> <li>• the financial, legal and commercial implications of type of business</li> <li>• typical organisational policies and their relationship to legislation</li> <li>• types of business objectives and values associated with different business structures.</li> </ul> <p>The principles of enterprise skills e.g. risk taking, innovation, resilience</p> <ul style="list-style-type: none"> <li>• how they are applied to develop business growth and change including sales opportunities and diversification of the business</li> <li>• types of business risk (e.g. financial, reputational) and risk management methods that can be deployed.</li> </ul> <p>How businesses measure success (including Key Performance Indicators (KPIs), Service Level Agreements (SLAs), benchmarking, supply chain requirements)</p>

	<ul style="list-style-type: none"> <li>• the information used to determine if success measures are met</li> <li>• quality standards, quality control and quality assurance <ul style="list-style-type: none"> <li>○ their purpose, differences and application to organisations quality standards expected by internal and external stakeholders and associated quality assurance requirements e.g. audits.</li> </ul> </li> </ul> <p>The principles of project management (including purpose and scope of the project, milestones and timescales, supply chain, people management, resources, budgeting).</p>
<b>Equality</b>	<p>Characteristics protected by equality legislation</p> <p>Factors to consider (including equality legislation, cultural differences, religious needs) when working with people from diverse backgrounds and cultures</p> <ul style="list-style-type: none"> <li>• how to show empathy and respect to those from different backgrounds and cultures to our own</li> <li>• acceptable and unacceptable behaviours and language.</li> </ul>
<b>Communication</b>	<p>Different types of communication (including verbal and non-verbal)</p> <ul style="list-style-type: none"> <li>• the formats used for the types of communication (e.g. business reports, emails, letters, websites) and associated business conventions</li> <li>• the types and value of images and visual aids to support written text and oral presentations</li> <li>• their suitability for different purposes and audiences</li> <li>• 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</li> <li>• the benefits and limitations of social media including risk of misuse, promoting the business.</li> </ul>
<b>Relationship Management</b>	<p>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)</p> <ul style="list-style-type: none"> <li>• how these can be applied when dealing with different stakeholders, including internal customers</li> <li>• legal requirements (including legislation relating to consumer protection) when interacting with different types of customers and customer relationships including business to business (B2B)</li> </ul>



	<ul style="list-style-type: none"> <li>• typical procedures used to deal with customer disputes and complaints, including escalation to relevant individuals and departments</li> <li>• 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).</li> </ul> <p>Roles of different stakeholders including internal and external customers</p> <ul style="list-style-type: none"> <li>• their expectations</li> <li>• interrelationships between stakeholders.</li> </ul>
<b>Finance</b>	<p>The concept of profit</p> <ul style="list-style-type: none"> <li>• types of profit (including net and gross) and significance of each to business success</li> <li>• types of cost incurred by business (products, ancillary products, types of overheads, labour), their classifications (direct, indirect, fixed, variable)</li> <li>• measures used to reduce costs and implications of using these to profitability, reputation and quality</li> <li>• types of taxation (including payroll, business)</li> <li>• how costs and revenue are forecast</li> <li>• how profit is calculated.</li> </ul>
<b>Health and Safety</b>	<p>Key requirements of health and safety legislation e.g. for lone working, for safe manual handling</p> <ul style="list-style-type: none"> <li>• the respective duties imposed on employees and employers</li> <li>• the importance of taking personal responsibility for health and safety of self and others</li> <li>• the techniques and methods used to comply with legislation e.g. use of Personal Protective Equipment (PPE).</li> </ul> <p>The purpose of risk assessments</p> <ul style="list-style-type: none"> <li>• typical structures and content</li> <li>• how they are developed and used</li> <li>• implications for poor development and application.</li> </ul> <p>Hazards and risks associated with working in the agriculture, environmental and animal care sector (e.g. working with hazardous materials, lone working)</p>

	<ul style="list-style-type: none"> <li>• typical control measures in place to minimise risks, including the types of PPE used, fatigue and stress management for lone workers.</li> </ul> <p>Procedures to follow when dealing with emergency situations e.g. spilt cleaning materials, slurry exposure, flooding.</p>
<b>Information and data</b>	<p>Key requirements of legislation relating to the security of information and data</p> <ul style="list-style-type: none"> <li>• types of information and data protected by legislation including client data, intellectual property</li> <li>• methods used by businesses to manage information and data including. version control, access controls, indexing, cyber security.</li> </ul>

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## 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:**
  - 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**
  - e.g. using visual and oral methods to engage an audience with proposal for improving representation and diversity in the sector.
- **Critical Thinking:**
  - e.g. questioning information and data, evaluating pros and cons of developing the business to meet animal care accreditation criteria.
- **Decision making:**
  - e.g. identifying likely impact if biosecurity plan in the business and using evidence to substantiate conclusions.
- **Investigating:**
  - e.g. developing search criteria /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:**
  - 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.

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 is also in the Occupational Specialism, it is because the knowledge and skills need to be developed within the context of the Performance Outcome. In the occupational specialism, it is therefore likely to require different content to reflect the Performance Outcome.

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# 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 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	Skills
<p><b>Health, safety and the environment</b></p> <p>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).</p> <p>Hazards associated with optimising health and welfare of animals (including disease, bites)</p> <ul style="list-style-type: none"> <li>• associated risks including for high risk animals and environment</li> <li>• organisational and personal control measures used to manage risks.</li> </ul> <p>The key risk factors associated with zoonosis and common zoonotic diseases and their management including infection controls, quarantine, anthroponosis and isolation protocols.</p> <p>Strategies and techniques for compliant and sustainable waste management and recycling and how these are applied in different animal care environments.</p> <p>Types of emergency situations that may be encountered in different types of animal care providers.</p> <p><b>Animal biology</b></p>	<p>Health check</p> <ul style="list-style-type: none"> <li>• identify animals</li> <li>• lift animals</li> <li>• place animals down</li> <li>• place animals within a ‘container’</li> <li>• manipulate animal bodily parts safely with consideration for animal emotion</li> <li>• fit restraint equipment</li> <li>• restrain animals</li> <li>• take animals’ temperature</li> <li>• monitor animals’ pulse</li> <li>• check animals’ skin for signs of ‘damage’</li> <li>• check animals for signs of ‘disrepair’</li> <li>• check animals (body parts – eyes, ears, teeth, gums, genitals)</li> <li>• assess animals’ movement</li> <li>• monitor animals’ behaviour</li> <li>• weigh (or measure) animals</li> <li>• brush to encourage health</li> <li>• body condition score an animal</li> <li>• use an animal’s flight zone to create movement</li> <li>• report animal information and data.</li> </ul> <p>Administer treatment</p> <ul style="list-style-type: none"> <li>• apply a bandage to an animal’s limb</li> </ul>

<p>The structure, function and control of bodily systems and key adaptations of different taxa</p> <ul style="list-style-type: none"> <li>• including digestive, reproductive, respiratory, cardiovascular and nervous systems</li> <li>• how these systems affect health and welfare.</li> </ul> <p>The classification of taxa (to species) and the implications for animal care and the implications for reporting and record keeping.</p> <p>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.</p> <p>Types of nutrients required by animal species</p> <ul style="list-style-type: none"> <li>• how they may change over different life stages</li> <li>• additional supplements and their sources</li> <li>• how different nutrients affect the health and welfare of animals</li> <li>• sources of nutrients</li> <li>• how nutrients and supplements are used to manage weight</li> <li>• how foods and water are presented to animals to reflect natural feeding behaviour.</li> </ul> <p>How foods are safely and hygienically stored, formulated, prepared, and delivered.</p> <p><b>Animal welfare</b></p>	<ul style="list-style-type: none"> <li>• remove discharge</li> <li>• apply topical treatments</li> <li>• administer tablets.</li> </ul> <p>Prepare feed</p> <ul style="list-style-type: none"> <li>• weigh food</li> <li>• prepare food e.g. chop, grate</li> <li>• measure prepared food with precision</li> <li>• inspect food items for signs of spoilage or disease.</li> </ul> <p>Use questioning techniques (e.g. open questions, probing questions) to obtain and clarify information on an animal.</p> <p>Model appropriate behaviours.</p> <p>Apply appropriate force when restraining animals e.g. when moving animals, when preparing animals for transportation.</p> <p>Demonstrate physical dexterity with delicacy.</p> <p>Apply bio security controls e.g. for infection.</p>
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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. 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 for health assessment including correct storage, hygiene/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 and 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.

## Performance Outcome 2: Optimise animal environments to meet their needs

Students must develop knowledge about a range of mammals, birds, herptiles 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	Skills
<p><b>Health, safety and the environment</b> How organisational policies and procedures are designed to meet current legislation including health and safety legislation (e.g. COSHH, manual handling)</p> <p>Hazards associated with optimising animal environments (including zoonosis, injuries),</p> <ul style="list-style-type: none"> <li>• associated risks</li> <li>• organisational and personal control measures used to manage risks</li> <li>• the types and purpose of PPE available.</li> </ul> <p>Strategies and techniques for compliant and sustainable waste management and recycling and how these are applied in different animal care environments.</p> <p><b>Animal biology</b> The structure, function and control of bodily systems and key adaptations of different taxa</p> <ul style="list-style-type: none"> <li>• including digestive, reproductive, respiratory, cardiovascular and nervous systems</li> </ul>	<p>Measurement</p> <ul style="list-style-type: none"> <li>• monitor accommodation environmental conditions e.g. temperature,</li> <li>• measure the accommodation environment</li> <li>• measure resources e.g. bedding area, building materials.</li> </ul> <p>Cleaning</p> <ul style="list-style-type: none"> <li>• sterilise equipment</li> <li>• classify waste</li> <li>• prepare waste for disposal</li> <li>• disinfect accommodation areas</li> <li>• apply bedding/substrate</li> <li>• clean food and water receptacles</li> <li>• clean accommodation environment</li> <li>• mix chemicals</li> <li>• prepare tools and materials for storage.</li> </ul> <p>Construction maintenance</p> <ul style="list-style-type: none"> <li>• install accommodation fixtures and fittings</li> <li>• use tools and equipment effectively to carry out tasks.</li> </ul> <p>Enrichment</p> <ul style="list-style-type: none"> <li>• create enrichment</li> </ul>

- how these systems affect health, 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 in through their environment
- implications to animals of non-compliance.

The principles and techniques of animal environment housekeeping

- 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

- 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.

- enrichment items that can be used
- 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.

How to create animal environments designs including using digital software.

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

### **Communication**

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.	
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### Performance Outcome 3: Apply techniques to influence positive animal behaviour

Students must learn about a range of mammals, birds, herptiles 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	Skills
<p><b>Health and safety</b> How organisational policies and procedures are designed to meet current legislation including health and safety legislation (e.g. manual handling).</p> <p>Hazards associated with applying training techniques,</p> <ul style="list-style-type: none"> <li>• the tools and activities undertaken</li> <li>• associated risks</li> <li>• organisational and personal control measures used to manage risks and included in training plans.</li> </ul> <p><b>Animal biology</b> 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.</p> <p>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.</p> <p><b>Animal welfare</b> The animal welfare frameworks (including freedoms, needs and domains) and legislation</p> <ul style="list-style-type: none"> <li>• best practice in ensuring they are implemented when planning and</li> </ul>	<p>Behaviour assessment</p> <ul style="list-style-type: none"> <li>• identify signs of stress</li> <li>• monitor animal behaviour.</li> </ul> <p>Risk assessment</p> <ul style="list-style-type: none"> <li>• assess potential health and safety risks</li> <li>• monitor health and safety risks.</li> </ul> <p>Training</p> <ul style="list-style-type: none"> <li>• monitor an animal's behaviour</li> <li>• respond to animal behaviour</li> <li>• fit restraint equipment</li> <li>• operate restraint equipment</li> <li>• manipulate animal body parts</li> <li>• lead an animal</li> <li>• create a cue</li> <li>• use markers</li> <li>• apply reinforcement using precise and controlled movements</li> <li>• use training aids safely and effectively</li> <li>• apply appropriate tone</li> <li>• make appropriate use of personal space and movement</li> <li>• apply appropriate body language e.g. posture.</li> </ul>

implementing activities to influence behaviour

- implications to health, welfare and behaviour of animals of non-compliance.

Techniques for safe and welfare- orientated animal handling.

Different ways that can be used to identify animals and their suitability to training.

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

### **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 training.

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 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 training of an animal.

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 training.

### **Animal training**

Principles of the design of the training 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/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.

### Training plans

- types of training goals and how they are determined
- how to incorporate learning theory into training plans
- types of training aids 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.

**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 used to convey and receive information and their suitability for different purposes.

DRAFT

**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.

<b>Knowledge Specific to Performance Outcome</b>	<b>Skills</b>
<p><b>Animal biology</b> The classification of taxa (to species) and the implications for animal care.</p> <p>The natural history of different types of animals including adaptations and how it can be used in the conservation of a species and breeds.</p> <p><b>Animal welfare and conservation</b> The animal welfare frameworks (including freedoms, needs and domains) and legislation</p> <ul style="list-style-type: none"> <li>• best practice in ensuring they are implemented when optimising health and welfare of animals</li> <li>• implications to health and welfare animals of non-compliance.</li> </ul> <p>Physical and behavioural signs of good and poor health and welfare and how they arise.</p> <p>The principles movement of animals and transportation and how these are applied in conservation activities.</p> <p>Ethics of human-animal interaction, the freedoms and opportunities that are available and restricted and how these are applied in conservation activities.</p> <p>Ethical concerns of the public and how actions of key stakeholders mitigate those concerns.</p>	<p>Break down a complex task into individual steps.</p> <p>Sequence and prioritise steps.</p> <p>Allocate time and resources to steps.</p> <p>Optimise work processes.</p> <p>Identify search criteria.</p> <p>Identify questions to be answered.</p> <p>Validate information and data.</p> <p>Assess suitability of information and data.</p> <p>Organise data into usable forms.</p> <p>Interpret mathematical diagrams.</p> <p>Represent information and data using mathematical diagrams.</p> <p>Create digital media.</p> <p>Edit digital media.</p> <p>Input, process, manipulate and interrogate data digitally.</p> <p>Use digital tools to engage an audience.</p>

<p>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)).</p> <p>Techniques (e.g. direct observation, genetic mapping) and technologies (drones, GPS) used to assess the conservation status of a species and breeds and habitats</p> <ul style="list-style-type: none"> <li>• how they are applied by key stakeholders</li> <li>• factors that affect the need for conservation</li> <li>• methodologies for resolving conservation issues including captive population management and its effectiveness (e.g. same sex groups, breed and cull)</li> <li>• impact of conservation action and lack of action on biodiversity and ecosystems.</li> </ul> <p>The importance of genetic diversity and the consequences of hybridisation and inbreeding.</p> <p><b>Research</b></p> <p>Hazards associated with undertaking primary research and presenting information to an audience</p> <ul style="list-style-type: none"> <li>• associated risks</li> <li>• organisational and personal control measures used to manage risks.</li> </ul> <p>The importance of animal research, the types of research undertaken, key stakeholders involved in research and the</p>	<p>Convey technical information to different audiences e.g. technical and non-technical.</p> <p>Present information and ideas orally to others.</p> <p>Summarise information and ideas.</p> <p>Synthesise information.</p> <p>Create texts e.g. web page, report, abstracts.</p> <p>Identify sources of information.</p> <p>Develop search criteria/questions to be answered.</p> <p>Gather relevant information and data.</p> <p>Substantiate conclusions with evidence.</p> <p>Manage own time to achieve objectives.</p>
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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.