**Unit 11: Animal Behaviour**

**Unit code:** M/503/1683  
**QCF level:** 5  
**Credit value:** 15

- **Aim**
  
  This unit aims to develop learner understanding of the relationship between environmental and evolutionary pressures on resulting behaviours in a variety of contexts eg animal collections, production livestock and conservation programmes. The unit will include a historical overview of a range of controlled behavioural studies enabling students to differentiate and recognise the relationship between ethology and behavioural physiology and provide an applied basis for animal training.

- **Unit abstract**
  
  The ability to interpret and understand animal behaviour is a valuable skill when working with animals. An applied knowledge of animal behaviour is a crucial element in understanding how to appropriately manage animals, both in captivity (ex situ) and the wild (in situ). This unit will include a historical overview of a range of controlled behavioural studies enabling students to differentiate and recognise the relationship between ethology and behavioural physiology and understand the subsequent impact on animal welfare requirements. This unit will introduce the learner to the theoretical principles of motivation and stimulus response sequences and the development of practical assessment skills. Learners will be able to use a range of underpinning concepts in an applied context eg training.

- **Learning outcomes**

  **On successful completion of this unit a learner will:**

  1. Understand the scientific basis for controlling animal behaviour
  2. Understand the principles and practice of animal behaviour assessment
  3. Understand the importance of functional behaviour to social interaction, feeding and reproduction in a range of species
  4. Understand the implications of animal behaviour for animal welfare, husbandry and management.
Unit content

1  **Understand the scientific basis for controlling animal behaviour**

   *Historical interpretation of controlling animal behaviour*: Niko Tinbergen (proximate and ultimate questions); changing trends in the study of behaviour and key protagonists (behaviourism, cognitive psychology, Skinner, Lorenz, Lashley); the ethological approach; the experimental psychology approach

   *Neuro-physiological control of behaviour*: stimulus – response sequences; detection, perception and senses; stimuli; neurophysiological co-ordination; reflex responses; motivation as a feature of abnormal behaviours; orientation behaviours

   *Genetic control and evolutionary significance of behaviour in animals*: gene pools; speciation; islandisation; genetic drift; natural selection

   *Theories of conditioning and learning in animal species*: non-associative learning (sensitization, habituation), associative learning (classical conditioning, operant conditioning), social learning, insight learning

2  **Understand the principles and practice animal behaviour assessment**

   *Animal behavioural assessment*: preference, aversion and motivation testing; ethological verses experimental approaches, ethograms

   *Sampling Strategies*: Continuous; Instantaneous; Ad. Libitum; Focal; Scanning; Zero-one

   *Animal behavioural studies*: statistical analysis; graphical representation; significance of comparative time budgets; evaluation and application eg assessment of qualitative/quantitative behavioural changes to indicate abnormal behaviours

3  **Understand the importance of functional behaviour to social interaction, feeding and reproduction in a range of species**

   *Roles of communicative behaviour in animals*: methods of communication; medium; modality; benefits and limitations of each; intraspecific; interspecific; honest signals; evolutionary deceits

   *Concepts of altruism and symbiotic associations*: kin selection; co-evolution; modelling eg ‘The Prisoners Dilemma’

   *Theories of predation and feeding*: optimality theory; predator-prey cycling; defence behaviour; Batesian and Mullerian mimicry; territoriality

   *Reproductive behaviour*: reproductive strategies; sexual selection; copulation; gestation; parturition; nursing; infanticide
4 Understand the implications of animal behaviour for animal husbandry and management

*Application of learning theory to training:* positive & negative reinforcement; positive & negative punishment; flooding; counter-conditioning; schedule of re-inforcement

*Practical significance of applied ethology:* welfare; conservation; exploitation; training; management;

*Motivation and the development of abnormal behaviours:* the relationship between ex-situ management systems and the development of stereotypes
# Learning outcomes and assessment criteria

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<thead>
<tr>
<th>Learning outcomes</th>
<th>Assessment criteria for pass</th>
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<tbody>
<tr>
<td><strong>On successful completion of this unit a learner will:</strong></td>
<td><strong>The learner can:</strong></td>
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<tr>
<td>LO1 Understand the scientific basis for controlling animal behaviour</td>
<td>1.1 explain, with reference to key researchers how approaches to the study of animal behaviour have changed over time</td>
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<td>1.2 discuss the neuro-physiological control of behaviour</td>
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<td>1.3 critically review the effect of genetic and environmental interactions in relation to evolutionary behaviour</td>
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<td>1.4 discuss the theories of conditioning and learning in animal species</td>
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<td>LO2 Understand the principles and practice of animal behaviour assessment</td>
<td>2.1 explain the practical applications and limitations of a range of assessment strategies</td>
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<td>2.2 select appropriate sampling and recording techniques for the practical assessment of behaviour in a named animal species</td>
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<td>2.3 evaluate experimental observations and use as a basis for management recommendations</td>
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<td>LO3 Understand the importance of functional behaviour to social interaction, feeding and reproduction in a range of species</td>
<td>3.1 evaluate the roles of communication in animals</td>
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<td>3.2 discuss the concepts of altruism and symbiotic associations</td>
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<td>3.3 critically review the theories of predation and feeding in a range of animal species</td>
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<td>3.4 critically review and compare the reproductive behaviours of animal species</td>
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<td>LO4 Understand the implications of animal behaviour for animal husbandry and management</td>
<td>4.1 explain the practical significance of applied ethology in a range of contexts</td>
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<td>4.2 apply principles of learning theory to the development of potential training regimens</td>
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<td>4.3 review the significance of motivation in the development of abnormal behaviours in ex situ environments</td>
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Guidance

Links

This unit is closely linked to Unit 2: Animal Husbandry Management, Unit 3: Animal Health and Welfare and Unit 13: Animal Law and Ethics.

Essential requirements

Learners must have access to a range of animals in a range of environments to ensure they can study a range of animal species and their behaviours over a period of time. The centre’s own animal facility could provide opportunities to study animal behaviour on a regular basis but visits to a range of animal collections will enable learners to understand the effects of management systems on animal behaviour, as well as to study a wider range of species.

Access to appropriate behaviour monitoring equipment, for example video cameras, is essential along with access to specialist books, journals and periodicals to develop higher level and independent study skills.

Employer engagement and vocational contexts

Appropriate employers could be linked with to support the delivery of this unit. Employers could help tutors in the development of the programme of learning, provision of guest speakers or in the design of assessment activities.

Learners should be encouraged to use their own experience and circumstances to observe animals and investigate behaviour. Visiting speakers and visits to a wide range of animal collections are an essential part of the delivery of this unit, so learners can gain industry-standard experience from professionals working within the field of animal behaviour.

Sustained links with animal collections may support other units within the qualification as well as work placements.