



Higher National Unit specification: general information

Unit title: Veterinary Nursing: Canine and Feline Anatomy and Physiology

Unit code: H0YN 34

Superclass: RH

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Unit purpose

This Unit is designed to provide candidates with knowledge and understanding of the anatomy and physiology of dogs and cats. It is a suitable Unit for candidates wishing to seek employment in veterinary nursing, animal care or similar professions.

On completion of the Unit the candidate should be able to:

- 1 Describe basic structure and body organisation in dogs and cats.
- 2 Identify and describe the structure and functions of major body systems in dogs and cats.
- 3 Identify and describe the structure and functions of the nervous and endocrine systems in dogs and cats.

Recommended prior knowledge and skills

Candidates should, ideally, have achieved a credit level pass in Standard Grade Biology or equivalent.

Credit points and level

1 Higher National Unit credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

General information (cont)

Core Skills

There are opportunities to develop the Critical Thinking component of the *Problem Solving* Core Skill at level 5 in this Unit, although there is no automatic certification of this Core Skill or Core Skill component.

Context for delivery

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes. It is included in the framework of the HNC in Animal Nursing and HND in Veterinary Nursing.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Describe basic structure and body organisation in dogs and cats.

Knowledge and/or Skills

- ◆ Anatomical directional terminology.
- ◆ Body cavities.
- ◆ Fluid compartments in the body.
- ◆ Basic cell structure.
- ◆ Tissue types.
- ◆ Integument system.

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ identify and explain the use of directional terms and anatomical planes through the use of a diagram
- ◆ define five commonly used anatomical terms
- ◆ describe the thoracic, abdominal and one other body cavity, including the boundaries and contents of each
- ◆ explain the distribution of body water within fluid compartments
- ◆ identify seven structures (organelles) present in a typical animal cell and explain the function of four of these
- ◆ identify four types of animal tissue and state where they may be found
- ◆ identify and describe the structure of skin, hair and associated glands

Higher National Unit specification: statement of standards (cont)

Unit title: Veterinary Nursing: Canine and Feline Anatomy and Physiology

Outcome 2

Identify and describe the structure and functions of major body systems in dogs and cats.

Knowledge and/or Skills

- ◆ Musculoskeletal system.
- ◆ Digestive system.
- ◆ Cardiovascular system.
- ◆ Lymphatic system.
- ◆ Respiratory system.
- ◆ Urinary system.
- ◆ Reproductive system including:
 - breeding cycles
 - genetic inheritance

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ identify five features of each of seven body systems
- ◆ explain the physiology of four parts of each of seven body systems
- ◆ describe genetic inheritance in dogs and cats by application of the terms 'phenotype', 'genotype' and 'allele'

Due to the high knowledge content, evidence should be collected using two assessments, as follows:

- 1 musculoskeletal, cardiovascular, respiratory and lymphatic systems.
- 2 digestive, urinary and reproductive systems, including genetic inheritance.

Candidates will also need to provide performance evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ identify five anatomical landmarks to indicate musculoskeletal features in live animals
- ◆ identify points of venous and arterial access in live animals

Higher National Unit specification: statement of standards (cont)

Unit title: Veterinary Nursing: Canine and Feline Anatomy and Physiology

Outcome 3

Identify and describe the structure and functions of the nervous and endocrine systems in dogs and cats.

Knowledge and/or Skills

- ◆ Nervous system.
- ◆ Special senses.
- ◆ Endocrine system.

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ identify five features of the brain
- ◆ explain the function of three areas of the brain
- ◆ explain the function of the autonomic nervous system
- ◆ explain the reflex arc
- ◆ identify five features of the eye
- ◆ identify five features of the ear
- ◆ identify five endocrine glands and explain the function of one hormone produced by each gland

Higher National Unit specification: support notes

Unit title: Veterinary Nursing: Canine and Feline Anatomy and Physiology

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

This Unit is intended for candidates who are studying towards the HNC/D in Veterinary Nursing. The teaching and learning should be delivered in this context. The Unit will also be useful for animal care professionals or enthusiasts who wish to increase their knowledge of the anatomy and physiology of small companion animals.

Additional information relating to each Outcome is given below.

- 1 This Outcome covers body organisation and should be approached sequentially from the cell level to the tissue level to the organ level. After considering a generalised animal cell, more specialised cells could be included together with the tissues in which they are found. The assembly of tissues into organs should include epithelial, nervous, muscle and connective tissues, as a minimum. Use should be made of diagrams and models wherever possible.
- 2 Body systems should be covered from the point of view of structure and function of the main body organs involved and how they operate as integrated systems to maintain the life of the animal. Comparisons should be made between dogs and cats where appropriate. Factors affecting the functioning of body systems should be included. For example, the effects of blood oxygen and blood carbon dioxide concentrations would be appropriate when covering the respiratory system. Symptoms of disease or trauma in relation to the animal's compensatory mechanisms should be incorporated throughout this Outcome, ie increase or decrease of heart rate, blood pressure, respiration rate and body temperature. Discussion of the basics of the reproductive systems should include variations in structure and oestrus cycles. Breeding cycles should cover natural mating, artificial insemination and pseudopregnancy. The key principles of genetic inheritance should include definitions of terms such as phenotype, genotype and allele. Detailed knowledge of histology and biochemistry are beyond the scope of this Unit. Use should be made of diagrams and models (including live animals) wherever possible.
- 3 A general overview of the structure of the nervous system should cover the main areas of the brain, the spinal cord and peripheral nerves only. All five special senses (hearing, sight, smell, taste and touch) should be covered. The endocrine system should cover the main endocrine glands and their products. Consequences of hormonal disorders such as hypothyroidism should be included. Hormonal interactions and control systems such as feedback should also be covered.

The basic operation of the conscious and subconscious control systems and the control of body functions by hormones should be dealt with. This should emphasise the importance of co-ordination of body function and how communication between systems is achieved. Although the differences between nervous and endocrine control should be made clear, emphasis should be placed on co-operation between the systems. Examples of interactions between nervous and endocrine systems could include the effects of day length on hormone release.

Higher National Unit specification: support notes (cont)

Unit title: Veterinary Nursing: Canine and Feline Anatomy and Physiology

Guidance on the delivery of this Unit

This Unit has been devised with the intention that it forms part of the framework of the HNC in Animal Nursing and HND in Veterinary Nursing and should be delivered with that in mind.

Most of the learning and teaching for this Unit will be classroom-based.

Guidance on the assessment of this Unit

Centres should feel free to adopt an appropriate assessment strategy provided that it meets the specifications given in the Statement of Standards for this Unit.

The Unit could be assessed by three written tests, one for each Outcome.

Assessment Guidelines

Outcome 1

The assessment could be conducted as a closed-book test consisting of structured questions undertaken in controlled conditions and lasting one hour.

Outcome 2

The assessment of knowledge evidence could be conducted as two closed-book tests consisting of structured and extended response questions undertaken in controlled conditions and lasting one and a half hours each. Due to the high knowledge content required for this Outcome it may be possible to combine the assessment into one test of approximately two and a half hours.

Performance evidence for the practical tasks could be generated in supervised conditions during practical sessions. Observation checklists could be used to record performance and should be retained for authentication purposes.

Outcome 3

The assessment of this Outcome could be conducted as a closed-book test consisting of structured and extended response questions undertaken in controlled conditions and lasting one hour.

Online and Distance Learning

If this Unit is delivered by open or distance learning methods, additional resources will be required for candidate support, assessment and quality assurance. For further information and advice, please refer to the SQA guide: *Assessment and Quality Assurance for Open and Distance Learning* (www.sqa.org.uk).

Higher National Unit specification: support notes (cont)

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Opportunities for developing Core Skills

There are opportunities to develop the Critical Thinking component of the *Problem Solving* Core Skill at level 5 throughout this Unit. Note that there is no automatic certification of this Core Skill and Core Skill component.

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements

History of changes to Unit

Version	Description of change	Date

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General information for candidates

Unit title: Veterinary Nursing: Canine and Feline Anatomy and Physiology

This Unit forms part of the HNC in Animal Nursing and HND in Veterinary Nursing.

This Unit is designed to provide you with knowledge and understanding of anatomy and physiology of dogs and cats.

The content of the Unit is organised into three Outcomes, as follows:

- ◆ general body organisation
- ◆ the structure and function of seven body systems (musculoskeletal, cardiovascular, respiratory, lymphatic, digestive, urinary and reproductive, including the key principles of genetic inheritance)
- ◆ the structure and function of the nervous system, special senses and the endocrine system

There are four written assessments and one practical assessment for this Unit. Outcome 1 is assessed by closed-book written test consisting of structured questions undertaken in controlled conditions and lasting one hour. Due to the volume of the subjects covered in Outcome 2, this assessment is divided into two written tests consisting of structured and extended response questions lasting one and a half hours for each test and one practical assessment. Outcome 3 is assessed as a written test consisting of structured questions and extended response questions lasting one hour.