



**NATIONAL OCCUPATIONAL STANDARDS  
FOR  
AGRICULTURE AND EXTENSION TECHNICIAN  
LEVEL 5  
(CYCLE 3) PROGRAMME CODE: 0811 454A**



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## APPLY ANIMAL ANATOMY AND PHYSIOLOGY

UNIT CODE : 0811 451 05A

TVET CDACC UNIT CODE: AGR/CU/EXT/CC/01/5/MA

### UNIT DESCRIPTION

This unit describes knowledge, skills and attitudes required to apply animal anatomy and physiology. It involves carrying out animal classification, applying morphology and physiology in animal production

### ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	These are assessable statements which specify the required level of performance for each of the elements. <b><i>Bold and italicized terms are elaborated in the Range.</i></b>
1. Classify farm animals	1.1 <b><i>Mammals</i></b> are classified based on taxonomic principles of classification 1.2 <b><i>Aves</i></b> are classified based on taxonomic principles of classification 1.3 <b><i>Pisces</i></b> are classified based on taxonomic principles of classification 1.4 <b><i>Reptiles</i></b> are classified based on taxonomic principles of classification 1.5 <b><i>Amphibians</i></b> are classified based on taxonomic principles of classification 1.6 <b><i>Arthropods</i></b> are classified based on taxonomic principles of classification
2. Apply morphology in animal	2.1 External features of animals are identified and illustrated based on animal classification

production	<p>2.2 <i>Animal anatomical structures</i> are identified and illustrated based on animal classification</p> <p>2.3 Relationship between animal structures is illustrated based on physiological functions</p>
3. Apply animal physiological functions	<p>3.1 <i>Animal organ systems</i> are identified and illustrated based on animal morphology</p> <p>3.2 <i>Animal physiological processes</i> are identified and illustrated based on animal morphology</p> <p>3.3 Adaptations of <i>Animal body organs</i> are identified and illustrated based on animal morphology</p>

## RANGE OF VARIABLES

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

VARIABLE	RANGE
1. Mammals may include but not limited to:	<ul style="list-style-type: none"> <li>• Cattle</li> <li>• Rabbits</li> <li>• Sheep</li> <li>• Goats</li> <li>• Donkeys</li> <li>• Camel</li> </ul>
2. Aves may include but not limited to:	<ul style="list-style-type: none"> <li>• Chicken</li> <li>• Ducks</li> <li>• Guinea fowl</li> <li>• Geese</li> <li>• Turkey</li> </ul>
3. Pisces may include but not	<ul style="list-style-type: none"> <li>• Tilapia</li> <li>• Nile perch</li> </ul>

limited to:	<ul style="list-style-type: none"> <li>• Cat fish</li> <li>• Mudfish</li> <li>• Salmon fish</li> </ul>
4. Reptiles may include but not limited to:	<ul style="list-style-type: none"> <li>• Crocodile</li> <li>• Turtles</li> <li>• Lizards</li> <li>• Tortoise</li> <li>• Snake</li> </ul>
5. Amphibians may include but not limited to:	<ul style="list-style-type: none"> <li>• Frogs</li> <li>• Toad</li> <li>• Newts</li> <li>• Salamander</li> </ul>
6. Arthropods may include but not limited to:	<ul style="list-style-type: none"> <li>• Tick</li> <li>• Spider</li> <li>• Obstres,</li> <li>• Crabs</li> <li>• Mites</li> <li>• Centipedes</li> <li>• Millipedes</li> </ul>
7. Animal anatomical structures may include but not limited to:	<ul style="list-style-type: none"> <li>• Vertebral column</li> <li>• Skull</li> <li>• Rib</li> <li>• Forelimb</li> <li>• Hind limb</li> <li>• Pectoral girdle</li> <li>• Pelvic girdle</li> </ul>
8. Animal organ systems may	<ul style="list-style-type: none"> <li>• Circulatory system</li> <li>• Digestive system</li> </ul>

include but not limited to:	<ul style="list-style-type: none"> <li>• Reproductive system</li> <li>• Respiratory system</li> <li>• Excretory system</li> <li>• Nervous system</li> <li>• Lymphatic system</li> <li>• Cardiovascular system</li> <li>• Musculoskeletal system</li> </ul>
9. Animal physiological processes may include but not limited to:	<ul style="list-style-type: none"> <li>• Respiration</li> <li>• Thermoregulation</li> <li>• Osmoregulation</li> </ul>
10. Animal body organs may include but not limited to:	<ul style="list-style-type: none"> <li>• Heart</li> <li>• Lungs</li> <li>• Kidney</li> <li>• Skin</li> <li>• Liver</li> <li>• Pancreas</li> </ul>

## REQUIRED KNOWLEDGE AND SKILLS

This section describes the skills and knowledge required for this unit of competency.

### Required knowledge

The individual needs to demonstrate the following knowledge:

- Animal anatomy and morphology
- Animal physiological functions
- Animal classification

### Required Skills

The individual needs to demonstrate the following skills:

- Drawing

- Decision Making
- Critical thinking
- Communication
- Organizational
- Assertiveness
- Responsibility

## EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Classified animals</li> <li>1.2 Identified and illustrated animal anatomy</li> <li>1.3 Identified and illustrated animal organ systems</li> <li>1.4 Identified and illustrated animal physiological processes</li> <li>1.5 Illustrated how body organs are adapted to perform physiological processes</li> </ul>
2. Resource implication	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Access to relevant workplace where assessment can take place.</li> <li>2.2 Appropriately simulated environment where assessment can take place</li> <li>2.3 Material relevant to the proposed assessment activities or tasks</li> </ul>
3. Method of assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Practical assessment</li> <li>3.2 Project</li> <li>3.3 Portfolio of evidence</li> </ul>

	<p>3.4 Third party report</p> <p>3.5 Written assessment</p> <p>3.6 Oral assessment</p>
4. Context of assessment	This competency may be assessed in a workplace or in a simulated workplace.
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.