

APPLY ANATOMY AND PHYSIOLOGY CONCEPTS

ISCED CODE: 0511 551 08A

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UNIT DESCRIPTION

This unit of competence specifies the competences required to apply animal anatomy and physiology. It involves analyzing communication in plants and animals, applying nutrition in plants and animal's concepts, applying transport in plants and animal's concepts, analyzing support and locomotion in animals, analyzing reproduction in plants and animals, applying excretion in plants and animal's concepts, applying gaseous exchange concepts in plants and animals.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace functions	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements <i>(Bold and italicized terms are elaborated in the range)</i>
1. Analyze communication in plants and animals	1.1 Experiments on Structure and function of the nervous system is performed as per anatomical procedures 1.2 Experiment to determine Structure and function of the sensory organs is carried out as per anatomical procedures 1.3 Experiment on role of endocrine glands in communication is performed as per Anatomy laboratory procedures 1.4 Plant growth experiment is performed as per Anatomy laboratory procedures 1.5 Tropic, tactic and nastic movements experiments are carried out as per physiological procedures. 1.6 Nervous system diseases and disorders knowledge is applied as per pathological procedures
2. Apply nutrition in plants and animal's concepts	2.1 Plant nutrition experiment is performed as per physiological procedures

	<p>2.2 Digestive enzymes experiment is carried out as per physiological process</p> <p>2.3 Laboratory animal is dissected as per anatomy laboratory procedures</p> <p>2.4 Digestive system diseases and disorders knowledge is applied as per pathological procedures</p>
<p>3. Apply transport in plants and animals</p>	<p>3.1 Experiment on internal structures of the root and shoot are performed as per botany laboratory procedures</p> <p>3.2 Plants water and mineral salts uptake Experiment is carried out as per botany laboratory procedures</p> <p>3.3 Translocation experiments are carried out as per botany laboratory procedures</p> <p>3.4 Mammalian circulatory system concepts is applied as per Anatomy laboratory procedures</p> <p>3.5 Circulatory system diseases and disorders knowledge is applied as per pathological procedures</p>
<p>4. Analyze support and locomotion in animals</p>	<p>4.1 Muscles experiment is performed as per anatomy laboratory procedures</p> <p>4.2 Types and structure of skeletons are identified as per anatomy procedures</p> <p>4.3 Structure and function of joints are identified as per anatomy procedures</p> <p>4.4 Skeletal system diseases and disorders knowledge is applied as per pathological procedures</p> <p>4.5 Muscular system diseases and disorders knowledge is applied as per pathological procedures</p>
<p>5. Analyze reproduction in plants and animals</p>	<p>5.1 Plants meiosis is examined as per botany laboratory procedures</p> <p>5.2 Flower is dissected as per botany laboratory procedures.</p> <p>5.3 Seeds and fruits are identified as per botany laboratory procedures.</p> <p>5.4 Animals' reproductive system concepts are applied as per Anatomy laboratory procedures.</p> <p>5.5 Pollination is carried out as per Mendelian theory</p>

	5.6 Reproductive system diseases and disorders knowledge is applied as per pathological procedures
6. Apply excretion in plants and animals' concepts	<p>6.1 Plants excretory products are collected and identified as per botany laboratory procedures</p> <p>6.2 Mammalian excretory organs are identified as per Anatomy laboratory procedures</p> <p>6.3 Animal excretory products are analyzed as per Anatomy laboratory procedures</p> <p>6.4 Excretory system diseases and disorders knowledge is applied as per pathology procedures</p>
7. Apply gaseous exchange concept in plants and animals	<p>7.1 Gaseous exchange structures are identified according to Anatomy and Botany laboratory procedures</p> <p>7.2 Experiment of gaseous exchange in plants are performed as per Botany laboratory procedures</p> <p>7.3 Experiment of gaseous exchange in animals are performed as per Anatomy laboratory procedures</p> <p>7.4 Respiratory system diseases and disorders knowledge is applied as per pathology procedures</p>

RANGE

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

Variable	Range
1. Nervous system includes but not limited to:	<ul style="list-style-type: none"> • Neuron • Central Nervous System (CNS) • Peripheral Nervous System (PNS)
2. Endocrine glands include but not limited to:	<ul style="list-style-type: none"> • Pituitary gland • Hypothalamus • Pineal gland • Thyroid gland • Parathyroid gland

	<ul style="list-style-type: none">• Pancreas• Adrenal gland• Testes• Ovaries• Thymus
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REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge

The individual needs to demonstrate knowledge of:

- Scientific report writing
- Occupational safety and health
- Basic mathematics
- Computer application
- Microscopy
- Taxonomy
- Animal pathology
- Genetics

Required skills

The individual needs to demonstrate the following skills:

- Problem solving
- Digital literacy
- Communication
- Interpersonal
- First aid
- Photography
- Analytical

EVIDENCE GUIDE

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

<p>1. Critical aspects of competency</p>	<p>1.1 Determined experiment determine Structure and function of the sensory organs is carried out as per anatomical procedures</p> <p>1.2 Performed experiment on role of endocrine glands in communication as per Anatomy laboratory procedures</p> <p>1.3 Performed plant growth experiment as per Anatomy laboratory procedures</p> <p>1.4 Performed plant nutrition experiment as per physiological procedures</p> <p>1.5 Digestive enzymes experiment is carried out as per physiological process</p> <p>1.6 Dissected laboratory animal as per anatomy laboratory procedures</p> <p>1.7 Applied mammalian circulatory system concepts as per Anatomy laboratory procedures</p> <p>1.8 Performed experiment on internal structures of the root and shoot as per botany laboratory procedures</p> <p>1.9 Identified Types and structure of skeletons as per anatomy procedures</p> <p>1.10 Identified Structure and function of joints as per anatomy procedures</p> <p>1.11 Identified Seeds and fruits are as per botany laboratory procedures.</p> <p>1.12 Applied Animals reproductive system concepts as per Anatomy laboratory procedures.</p> <p>1.13 Identified Mammalian excretory organs as per Anatomy laboratory procedures</p> <p>1.14 Identified gaseous exchange structures according to Anatomy and Botany laboratory procedures</p>
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	<p>1.15 Performed experiment of gaseous exchange in plants as per Botany laboratory procedures</p> <p>1.16 Performed experiment of gaseous exchange in animals as Anatomy laboratory procedures</p>
2. Resource implications	<p>The following resources should be provided:</p> <p>2.1 Appropriately simulated environment where assessment can take place</p> <p>2.2 Access to relevant work environment</p> <p>2.3 Resources relevant to the proposed activities or tasks</p>
3 Methods of assessment	<p>Competency in this unit may be assessed through:</p> <p>3.1 Practical assessment</p> <p>3.2 Portfolio of evidence</p> <p>3.3 Oral assessment</p> <p>3.4 Third party report</p> <p>3.5 Written tests</p>
4 Context of assessment	<p>Competency may be assessed in a: Workplace or simulated workplace</p>
5 Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.</p>